



# The Physiologist

## INSIDE

### APS Launches

#### Stopgap

#### Fellowship

#### Program

p. 92

### AAMC Survey

#### Results

p. 98

### Opening up Open

#### Access: Weaving

#### the "Author Pays"

#### Safety Net

p. 106

### APS Testifies

#### Before Congress

#### on FY 2008

#### Funding

p. 108

## Association of Chairs of Departments of Physiology 2006 Survey Results

**Richard L. Moss and William S. Spielman**  
University of Wisconsin and Michigan State University

The Association of Chairs of Departments of Physiology annual survey was emailed to 184 physiology departments throughout the US, Canada, and Puerto Rico. A total of 71 surveys were returned, for a response rate of 38.5%. This rate is almost identical to that of the 2005 survey (39%). Of the 71 surveys returned, there were 22 public and 49 private medical schools.

The data provides the reader with general trends of faculty, overall departmental budgets, and space available for research. As a reminder, beginning in 2004, ACDP decided not to include faculty salary information in this report. Because of the limited response rate and variability in departments responding on a year-by-year basis and the completeness of the AAMC salary data, which is more generally used, the ACDP Council decided to no longer collect or report this data. Data are still provided though on tenure, gender, and ethnicity of faculty (Table 1). Also included

in Table 1 for the first time is information on the average number of contact hours for faculty and on the type of medical physiology course being taught.

Student/trainee information is provided by ethnicity for predoctoral and postdoctoral categories, as well as predoctoral trainee completions, stipends provided, and type of support (Table 2).

Institutional information is provided in Table 3. Departmental budget information (Table 4) shows type of support, faculty salaries derived from grants along with negotiated indirect costs to the departments. Table 5 ranks responding Institutions according to their total dollars, research grant dollars, and departmental space. Space averages are presented as research, administration, teaching and other.

For an update of AAMC salary data, please see the accompanying article.

*(continued on page 93)*

# The Physiologist

## Contents

<b>Association of Chairs of Departments of Physiology 2006 Survey Results</b> <i>Richard L. Moss and William S. Spielman</i>	<b>89</b>
<b>Fellowship Report</b> From Laboratory to Legislation <i>Sarah K. England</i>	<b>91</b>
<b>APS News</b> APS Launches Stopgap Fellowship Program	<b>92</b>
<b>AAMC Survey Results</b> AAMC Medical School Faculty Compensation Survey	<b>98</b>
<b>Membership</b> New Regular Members New Student Members New Affiliate Members Recently Deceased Members	<b>101</b> <b>102</b> <b>103</b> <b>103</b>
<b>Communications</b> APS Sponsors USC Doctoral Student for Media Fellowship	<b>103</b>
<b>Education</b> New Program Improves Trainees' Presentation Skills Twenty APS Members to Host Summer Research Experience for Sixteen Science Teachers	<b>104</b> <b>105</b>
<b>Publications</b> Opening up Open Access: Weaving the "Author Pays" Safety Net	<b>106</b>
<b>Public Affairs</b> APS Testifies Before Congress on FY 2008 Funding APS Submits Comments on the NIGMS Strategic Plan HHMI Seeks Early Career Investigators	<b>108</b> <b>110</b> <b>110</b>
<b>Positions Available</b>	<b>111</b>
<b>Book Reviews</b>	<b>116</b>
<b>Book Received</b>	<b>116</b>
<b>People &amp; Places</b> Florant Receives Award Four APS Members Elected to National Academy of Sciences	<b>118</b> <b>118</b>
<b>The Wine Wizard</b>	<b>120</b>
<b>Senior Physiologists' News</b>	<b>121</b>
<b>Scientific Meetings and Congresses</b>	<b>125</b>
<b>APS Membership Application</b>	<b>127</b>

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## From Laboratory to Legislation

Sarah K. England

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When I was granted my PhD, I thought that running a research laboratory at a top-tier university would fulfill my professional aspirations. However, after heading my own research program for eight years, I became interested in pursuing opportunities that would complement my career. In the fall of 2004, I received an announcement for the Robert Wood Johnson (RWJ) Health Policy Fellowship (<http://www.healthpolicyfellows.org/home.php>), which offers mid-career health professionals the opportunity to work in a congressional or executive branch office in Washington, DC. The overall goal of the program is to enrich fellows' understanding of public policy practices and how government health research relates to the mission of the fellows' institutions and local communities. After researching more about the program, I decided that this experience would increase my understanding of the legislative process and the relationship and interactions between the National Institutes of Health (NIH) and Congress that affect my day-to-day existence as a researcher in the basic sciences.

I was selected to be a member of the class of 2005–2006 along with five physicians and one epidemiologist. Before accepting and pursuing a fellowship of this nature, it was essential that all the stars aligned correctly—I would be on developmental leave for 12 to 16 months. This required support from my institution, most importantly from my department chair and college dean, both of whom were open-minded about this atypical sabbatical realizing that this would not only benefit me, but also my institution.

Prior to embarking on this adventure, I was fortunate to have senior-level research staff in my laboratory capable of continuing on in my absence. My grants were all funded and not up for a renewal the minute I walked back on campus. I was able to pack up and leave with relative ease; however, there were many personal factors to consider. Some of the fellows relocated their entire families, some brought just their spouses, and others traveled home every weekend. Logistically this is different for each fellow.

In September 2005, I moved to Washington DC to explore my interest



**Sarah England spent a fellowship working with Senator Hillary Rodham Clinton on public health policy.**

in the intersection of health and educational policies as it relates to training students and eliminating health disparities. After a three-month orientation that included meeting with representatives from think tanks, trade associations, the Institute of Medicine, and key health policy gurus, we interviewed for positions on Capitol Hill. At this point the experience seemed surreal, as I never imagined when I got my doctorate that I would work on Capitol Hill focusing on health-related legislation. We were interviewed by members of the House and Senate, Democrats and Republicans, and personal offices and committees; a few fellows interviewed in the executive branch. After many hours of discussions with health staff and the other fellows, I accepted the offer to work with Senator Hillary Rodham Clinton on her health legislative team.

Moving from academic researcher to working as a health legislative fellow had some distinct challenges. The biggest was moving from being a specialist to being a generalist. I was accustomed to knowing intricate details about my academic research into the mechanism by which potassium channels regulate uterine and vascular smooth muscle. However, when juggling a dozen issues, one realizes that it is important to have

a broad working knowledge on multiple subjects rather than a detailed understanding of a single topic. My portfolio was expansive and included health care workforce, NIH reauthorization, maternal child health issues, rural health, medical liability, women's health, health disparities, and nursing issues, to name a few. The learning curve was very steep, but not impossible. With the large volume of information available on each topic, trying to stay current on all issues took a lot of energy. Many times some specific aspect of each of "my" issues would surface during the year and there hardly seemed to be ample time to know all the details about it.

There is no "typical" day in the Senate. I met with constituents from New York, drafted legislation, attended Senate and House hearings and briefings, wrote scholarly articles, prepared speeches, statements, and briefing memos for the Senator. I also traveled to New York to attend an event and staff the Senator on one of the issues.

The largest portion of my time was spent drafting three pieces of health-related legislation: 1) The SHINE Act (Screening for Health of Infants and Newborns) was developed to help states increase their newborn screening capabilities so that all babies have the opportunity for early diagnosis and lifesaving treatment; 2) The GEDI Act (Gestational Diabetes Act) focuses on lowering the incidence of gestational diabetes, which puts women at risk for complications during childbirth and puts children at risk for developing Type 2 diabetes as adolescents or adults; and 3) The Nursing Education and Quality of Health Care Act (NEQHC), which was drafted with the hopes of increasing the number of nurses who become faculty and developing initiatives to integrate patient safety practices in nursing education; it also provides funding for rural nurse training programs.

As I participated in the development of health-related legislation, I gained greater perspective about how my research fits into the bigger picture. For instance, my research at Iowa focuses on the basic science of premature labor. During my time as an RWJ Fellow, a bill was being considered about the high rate of premature births in our country.

The bill was signed into law in December 2006, allowing me to see the tie between basic science research and legislation. I also learned the value of advocacy and how far an issue can proceed based on the passion of those affected by the legislation.

My fellowship also gave me a broader understanding of how the federal government makes decisions about funding the NIH and other organizations that provide grants to researchers. One of my assignments was to research NIH reauthorization, and it opened my eyes to the difference between authorizing and appropriating funds. I tracked the NIH reauthorization through the House and became entrenched in the process of how NIH is structured and funded and how

the budgeting process works. Working in the minority party last year in Senator Clinton's office allowed me to learn that policy and politics are very different things. Most of the health legislation that I helped develop and worked on throughout the year was bipartisan, with the senators often wanting the same things, though their ideas about implementation were different. Knowing at the onset that differing views were held by the different players made the process easier and enhanced my negotiation skills.

While government is a very different environment compared to academia, there are many parallels. Much of my research on a policy topic paralleled my own academic research methods, includ-

ing delving into the problem, identifying key issues, interpreting data, and suggesting solutions. I also worked with a talented and collaborative group, not only in the Clinton office, but also in many other congressional offices. The health issues I addressed crossed interoffice boundaries, much like the collaborative efforts within the various colleges at the University of Iowa.

In summary, the experience was truly a once-in-a-lifetime opportunity that gave me added skills and insight into both health policy and my own academic position, and I encourage scientists and physicians who are interested in policy to explore these types of opportunities. ❖

## APS News

### APS Launches Stopgap Fellowship Program

During the past year, the Council has expressed continuing concern about the impact that cutbacks on NIH funding were having on the training of new investigators. As seen in Figure 1, over the last five years, the success rate for F32 applications across all NIH institutes has decreased significantly. In many cases, individual institutes are experiencing even more severe drops in

success rates.

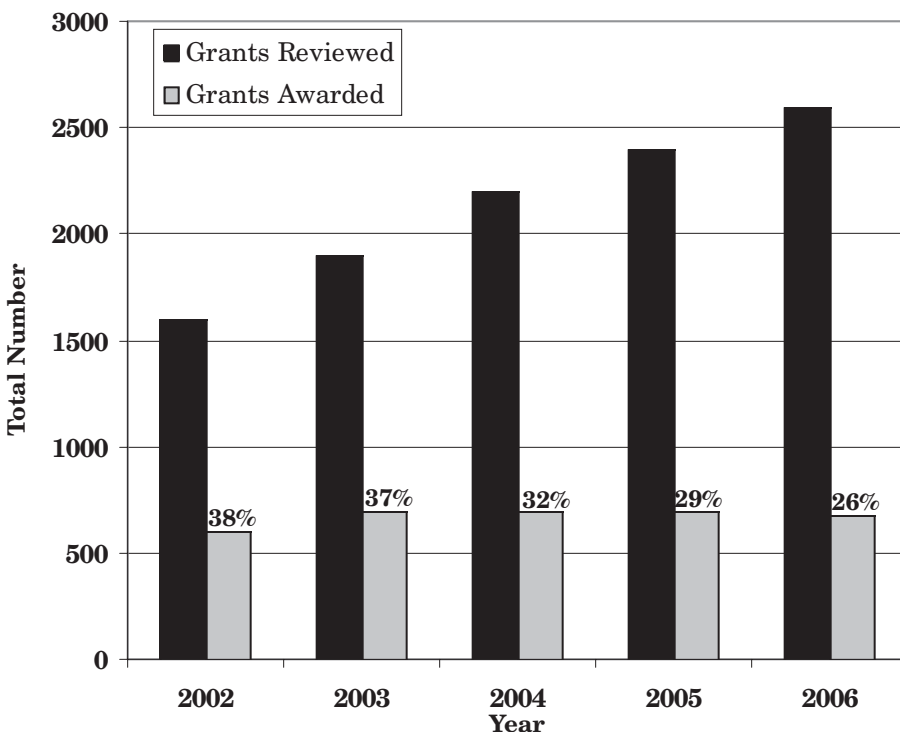
In response to the Council's concerns, a study group led by Douglas Eaton was established and they recommended that the Council allocate funds from the Society's Reserve Funds to support the training of APS members whose F32 applications had missed the NIH Institute payline. At the Experimental Biology meeting, Council agreed to dip

into the Reserve Funds and allocate \$420,000 to support the funding of up to 10 postdoctoral fellowship applications over the next year. The goal is to support postdoctoral fellowship candidates who are scheduled to work in the laboratories of members of the American Physiological Society.

In order to be eligible for the Fellowship Initiative mandated by Council, candidates must be an APS member at the time of application and throughout the award period. In addition, the postdoctoral mentor must have been a member in good standing for at least three years immediately prior to application and remains so throughout the award period. The postdoctoral fellowship application submitted to NIH must have received a priority score of 200 or better and rejected for funding by NIH. As an interim initiative, the candidate is expected to revise and resubmit their fellowship application to NIH or other Federal agency or major foundation and should the applicant receive an award the remaining APS Fellowship funds would need to be returned to the Society to help someone else.

The application deadlines for the Society's Postdoctoral Initiative are August 1, 2007 and January 2, 2008. Complete details about the new Initiative can be found on the APS Website at <http://www.the-aps.org/awards/postdocinitiative07.pdf>. ❖

Table 1. Data Across All NIH Institutes.





## Faculty Information

### Faculty Summary (n=1,322)

	Male	Female	Total
Asian/Pacific Islander	129	42	171
Black (not Hispanic)	6	4	10
Hispanic	27	13	40
Native American	0	0	0
White (not Hispanic)	799	245	1,044
Foreign National	37	20	57
<b>Total</b>	<b>998</b>	<b>324</b>	<b>1,322</b>

### Medical Physiology Course Type

	Yes	No	Total Responded
Integrated Disciplines	38	30	68
Traditional	45	24	69
Within Traditional	44	25	69

### Tenure Status in each department by degree

	Tenured	Not Tenured	Not Eligible	Total
MD	24	0	12	36
PhD	834	22	344	1,200
2 Doctorates	42	2	16	60
Other	9	0	18	27
<b>Total</b>	<b>909</b>	<b>24</b>	<b>390</b>	<b>1,323</b>

For your faculty, what is the average number of hours of student contact (per year) for:

	Student Type	Average (hours)	Number (inst.)
<b>Lab Hours</b>	Graduate	264	41
	Medical	17	40
	Other	56	20
<b>Lectures</b>	Graduate	180	68
	Medical	596	70
	Other	63	44
<b>Small Group</b>	Graduate	49	45
	Medical	43	60
	Other	22	16

### Teaching Interactions

MD/DO	69
DDS	23
DVM	3
Allied Health	36
Pharmacy	18
Other Biomedical	47
Life Science	36
Bioengineering	26
Other	20

## Student/Trainee Information

### Student/Trainee Summary

*US citizen/resident aliens*

Predoctoral male	429	Postdoctoral male	186
Predoctoral female	478	Postdoctoral female	153

*Foreign*

Predoctoral male	211	Postdoctoral male	376
Predoctoral female	232	Postdoctoral female	254

### Ethnicity of each pre- postdoctoral student/trainee

	Pre-doctoral		Postdoctoral	
	Male	Female	Male	Female
Native American	10	9	1	1
Asian/Pacific Islander	40	51	29	27
Black (not Hispanic)	21	37	12	10
Hispanic	16	23	9	11
White (not Hispanic)	342	358	135	104

### US Citizen/Resident alien postdoctoral trainee completions:

	Male	Female
Native American	0	1
Asian/Pacific Islander	9	10
Black (not Hispanic)	3	3
Hispanic	2	4
White (not Hispanic)	78	77
<b>Total</b>	<b>92</b>	<b>95</b>

### Average Annual Stipend (US \$)

	Average	Number
Postdoctoral	\$37,123.45	69
Pre-doctoral	\$21,997.68	69

### Predoctoral Trainee Completions Trainees completing doctoral work during year ending 6/30/2006.

Total	
Female	134
Male	124
<b>Total</b>	<b>258</b>

### Foreign National predoctoral trainee completions:

	Male	Female
African	1	0
Asian/Pacific Islander	21	20
Central/South American	0	4
European/Canadian, etc.	9	11
Middle Eastern	1	3
Other	1	0
<b>Total</b>	<b>33</b>	<b>38</b>

## Student/Trainee Information (continued)

	Predoctoral		Postdoctoral	
	Male	Female	Male	Female
African	3	5	6	1
Asian/Pacific Islander	124	151	221	145
Central/South American	16	13	19	21
European/Canadian, etc.	46	45	105	71
Middle Eastern	21	16	13	11
Other	1	2	12	5
<b>Total</b>	<b>211</b>	<b>232</b>	<b>376</b>	<b>254</b>

	Number of Foreign Pre- Postdoctoral trainees whose primary source of support is:	
	Pre-doctoral	Postdoctoral
Institutional	159	49
Research Grants	295	501
Private Foundations	23	41
Home (foreign) Gov.	10	6
Other	19	4
<b>Total</b>	<b>506</b>	<b>601</b>

## Institution Summary

### Type of Institution

Private	49
Public	22
<b>Total</b>	<b>71</b>

### Space Controlled by Department (n=74)

	Average
Research Space	18,314
Administrative Space	3,328
Teaching Space	2,765
Other Space:	3,009
<b>Total Space</b>	<b>27,416</b>

## Institutional Financial Information

### Budget by Institution

	All Institutions		Private Medical		Public Medical		Nonmedical	
		No.		No.		No.		No.
Institutional (Hard money, e.g, operating costs, state allocations)	\$1,975,008	70	1,614,548	19	\$1,858,642	38	\$2,451,835	13
Outside Research Grants and Contracts (direct costs only)	4,903,908	70	6,242,883	19	3,890,299	38	4,578,541	13
Training Grants (direct costs only)	302,926	40	461,265	12	246,143	21	201,371	7
Endowments	292,217	39	218,050	9	494,129	21	164,473	9
Indirect Cost Recovery (amount returned to your department)	704,107	47	1,533,456	5	187,744	32	391,120	10
Other Budget Support (identify)	439,004	60	589,542	14	317,434	38	410,037	8
<b>Average Departmental Budget</b>	<b>8,063,870</b>		<b>9,089,983</b>		<b>6,633,573</b>		<b>7,805,864</b>	

### Financial Information

Current fringe benefit rate most frequently used for Primary faculty	27.11	(n=73)
Federally negotiated indirect cost rate for FY 06-07 off campus	26.22	(n=59)
Federally negotiated indirect cost rate for FY 06-07 on campus	50.03	(n=70)
Percentage of allocated salary dollars directly returned to your department	72.44	(n=50)
Percentage of indirect costs returned to your department	21.61	(n=44)
Percentage of total faculty salaries derived from research grants (does not include fringe benefits costs)	35.61	(n=70)

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## Complete Ranking According to Total Dollars

Rank Total Dollars	Total Dollars	Rank Research Grant Dollars	Research Grant Dollars	Rank Research Dollars/ Faculty	Research Dollars/ Faculty	Rank Total Research Space	Total Research Space	Rank Research Dollars/ sq ft	Research Dollars/ sq ft	No. of faculty
1	\$30,533,997	1	\$27,643,710	1	\$987,275	1	49,831	3	555	28
2	22,145,708	2	15,256,573	2	953,536	6	31,125	5	490	16
3	19,785,756	3	10,810,870	8	400,403	22	20,812	4	519	27
4	14,769,583	5	10,637,889	13	354,596	17	23,039	9	462	30
5	14,492,047	4	10,710,742	9	396,694	9	27,824	13	385	27
6	13,048,908	6	9,584,578	6	504,451	21	21,634	10	443	19
7	12,678,601	20	5,879,305	41	195,977	31	17,737	15	331	30
8	12,652,140	14	6,997,205	26	269,123	45	14,700	7	476	26
9	11,958,049	7	8,304,066	4	593,148	26	19,670	11	422	14
10	10,929,095	15	6,639,288	14	349,436	3	37,738	46	176	19
11	10,753,500	10	7,603,869	28	253,462	14	24,252	18	314	30
12	10,681,130	11	7,455,920	16	338,905	2	41,083	43	181	22
13	10,572,306	12	7,057,398	23	306,843	13	24,488	22	288	23
14	10,538,633	8	8,103,278	22	311,665	52	13,500	2	600	26
15	10,472,723	9	7,865,259	19	327,719	35	16,786	8	469	24
16	10,090,664	13	7,044,630	12	370,770	4	34,392	38	205	19
17	9,804,408	16	6,543,110	35	218,104	10	27,751	30	236	30
18	9,701,418	22	5,584,967	11	372,331	20	22,153	26	252	15
19	9,511,536	19	6,114,009	7	470,308	11	26,187	31	233	13
20	9,090,670	18	6,120,977	37	211,068	36	16,726	14	366	29
21	9,046,362	17	6,236,608	21	311,830	12	24,805	27	251	20
22	8,523,757	29	4,061,483	53	135,383	19	22,707	45	179	30
23	8,459,303	59	1,869,232	65	84,965	53	12,729	57	147	22
24	8,107,172	42	3,375,669	25	281,306	42	15,628	36	216	12
25	8,094,316	21	5,865,398	38	209,479	5	34,361	47	171	28
26	7,856,003	28	4,200,000	45	190,909	18	22,934	42	183	22
27	7,597,712	34	3,875,145	33	227,950	15	23,482	49	165	17
28	7,518,125	31	3,973,629	29	248,352	27	19,480	39	204	16
29	7,426,343	23	5,059,205	17	337,280	62	10,358	6	488	15
30	7,225,412	24	4,890,226	10	376,171	25	20,080	29	244	13
31	7,136,691	44	3,198,004	47	188,118	29	18,765	48	170	17
32	7,119,044	37	3,790,534	48	172,297	16	23,087	50	164	22
33	6,818,028	26	4,503,528	42	195,806	8	28,547	52	158	23
34	6,494,042	30	4,049,448	31	238,203	49	13,790	21	294	17
35	6,404,380	39	3,718,104	43	195,690	7	28,664	61	130	19



Rank Total Dollars	Total Dollars	Rank Research Grant Dollars	Research Grant Dollars	Rank Research Dollars/ Faculty	Research Dollars/ Faculty	Rank Total Research Space	Total Research Space	Rank Research Dollars/ sq ft	Research Dollars/ sq ft	No. of faculty
36	\$6,366,131	45	\$3,073,069	55	\$133,612	51	13,624	33	226	23
37	6,277,125	33	3,888,888	20	324,074	32	17,535	34	222	12
38	6,272,704	38	3,737,986	27	266,999	34	17,259	35	217	14
39	6,033,422	27	4,257,646	24	304,118	28	18,799	32	226	14
40	5,770,868	35	3,862,361	30	241,398	48	13,987	24	276	16
41	5,671,932	53	2,403,067	58	109,230	37	16,685	59	144	22
42	5,588,569	43	3,247,652	32	231,975	66	8,385	12	387	14
43	5,469,213	49	2,810,647	36	216,204	30	18,059	53	156	13
44	5,467,266	46	2,902,538	50	170,738	24	20,104	58	144	17
45	5,423,480	32	3,931,350	5	561,621	40	15,955	28	246	7
46	5,340,024	36	3,798,566	15	345,324	55	12,348	20	308	11
47	5,237,590	52	2,564,119	49	170,941	33	17,361	56	148	15
48	4,999,179	55	2,106,474	66	84,259	46	14,185	55	149	25
49	4,821,136	54	2,136,966	44	194,270	67	8,102	25	264	11
50	4,733,162	40	3,642,159	18	331,105	59	11,384	17	320	11
51	4,666,646	50	2,692,777	51	168,299	65	9,368	23	287	16
52	4,642,457	25	4,547,545	46	189,481	47	14,000	16	325	24
53	4,507,158	62	1,662,929	52	166,293	61	10,486	51	159	10
54	4,501,635	51	2,618,954	40	201,458	54	12,500	37	210	13
55	4,470,408	47	2,894,830	39	206,774	64	9,384	19	308	14
56	4,263,152	57	1,897,891	62	94,895	39	16,014	63	119	20
57	4,118,630	60	1,768,362	63	88,418	57	11,730	54	151	20
58	4,063,631	56	1,900,693	61	100,036	44	14,921	62	127	19
59	4,059,924	58	1,876,428	54	134,031	63	10,042	40	187	14
60	4,022,101	48	2,894,683	34	222,668	41	15,650	41	185	13
61	3,868,229	41	3,594,115	3	599,019	70	4,850	1	741	6
62	3,431,869	61	1,700,850	60	100,050	56	12,009	60	142	17
63	3,356,653	65	1,112,335	68	55,617	69	6,165	44	180	20
64	3,249,187	64	1,375,695	59	105,823	43	15,111	66	91	13
65	2,969,125	67	1,035,481	64	86,290	23	20,269	68	51	12
66	2,822,066	63	1,596,000	56	133,000	50	13,629	64	117	12
67	2,588,568	66	1,099,526	57	109,953	58	11,719	65	94	10
68	2,090,855	69	400,000	71	23,529	38	16,292	71	25	17
69	1,442,057	68	457,300	67	57,163	60	11,203	69	41	8
70	1,285,010	70	238,998	70	26,555	68	7,291	70	33	9
71	1,020,417	71	150,000	69	30,000	71	2,900	67	52	5

## AAMC Medical School Faculty Compensation Survey

Each year the American Association of Medical Colleges (AAMC) surveys all the US medical schools as to faculty compensation. Because of this, the ACDP (see associated article) decided to no longer collect the same data from its members.

As a supplement to the ACDP survey, the AAMC has agreed to allow the APS to publish selected results from their survey.

Table 1 shows the regional distribution of medical schools responding to the AAMC survey in terms of public medical and private medical. Also shown is the number of physiology departments in those regions that responded.

Summary statistics on faculty compensation in physiology departments for PhD faculty are given in Table 2. Table 3 shows the changes in salary that have occurred over the past three years. The summary statistics for separate regions of the country are given in Table 4.

Table 5 shows the salary comparison between PhD faculty in all basic science departments vs. those in physiology departments. ❖

**Table 1. Distribution of Medical Schools Responding to AAMC Medical School Faculty Compensation Survey.**

		Northeast	Midwest	South	West	TOTAL
<b>All</b>	<b>Private Medical</b>	20	9	9	2	40
	<b>Public Medical</b>	7	10	16	10	43
<b>Physiology</b>	<b>All Medical Schools</b>	18	21	29	9	77

**Table 2. Summary Statistics on Physiology Department PhD Faculty Compensation.**

		25th	Median	75th	Mean	Number of Faculty
<b>Chair</b>	All Schools	175,000	205,000	247,000	213,000	213,000
	Medical Public	161,000	201,000	232,000	200,400	200,400
	Medical Private	182,000	233,000	288,000	241,000	241,000
<b>Professor</b>	All Schools	114,000	133,000	160,000	140,300	140,300
	Medical Public	114,000	131,000	152,000	137,900	137,900
	Medical Private	114,000	143,000	166,000	146,000	146,000
<b>Associate Professor</b>	All Schools	83,000	92,000	101,000	93,400	93,400
	Medical Public	83,000	93,000	102,000	93,700	93,700
	Medical Private	82,000	91,000	98,000	92,900	92,900
<b>Assistant Professor</b>	All Schools	61,000	76,000	87,000	75,200	75,200
	Medical Public	62,000	76,000	86,000	75,200	75,200
	Medical Private	60,000	75,000	87,000	75,200	75,200
<b>Instructor</b>	All Schools	43,000	47,000	53,000	48,700	48,700
	Medical Public	42,000	46,000	53,000	47,600	47,600
	Medical Private	44,000	48,000	53,000	50,800	50,800

**Table 3. Change in Total Compensation for Physiology Department PhD Faculty.**

2005-2006		2004-2005		2003-2004		% Change 2004-2005 to 2005-2006	
Mean	Median	Mean	Median	Mean	Median	Mean	Median
109,800	100,000	104,900	96,000	100,800	94,000	4.7	4.2

Mean and median values were combined for Assistant, Associate, and Professor.

**Table 4. Summary Statistics on Physiology Department PhD Faculty Compensation by Region.**

		Northeast	Midwest	South	West
<b>Chair</b>	25th	197,000	192,000	148,000	197,000
	Median	223,000	217,000	180,000	216,000
	75th	275,000	264,000	232,000	269,000
	Mean	235,600	223,400	185,600	232,000
	Total Faculty	18	21	29	9
<b>Professor</b>	25th	119,000	114,000	104,000	124,000
	Median	144,000	130,000	121,000	143,000
	75th	165,000	153,000	150,000	171,000
	Mean	147,100	137,600	130,400	154,000
	Total Faculty	165	167	198	95
<b>Associate Professor</b>	25th	85,000	82,000	82,000	87,000
	Median	93,000	92,000	90,000	98,000
	75th	102,000	99,000	100,000	109,000
	Mean	96,900	92,200	91,400	96,400
	Total Faculty	81	92	122	30
<b>Assistant Professor</b>	25th	69,000	56,000	58,000	75,000
	Median	83,000	70,000	73,000	87,000
	75th	92,000	80,000	82,000	98,000
	Mean	81,900	68,300	71,400	85,900
	Total Faculty	119	119	115	43
<b>Instructor</b>	25th	45,000	47,000	41,000	
	Median	50,000	49,000	45,000	
	75th	60,000	52,000	48,000	
	Mean	52,400	51,000	45,200	
	Total Faculty	23	10	43	4

Table 5. Salary comparison between all basic science departments and physiology departments.

		All Basic Science Departments	Physiology
<b>Chair</b>	25th	172,000	175,000
	Median	207,000	205,000
	75th	253,000	247,000
	Mean	214,300	213,000
	Total Faculty	533	77
<b>Professor</b>	25th	114,000	114,000
	Median	137,000	133,000
	75th	167,000	160,000
	Mean	144,800	140,300
	Total Faculty	4,109	625
<b>Associate Professor</b>	25th	83,000	83,000
	Median	95,000	92,000
	75th	109,000	101,000
	Mean	97,800	93,400
	Total Faculty	2,665	325
<b>Assistant Professor</b>	25th	64,000	61,000
	Median	76,000	76,000
	75th	86,000	87,000
	Mean	76,400	75,200
	Total Faculty	3,718	396
<b>Instructor</b>	25th	45,000	43,000
	Median	50,000	47,000
	75th	59,000	53,000
	Mean	53,300	48,700
	Total Faculty	662	80

## CALL FOR NOMINATIONS

for the Editorship of the

*American Journal of Physiology-Cell Physiology*

Nominations are invited for the Editorship of the *American Journal of Physiology-Cell Physiology* to succeed D. Brown, who will complete his term as Editor on June 30, 2008. The Publications Committee plans to interview candidates in the Fall of 2007.

Applications should be received before **August 15, 2007**.

Nominations, accompanied by a curriculum vitae, should be sent to the Chair of the Publications Committee:

Kim E. Barrett, Ph.D.  
APS  
9650 Rockville Pike  
Bethesda, MD 20814-3991

## New Regular Members

\*Transferred from Student Membership (9)

**Bruce A. Adams**

Univ. of California, San Francisco

**Wonsik Ahn**

Seoul National Univ. Hosp., S. Korea

**Yana Anfinogenova**

Albany Med. College, NY

**Chiye Aoki**

New York Univ.

**Eugene O. Apostolov**

Univ. of Arkansas

**Andrea G. Bechtold**

Univ. of California, Davis

**Jacques L. Bernheim**

Meir Medical Center, Israel

**Soumyaroop Bhattacharya**

Brigham & Women's Hosp., MA

**Jason M. Blank\***

Univ. of California, Irvine

**Ion Alexandru Bobulescu**

Univ. of TX Southwestern Med. Ctr.

**Anja Bondke**

Charite Univ. Berlin, Germany

**Vincent Bonhomme**

CHU De Liege, Belgium

**Josef Brandauer\***

Joslin Diabetes Center, MA

**Fabien Brette**

Univ. of Manchester, UK

**Sabrina McGary Brougher**

Delaware State Univ., Dover

**Joan H. Brown**

Univ. of California, San Diego

**Justin W. Brown\***

James Madison Univ., VA

**Randy Wayne Bryner**

West Virginia Univ., Morgantown

**Shizhong Bu**

Med. Univ. of SC, Charleston

**Pedro Cabrales**

La Jolla Bioengineering Inst., CA

**Santiago Camacho**

Mexico City Gen. Hosp., Mexico

**Helena Carvalho**

Virginia Commonwealth Univ.

**Yanping Cheng**

Cardiovascular Research Fndn., NY

**Keith Patrick Choe**

Vanderbilt Univ., TN

**Erika C. Claud**

Univ. of Chicago, IL

**Zoe Cohen\***

Univ. of Arizona, Tucson

**Sergio De Frutos-Garcia**

Univ. of New Mexico, Albuquerque

**Micheline M. De Resende**

Medical Coll. Wisconsin, Milwaukee

**David W. DeGroot**

Pennsylvania State Univ.

**Lucas DeMaio**

Univ. of Southern CA, Los Angeles

**Hayley Dickinson**

Monash Univ., Australia

**Jose Alberto Duarte**

Univ. of Porto, Portugal

**Travis Luke Dutka**

La Trobe Univ., Australia

**Emilia Entcheva**

Stony Brook Univ., NY

**Clara Franzini-Armstrong**

Univ. of Pennsylvania

**Maria A. Garcia-Espinosa**

Wake Forest Univ., NC

**Gosala Gopalakrishnan**

Beth Israel Deaconess Med. Ctr., MA

**Roberta A. Gottlieb**

San Diego State Univ., CA

**Charles Marshall Gray**

Montana State Univ., Bozeman

**Robert Isaac Gregerman**

Univ. of TX Hlth Sci Ctr., San Antonio

**Justin Lewis Grobe**

Univ. of Iowa

**Kevin D. Hall**

NIDDK/NIH, MD

**Samantha Paige Harris**

Univ. of Washington, Seattle

**Heitham Hassoun**

Johns Hopkins Univ., MD

**Dustin Shayne Hittel**

Univ. of Calgary, AB, Canada

**Josephine Hjoberg**

Uppsala Univ., Sweden

**John Michael Hollander**

West Virginia Univ., Morgantown

**John David Holtzclaw**

Univ. of Nebraska Med. Ctr., Omaha

**Kelvin Edward Jones**

Univ. of Alberta, Edmonton, Canada

**Collette Changie Jonkam**

Univ. of Texas Med. Branch, Galveston

**Wolfgang Georg Junger**

Univ. of California, San Diego

**Heikki S.Olavi Kainulainen**

Univ. of Jyviaskyla, Finland

**Youngnam Kang**

Osaka Univ. Grad. Sch. Dent., Japan

**Andreas N. Kavazis**

Univ. of Florida

**Stephen D. Krasinski**

Children's Hospital, Boston, MA

**Derek Stephen Kimmerly\***

Univ. Hlth. Network, Toronto Gen.,  
Canada

**Gayarthri Krishnamoorthy**

Univ. of Vermont, Burlington

**Nagomi Kurebayashi**

Juntendo Univ., Tokyo, Japan

**Aharon Lev-Tov**

Hebrew Univ. Jerusalem, Israel

**Anlong Li**

Johns Hopkins Univ., MD

**Tang-Dong Liao**

Henry Ford Hospital, Detroit, MI

**Satoshi Lino**

Univ. of Fukui, Japan

**Heinrich E. Lob**

Emory Univ., Atlanta, GA

**David S. Mallory**

Marshall Univ., WV

**Madhu Sudan Malo**

Mass. Gen. Hosp./Harvard Med.

**Daniel L. Marks**

Oregon Health & Sci. Univ.

**Tanguy Marqueste**

Univ. Aix-Marseille 2, France

**Helen Maria Marriott**

Univ. of Sheffield, UK

**Paul John Marvar\***

Emory Univ., GA

**Daniel J. McCann**

Gonzaga Univ., WA

**Tara L. McIsaac**

Columbia Univ. Teachers Coll., NY

**Maurizio Molinari**

Inst. Res. Biomedicine, Swaziland

**Lisa K. Moore**

Florida Tech.

**Vivian K. Mushahwar**

Univ. of Alberta, Canada

**Jennifer E. Naugle\***

Shenandoah Univ., VA

**Henning Bay Nielsen**

Rigshospitalet, Denmark

**Shawn Rane Noren**

Univ. of California, Santa Cruz

**Robert O'Hagan\***

Massachusetts Inst. Tech.

**Julie A. Owens**

Univ. of Adelaide, Australia

**Peter M. Piermarini**

Cornell Univ., NY

**Pascale Plaisancie**

INSERM U 865, Lyon Cedex, France

**Scott E. Plevy**

Univ. of North Carolina, Chapel Hill

**Shyamal Premaratnei**

Virginia Union Univ.

**Nora D. Prochnow**

Ruhr-Univ., Germany

**Lee Joseph Quinton\***

Harvard Univ., MA

**Jesse D. Roberts**

Massachusetts General Hosp.

**Basil D. Rouffogalis**

Univ. of Sydney, Australia

**Damjana Rozman**

Ctr. Funct'l. Genom./Bio-Chips, Slovenia

**Javier A. Sala Mercado**

Wayne State Univ., MI



**Laura G. Sanchez-Lozada**  
Inst. Natl. De Cardiol., Mexico

**Rohit Seth**  
Florida State Univ., Tallahassee

**Rajat Sethi**  
Texas A&M

**Heidi L. Shafford\***  
Univ. of Pittsburgh, PA

**Jurichiro Shimizu**  
Nara Medical Univ., Japan

**Donna M. Simmons**  
Univ. of Southern CA, Los Angeles

**Stacy Sims**  
Stanford Univ., CA

**Cynthia Smas**  
Medical Univ. Ohio, Toledo

**Ira James Smith**  
Duke Univ., NC

**James R. Sowers**  
Univ. of Missouri, Columbia

**Andrew Stewart**  
Beth Israel Deaconess Med. Ctr., MA

**Michael K. Stickland\***  
Univ. of Alberta, Canada

**Mu Sun**  
Univ. of Minnesota

**Yuichiro Suzuki**  
Georgetown Univ., DC

**Kathleen T.B. Swan**  
All Children's Hospital, FL

**Melody A. Swartz**  
Swiss Fed. Inst. Tech., Switzerland

**Kouichi Tamura**  
Yokohama City Univ. Sch. Med., Japan

**Aranza I. Torrado**  
Univ. of Puerto Rico

**Panapat Uawithya**  
National Institutes Health, MD

**Sathish Venkatachalem**  
Mayo Clinic, MN

**Rudiger Von der Heydt**  
Johns Hopkins Univ., MD

**Gareth A. Wallis\***  
Univ. of California, Berkeley

**Chih-Luch A. Wang**  
Boston Biomed. Res. Inst., MA

**Daniel Edward Warren\***  
Univ. of California, San Francisco

**Wang Wei-Zhong**  
Univ. of Nebraska

**Rohan B.H. Williams\***  
Univ. of New South Wales, Australia

**Lilliya M. Yamaleyeva**  
Wake Forest Univ., NC

**Masaaki Yoshigi**  
Univ. of Utah, Salt Lake City

**Binglan Yu**  
Mass. Gen. Hosp., Boston

**Qingli Zhang\***  
Univ. of Maryland, Baltimore

**Xiaoli Zhao\***  
Univ. of Med. & Dent., NJ

**Dan Zhou**  
Merck & Co. Inc., NJ

## New Student Members

**Bonnie Akerman**  
Dartmouth Med. Sch., NH

**LaMonta Beard**  
Northeastern Ohio Univ.

**Allison Berg**  
Univ. of Virginia

**Paula Bernal**  
Univ. of Pittsburgh, PA

**Daniel Best**  
Univ. of North Carolina, Chapel Hill

**Sharell Bindom**  
Louisiana State Univ.

**Lindsea Booth**  
Univ. of Auckland, New Zealand

**Justin Buehner**  
Univ. of Alaska, Fairbanks

**Thomas Buford**  
Baylor Univ., TX

**Kritika Chaudhari**  
Idaho State Univ.

**Justin Chung**  
Univ. of Waterloo, Canada

**Jacqueline Crissey**  
Univ. of Texas, Austin

**Rachel Crnich**  
Colorado State Univ.

**Erica Dale**  
Univ. of Wisconsin, Madison

**Jared Dickinson**  
Ball State Univ., IN

**Devin Flaherty**  
Univ. of North Texas

**John Florian**  
Pennsylvania State Univ.

**Andreas Flouris**  
Dalhousie Univ., Canada

**Sarabeth Graham**  
Univ. of North Texas

**Carmen Halabi**  
Univ. of Iowa

**Lauren Hanna**  
Ball State Univ., IN

**Linda Harley**  
Georgia Inst. of Tech.

**Keith Hengen**  
Univ. of Wisconsin, Madison

**Julio Hilario-Vargas**  
Texas Tech Univ.

**Erica Hutchins**  
Univ. of Albany, NY

**Dov Judd**  
Univ. of Maryland, Baltimore

**Daniel Kaukola**  
Northern Michigan Univ.

**Emily Kilpatrick**  
Univ. of Connecticut

**Nicole Kleinstreuer**  
Univ. of Canterbury, New Zealand

**Lutz Kraushaar**  
Univ. of Bielefeld, Germany

**Andrew Levy**  
Univ. of Waterloo, Canada

**Mary Rachael Lovett-Barr**  
Univ. of Wisconsin, Madison

**Chitrawina Mahagita**  
Mahidol Univ., Thailand

**Hitesh Modak**  
Grant Med. College, India

**Ayodele Morakinyo**  
Univ. of Lagos, Nigeria

**Gauri Nayak**  
Florida Atlantic Univ.

**Zachary Neeb**  
Indiana Univ.

**Karl New**  
Univ. of Wales, UK

**William Nugent**  
Virginia Commonwealth Univ.

**Ahmed Oloyo**  
Univ. of Lagos, Nigeria

**Barkha Patel**  
York Univ., Canada

**Xin Pei**  
Columbia Univ., NY

**Arthur Pope**  
Ohio State Univ.

**Gamika Prathapasinghe**  
Univ. of Manitoba, Canada

**Caroline Raasch**  
Louisiana State Univ.

**Myoung-gwi Ryoo**  
Univ. of North Texas

**Alan Snow**  
Kent State Univ., OH

**Leandro Solis**  
Univ. of Alberta, Canada

**Bradley Thomas**  
Howard Univ., DC

**Shin-Hua Tseng**  
Nat'l. Tsin-hua Univ., Taiwan

**Nietzell Vazquez-Acevedo**  
Univ. of Puerto Rico

**Esben Vestergaard**  
Aarhus Univ. Hospital, Puerto Rico

**Annie Whitaker**  
Louisiana State Univ.

**Nicole Wisniewski**  
Idaho State Univ.

**Robert Wolfla**  
Andersen Univ., IN

**Wee Kian Yeo**  
RMIT, Australia

**Barbara Zaffo**  
Univ. of Albany, NY

## New Affiliate Members

**Rosann J. Carpenter**  
Columbia Univ., NY

**Nancy Hattaway Miller**  
Diablo Valley College, CA

**Mary L. Puglia**  
Central Arizona College

**Hiral N. Shah**  
Washington Hosp. Ctr., DC

## Recently Deceased Members

**George N. Bedell**  
Iowa City, IA  
**Henry R. Besch, Jr.**  
Indianapolis, IN  
**Nathaniel A. Buchwald**  
Los Angeles, CA  
**Delwood C. Collins**  
Lexington, KY

**Steven M. Horvath**  
Williamsville, NY  
**Harold M. Kaplan**  
Warr Acres, OK  
**Joe Marwah**  
Irvine, CA  
**Samuel M. McCann**  
Baton Rouge, LA  
**Ernest D. Michael**  
Santa Barbara, CA

**Ruth Pick**  
Chicago, IL  
**Alberto L. Politoff**  
Chapel Hill, NC  
**Amar K. Sen**  
Toronto, ON, Canada  
**Stanley C. Skoryna**  
Montreal, QC, Canada

# Communications

## APS Sponsors USC Doctoral Student for Media Fellowship

University of Southern California doctoral student Katherine Leitzell has accepted the 2007 AAAS Mass Media Fellowship sponsored by APS. She will complete her 10-week assignment at *US News & World Report*, which has its editorial offices in Washington, DC. The Communications Committee recommended Leitzell, a former Fulbright scholar, for the fellowship.

The fellowship is designed to encourage communication of science to the general public. The AAAS places several fellows each year with various media outlets. Each fellow is sponsored by a different professional society. The APS has sponsored a doctoral or postdoctoral physiologist through the AAAS program for nine years.

Leitzell majored in German studies and minored in Biology at Whitman College in Walla Walla WA. After graduating in 2002, she received her master's degree in biological sciences from USC where she expects to get her PhD in 2009.

During her Fulbright fellowship year, Leitzell attended the University of Rostock (in the former East Germany) where she studied neurobiology and worked in a neuroscience laboratory. She has also worked as a marketing intern, the public programs coordinator for The Imaginarium in Anchorage, Alaska and has been a science writer for the USC magazine, *USC Today*.

Leitzell's dissertation research focuses on the regulation of neurotransmitter

transporters and explores the intracellular signals that regulate trafficking of the GABA transporter to and from the plasma membrane in neurons.

### Past fellows

This is the ninth year that APS has sponsored a mass media fellow. AAAS has continued to keep in touch with these fellows and has found that about half remain in science, while half pursue a career in science writing.

So far, three APS fellows have gone on to science journalism and five are in science. Of the three in journalism, one is a medical reporter for a major newspaper, one hosts a science weekly radio program and one is the life sciences editor for a technology magazine. ❖

## The American Physiological Society Medical Physiology Curriculum Objectives

<http://www.the-aps.org/education/MedPhysObj/medcor.htm>

Download in HTML or PDF format

**NOW AVAILABLE IN PRINT FORM; UP TO 15 COPIES FREE PER DEPARTMENT.**

## NEW UPDATES: Cardiovascular and Respiration Section

The **Medical Physiology Curriculum Objectives** is a joint project of The American Physiological Society and the Association of Chairs of Departments of Physiology.

APS Education Office  
9650 Rockville Pike, Bethesda, MD 20814-3991  
Phone: 301-634-7132; Fax: 301-634-7098; Email:  
education@the-aps.org; <http://www.the-aps.org/education.htm>

## New Program Improves Trainees' Presentation Skills

Over 70 graduate students from three biomedical fields honed their presentation skills at two three-day APS Professional Skills Workshops on "Making Scientific Presentations: Critical First Skills" (January 18-21 in Orlando, FL; March 8-11 in Bethesda, MD). The courses were supported by a grant to the APS from the National Institute of General Medical Sciences (NIH Grant #GM073062-01).

The workshops allowed attendees to:  
effectively introduce themselves to a group;

give a more in-depth introduction of themselves;

write an effective meeting abstract;

write clear and powerful poster text;

design a dynamic and understandable poster;

give an effective poster presentation;

discover how diversity issues can influence how they introduce themselves and write and design poster presentations;

learn about resources that can further develop their presentation skills.

The workshops were especially designed for underrepresented minority students. They brought together trainees from APS as well as from two partner societies, American Society for Microbiology (ASM) and Society for Developmental Biology.

Trainee participants worked in small groups of five to six matched with an established biomedical researcher from one of the three societies to better enable them to receive individualized training and hands-on training, as well as allowing for networking opportunities.

APS thanks the following group leaders for their hard work and dedication to the students: Dale Benos, Univ. of Alabama, Birmingham; Mary Anne Courtney, Univ. of Rochester (ASM); Joe Dunbar, Wayne State Univ.; Elizabeth Eldon, California State Univ., Long Beach (SDB); Judith Heady, Univ. of Michigan-Dearborn (SDB); Robert Hester, Univ. of Mississippi (both workshops); Carole Liedtke, Case Western Reserve Univ.; Patricia Molina, Louisiana State Univ.; Jo Morello, Univ.

of Chicago (ASM); Darlene Racker, Northwestern Univ.; Hector Rasgado-Flores, Rosalind Franklin Univ.; Tom Schmidt, Univ. of Iowa; Annabell Segarra, Univ. of Puerto Rico

In addition, invited speakers offered plenary talks on specific topics associated with writing and reviewing for journals. They were: Rayna Gonzalez, Univ. of California, Irvine; Dexter Lee, Howard Univ.; L. Gabriel Navar, Tulane Univ.; Keri Kles Poi, Eli Lilly & Company; Michael Romero, Mayo Clinic; Thomas Schmidt, Univ. of Iowa.

APS is now working towards the development of the online courses for both the 2006 "Writing and Reviewing for Scientific Journals" and the 2007 "Making Scientific Presentations: Critical First Skills" courses. Beta-testers will be needed to take the courses online, both individually as well as in small groups. For more information or to sign up to be notified about being a beta-tester, please go to the Professional Skills website at <http://www.the-aps.org/education/professionalskills/>. ❖

**Ph  
Un  
Week** 2007

**Visit the NEW**  
***www.PhUnWeek.org***  
**APS Education website!**  
**Connect with a**  
**K-12 Teacher NOW**  
**before their Summer Break!**

The APS encourages all of its members to reach out to their local K-12 schools in November 2007 as part of *Physiology Understanding Week (PhUn Week)*. *PhUn Week* resources and freebies can excite youth about research science and physiology. Physiologists CAN have an impact on precollege science and students through classroom visits with their lab groups. Start planning NOW with teachers in your community for *Physiology Understanding Week*, November 5-9, 2007. Visit the newly updated *www.PhUnWeek.org* website!

**For more info, contact the APS Education Office at *phunweek@the-aps.org*.**

## Twenty APS Members to Host Summer Research Experience for Sixteen Science Teachers

This spring 16 teachers from across the nation were selected to participate in the year-long 2007 Frontiers in Physiology Professional Development Fellowship Program. One component of the fellowship is a local partnership between the science teacher and an APS member, who jointly applied to the program and, in several instances, committed to contributing a portion of the fellow's stipends. Twenty APS members are serving as hosts and mentors to the teachers by providing each teacher fellow with a physiology-based laboratory research experience for seven to eight weeks this summer. Through this opportunity, the Research Teachers (RTs) learn first-hand how the research process works, allowing them to enhance their own science teaching with their students in the classroom.

In July, typically in the midst of their research experience, the RTs will be attending an intensive workshop week known

as the "APS Science Teaching Forum" at the Airlie Center in Warrenton, VA. An APS member and an APS Outreach Fellow will serve as the Physiologists-in-Residence, and a leadership team of past RTs will serve as Mentor/Instructors. Together they will facilitate sessions using APS curriculum units and exploring inquiry- and equity-based teaching strategies, how to integrate technology into their classroom, and equity issues in science education. As part of the fellowship in the fall, the RTs will be developing and refining their own inquiry-based lab activity that can be used in the science classroom. Finally, the RTs will be concluding their fellowship year by participating in the EB 2008 meeting through which they experience a scientific meeting.

The following are the teacher/research host teams for the 2007 Frontiers in Physiology Professional Development Fellowship Program:

Nancy Buehner, Deubrook Area Schools, SD  
**Alan Erickson**, South Dakota State Univ.

Erin O'dya, Warren Central High School, Indianapolis, IN  
**C. Subah Packer**, Indiana Univ. School of Medicine

Kathleen Caslow, Episcopal High School, Alexandria, VA  
**Pedro Jose**, Georgetown Univ.

Lorraine O'Shea, Schroeder Middle School, Grand Forks, ND  
**Van Doze**, Univ. of North Dakota School of Medicine

Dawn DeMayo, Montclair High School, Montclair, NJ  
**Andrew Thomas**, UMDNJ-New Jersey Medical School

Juanita Quevedo, Otay Ranch High School, Chula Vista, CA  
**Richard Lieber**, Univ. of California, San Diego

Debbie Frankel, Sherwood Middle School, Sherwood, OR  
**Virginia Brooks**, Oregon Health & Science Univ.

Conrad Reyes, Franklin K. Lane High School, Brooklyn, NY  
**William Coetzee**, New York Univ. School of Medicine

Marshan Jefferson, Anacostia Senior High School, Washington, DC  
**Georges Haddad**, Howard Univ.

Mary Ann Sara, Addams Middle School, Royal Oak, MI  
**Joseph Dunbar**, Wayne State Univ. School of Medicine

Megan Lane, C.R. Anderson Middle School, Helena, MT  
**Michael Morrow**, Univ. of Montana Western

Latasha Baynes Seay, Pinellas Park Middle School, Pinellas Park, FL  
**Bruce Lindsey, Eric Bennett, Jay Dean, & Daniel Yip**  
Univ. of South Florida College of Medicine

Norman Leonard, Pike High School, Indianapolis, IN  
**Steven Miller**, Indiana Univ. School of Medicine

Camia Steinmann, Clear Creek High School, League City, TX  
**Norman Weisbrodt, & Rosemary Kozar**, Univ. of Texas Medical School, Houston

Joanna Miller, Assumption High School, Louisville, KY  
**Jeff Falcone**, Univ. of Louisville

Monica Van-Y, Michigan Health Academy, Detroit, MI  
**Benedict Lucchesi**, Univ. of Michigan Medical School

### Bowditch Award Lecture

The Bowditch Lectureship is awarded to a regular member, under 42 years of age, for original and outstanding accomplishments in the field of physiology. Selected by the APS President, the recipient presents a lecture at the Experimental Biology meeting, which is considered for publication in the Society journal of their choosing. The recipient receives an honorarium of \$2,500, reimbursement of expenses incurred while participating in the Experimental Biology meeting, and a plaque. The membership is invited to submit nominations for the Bowditch

Lecturer. A nomination shall be accompanied by a candidate's curriculum vitae and one letter detailing the individual's status, contributions, and potential.

More information on the award and nomination procedures are available at <http://www.the-aps.org>. Nominations should be sent to: The APS Bowditch Lecture Award, c/o Linda Jean Dresser, 9650 Rockville Pike, Bethesda, MD 20814-3991; or submitted online at [http://www.the-aps.org/cgi-bin/Election/Lecture\\_form.htm](http://www.the-aps.org/cgi-bin/Election/Lecture_form.htm).



## Opening up Open Access: Weaving the “Author Pays” Safety Net

### Introduction

As of July 1, 2007, all authors who publish in the APS research journals (Table 1) will have the choice to pay a fee for immediate open access (OA) of their article. At their March Committee meetings, the Publications and Finance Committees supported a proposal to extend the OA choice to all APS research journals. Up until now, only the authors of *Physiological Genomics* articles have had such a choice.

The new policy will work as follows: Authors will be informed in their acceptance letters that they have the choice to pay a \$2,000 supplemental fee to make their article free to all immediately upon online publication, with a link to a payment form. Upon receipt of the fee, the APS staff will make the article free online. This fee is in addition to any page charges, color fees, or reprint costs that the author will be billed for at the end of the production process of the print issue. As always, the APS will continue to make all articles free to all 12 months after issue publication.

Authors may choose to pay for immediate open access for a number of reasons, including the desire to have their article be free to all online sooner than 12 months, or to meet the obligations of some funding agencies that require articles to be free in less than the APS-approved 12 months after publication. The proposal was made to the Committees by staff for a number of reasons, including a request to publications staff to look at another revenue model in case journal subscription revenue became severely threatened by such funding agency requirements and the general movement toward OA.

### Background

At the APS’s Strategic Planning meeting in November 2005, the request was made to create a Task Force to look at

diversifying APS’s revenue streams, because the APS is so reliant on journal subscription revenue. (Publications revenue comprises 83% of all society revenue; subscription revenue is 58% of all society revenue.) As part of this exploration of other revenue streams, the Finance Task Force asked the Publications Office to put together a business plan for retaining journal revenue if subscription income was no longer viable as a source of revenue.

This revenue was seen to be at risk because of the activities of advocates of the OA movement. OA advocates believe that all scientific journal literature should be made free to all, benefiting scientists, who will no longer have any barriers to reading and using it; and the lay public, who will be able to read the results of the studies that they funded with their tax dollars. OA advocates, when pressed, will agree that publication of scientific journals costs something, so purport that publication costs could be paid by the researchers themselves as just another expense of doing research—in other words, out of the authors’ grants. This is widely known as the Author Pays Model of funding publication in an OA world. Perhaps because these advocates realize that not all authors or fields of study are funded to the same degree, there is also talk of, and some experimentation with, institutions and even libraries assisting with these author fees.

The APS has long been an advocate of widespread access to its journal content, for years sending print journals to developing countries, and was an early adopter of making all online journal content free 12 months after publication. It has, through its Executive Director, Marty Frank, developed and led the DC Principles Coalition, which promotes as much free access to scientific literature as publishers can afford. However, the APS does not see the Author Pays Model

as the best financial model for the community, putting too much of the burden on authors. As Peter Wagner, Chair of the Finance Committee, stated recently in an email following up on a Task Force conference call: “Raising the publishing cost to authors from about \$1,000 as currently estimated to about \$3,000 by converting to author pays will drive me away because I just don’t have that kind of money. Say 10 papers per year, this ups the cost by \$20,000, which is half of my total supplies budget and would simply be unsustainable. Unless we can find a way to make NIH up grant income to cope with this, very unlikely in the current climate let alone in good years.”

Be that as it may, publishers may not have a choice, and this article describes how APS can move to an Author Pays Model of funding the journals if subscription income becomes seriously endangered. But, as was stated in a recent roundtable discussion with librarians, the Open Access movement is a political and social movement that lacks a rational business model, though it has huge financial implications. Therefore, we find ourselves anticipating and reacting to a change that is not necessarily fiscally optimal for the players involved, including libraries and their institutions, authors, and publishers. So while an Author Pays financial model may be considered our “safety net” in case this political movement erodes or destroys subscription income, we believe it should remain a safety net: testing it to see if it will hold, but not using it unless we need to.

### Testing the Safety Net

Since 2003, *Physiological Genomics* (PG) has given authors a choice of paying a fee for OA: \$1,500 when there were no other author fees imposed on that journal, and \$750 in 2006, when regular author fees (page and color charges) were implemented. In 2006, 18% of authors chose to pay the OA fee. We know, however, that this OA fee plus the author fees does not pay the full cost of publishing an article in PG. For a new journal with little subscription revenue to risk, it has been an interesting experiment to see how much uptake there could be when OA fees are very reasonable.

### OA Choice for All Journals

In March 2007, staff proposed to the Publications and Finance Committees to expand our OA choice program to authors of all our research journals, but to charge a fee that is much closer to what would need to be charged if subscription revenue went away. We know that when we looked at 2005 costs, the cost to publish a single research article

**Table 1. APS Research Journals included in OA Choice.**

<i>AJP–Cell Physiology</i>
<i>AJP–Endocrinology and Metabolism</i>
<i>AJP–Gastrointestinal and Liver Physiology</i>
<i>AJP–Heart and Circulatory Physiology</i>
<i>AJP–Lung Cellular and Molecular Physiology</i>
<i>AJP–Regulatory, Integrative &amp; Comparative Physiology</i>
<i>AJP–Renal Physiology</i>
<i>Journal of Applied Physiology</i>
<i>Journal of Neurophysiology</i>
<i>Physiological Genomics</i>

*Advances in Physiology Education* is already free to all online.



averaged across all the journals was approximately \$3,000. We also know that an author, on average across all the journals, pays \$1,000 in regular publication fees. Therefore, we set the OA choice fee at \$2,000.

Giving all authors a choice of OA allows us to accomplish the following:

Continue our mission of allowing access to be as free as is fiscally possible.

Use OA fees to keep subscription price increases to a minimum, or even lower subscription prices as early as 2009. (Subscription price increases will continue to be calculated to cover cost after other revenue is taken into account. The expected uptake of OA choice—based on previous uptake—will be budgeted into the revenue expected from other sources when subscription prices are set. This is illustrated in Table 2.)

Give authors of papers funded by agencies that are demanding OA a way to meet their requirements and pay a realistic fee—as some of these funding agencies have stated they are willing to do—based on actual costs.

Test the ability and willingness of authors to pay the full cost of publishing an article. As stated above, authors may have help from their funding agencies, institutions, or even their libraries, and they all need to know what they are get-

ting into in the move to an author pays model.

Make it easier to move to an author pays system if we need to, because authors, their funding agencies, and their institutions will already have become accustomed to the kinds of fees that will sustain the publications.

The converse result of this testing the safety net might be to make the safety net less necessary. If it turns out that authors are not willing to pay these fees, funding agencies are not willing to fund them, and institutions realize that they may end up paying more in OA fees than they ever did in subscription costs (as research institutions that cover these costs certainly will) (1, 2), there could be a cooling of the OA rhetoric, and a return to talk of a more balanced cost recovery of subscription sales plus author fees. Either way, the APS will be prepared to use the model that will ultimately come to the fore, because it will have experimented with the new one (author pays) without having thrown out the old one (subscriptions).

### Needing the Safety Net

In the event that subscription revenue erodes to a point that remaining subscription revenue, author fees, advertising, and OA choice fees are no longer

able to cover the cost plus 10% margin that Council has mandated for Publications, the APS will implement a mandatory Author Pays Model at a cost equivalent to the real cost of an article (plus the 10% margin and less all other journal-related revenue streams), and make the online journals free to all. If at that point we are still selling print subscriptions, we will continue to do so at prices based on cost, and this will be considered another revenue stream to add to the mix.

It may occur that the OA choice is far more popular than anticipated, and so the trigger event to move to Author Pays

will happen when author and OA fees make up a larger percent of revenue than subscriptions. More than likely, however, as stated above, the decision to move to a complete Author Pays model will be as much a political as a financial one. For instance, in order not to lose authors, other competing journals would have to be moving to a similar financial model to make it feasible for APS to do so.

### Institutional Membership and Discounts

As stated above, some libraries see it as their duty to help authors pay their OA fees, especially in anticipation of decreasing journal subscription costs. One model that some publishers are experimenting with is to give authors discounts on their OA fees if their institution pays a “membership” fee: in many cases, at the exact rate of an online subscription. This model maintains diversification of revenue, but does not allow libraries to realize real savings, which was part of the impetus for OA, so it is yet to be seen whether it will be attractive in the long run. It also could put libraries in the position of influencing where authors *publish* their articles, instead of what they *read* (and what a researcher reads is not entirely determined by the institution’s library), which may not be best for scientists or science. We will be monitoring the popularity, successes, and shortcomings of this model and can consider it an option at some future date. ❖

### Conclusion

In its efforts to make journal content as free as possible while preserving the journal revenue that sustains the society’s activities, APS has decided to extend the OA choice option to all its research journals. By testing an author pays system of revenue, the APS publications program can more easily move to this system if and when the journals become completely open access, and subscription revenue is no longer available.

### References

**Davis PM, Ehling T, Habicht O, How S, Saylor JM, and Walker K.** Report of the CUL Task Force on Open Access Publishing. Ithaca: Cornell University, 2004, p. 27. <http://hdl.handle.net/1813/193>

**Davis PM.** Calculating the Cost per Article in the Current Subscription Model. Ithaca: Cornell University, 2004, p. 2. <http://hdl.handle.net/1813/236>.

**Table 2. The Effect of OA Fees on Subscription Prices.**

2009 Projected total revenue needed	150,000
2009 Projected subscription revenue	90,000
2009 Projected other revenue	50,000
2009 Projected OA revenue	0
Projected total actual revenue	140,000
<i>Subscription price increase / decrease needed</i>	7%
2009 Projected total revenue needed	150,000
2009 Projected subscription revenue	90,000
2009 Projected other revenue	50,000
2009 Projected OA revenue	10,000
Projected total actual revenue	150,000
<i>Subscription price increase / decrease needed</i>	0%
2009 Projected total revenue needed	150,000
2009 Projected subscription revenue	90,000
2009 Projected other revenue	50,000
2009 Projected OA revenue	20,000
Projected total actual revenue	160,000
<i>Subscription price increase / decrease needed</i>	-6%

This table shows that if enough authors choose to pay an OA fee, subscription prices might not need to be increased, or could be decreased in future years. The revenue amounts used are for illustrative purposes only.

## APS Testifies Before Congress on FY 2008 Funding

*Each year when Congress gets ready to set agency budgets for the coming year it listens to recommendations from outside experts. This spring the APS had the opportunity to testify before two House of Representatives Appropriations subcommittees on FY 2008 funding for the National Institutes of Health (NIH) and for the National Science Foundation (NSF) and NASA. Excerpts of those statements follow.*

*On March 27, 2007, APS President-elect Hannah Carey testified before the House of Representatives Appropriations subcommittee on Labor, Health and Human Services and Education on the NIH budget for FY 2008. The hearing was well attended, and several Members of Congress asked questions of the witnesses. Excerpts from the testimony appear below.*

“On behalf of the scientific community, I would like to thank you for the strong support that Congress has given the NIH. We know that Congress understands the importance of biomedical research and we appreciate that. The doubling of the NIH budget enabled the agency to expand its efforts to address important challenges in biomedical science; challenges that we need to surmount in order to solve our nation’s pressing health problems. Increased research funding has allowed researchers to explore scientific opportunities on an unprecedented scale and also made it possible to train the next generation of scientists.

“The problem is that since the doubling of the NIH budget was completed, the agency’s funding has not kept pace with the rate of inflation. The erosion of its purchasing power has forced NIH to make tough choices. At the present time, NIH is able to fund less than one out of every five grant applications it receives. This means that top-tier research is not being funded, and that has repercussions. Not only are some of the best ideas being left unexplored, but we are also sending a very negative signal to our most talented and creative scientists, including the scientific leaders of the future.

“The APS joins the Federation of American Societies for Experimental Biology and the Ad Hoc group for medical research in urging Congress to help

NIH ‘get back on track.’ We support a 6.7% increase for the NIH in FY 2008. This recommendation is based upon what is needed to bring the NIH budget to the level it would have been at in 2010 if the agency had been keeping up with inflation since the end of the doubling in FY 2003.

“Our nation faces many challenges, but we believe that a compelling case can be made for building upon our investment in NIH-funded research. Research has enabled great strides in the treatment of diseases that affect people around the world, such as obesity, heart disease, diabetes and cancer, but much more work remains to be done. Learning more about the underlying mechanisms of disease will show us how to identify disease processes and intervene at the earliest stages, before symptoms begin to decrease a patient’s quality of life and increase the cost of medical care.

“NIH is the principle source of funding for most physiology research, which investigates the most basic biological mechanisms of life. Years of research into the fundamental molecular components of biological systems has provided the raw materials for understanding the functions of cells, tissues, organ systems, whole organisms and even populations. However, despite tremendous gains in biomedical research there remains a need to apply the findings of molecular biology to organisms in all of their physiological complexity. Doing so will lead to a better understanding of human health and disease, and facilitate the development of new treatments and prevention strategies. The scientific community is poised to move forward into these exciting new areas of research, but doing so will require continued support of investigator-initiated research and training programs at the NIH.

“We at the APS would also like to stress the importance of NIH-funded training programs for the next generation of scientists. NIH not only provides direct support to students through training grants made to institutions across the country, but also through the support of programs such as



**APS President Hannah Carey testified before the US House of Representatives Appropriations subcommittee on Labor, Health and Human Services and Education.**

those at APS that strive to improve science education at all levels and create a diverse scientific workforce by providing opportunities for minorities to become involved in research activities.”

*On April 24, 2007, Carey testified before the House Appropriations subcommittee on Commerce, Justice and Science on the NSF and NASA budgets for FY 2008. Excerpts from the testimony follow.*

“The NSF fills a critical role in the research community by funding basic research into the physical, biological and behavioral sciences. The agency provides support for approximately 20% of all federally funded basic science and is the major source of support for non-medical biology research, including integrative, ecological, and evolutionary biology, as well as interdisciplinary bio-



**Carey’s testimony included, “We at the APS would also like to stress the importance of NIH-funded training programs for the next generation of scientists.”**

logical research. The majority of the funding NSF provides is awarded through competitive, merit-based peer review, which ensures that the best possible projects are supported. This has resulted in an excellent record of accomplishment in terms of funding research that has produced results with far-reaching potential. My own work on the physiology of hibernation has been supported by the NSF. This research provides information on the capacity of the mammalian body to tolerate extreme environmental conditions, such as low temperatures and long periods with no food intake. This not only informs us on how animals respond to changing environmental conditions, but can also assist in the development of new ways to improve human performance under extreme conditions.

“NSF advances our nation’s scientific mission by providing funds to support individual research projects and also by sponsoring research in emerging areas of science. For example, through NSF’s support the APS recently conducted a workshop to explore the development of an integrated program for comparative and ecological physiology. This type of program would address critical issues in animal adaptation and their responses to environmental change. The genomic revolution of the past few decades has given us the tools to understand organisms at the molecular level. However, increasingly there is a critical need for that information to be translated into informed decisions that affect species preservation on our planet. Physiology provides that crucial link that integrates information at the genomic level with outcomes at the environmental level. It is our hope that Congress will continue to provide support for such integrated studies.



**APS President Hannah Carey with Wisconsin Congressman David Obey, Chair of the Appropriations Committee.**

“In addition to supporting and fostering top-tier research, the NSF also has a long-standing and critical commitment to the support of science education in our country. The American Physiological Society has benefited from this support which allows us to provide training opportunities and career development activities to enhance the participation of underrepresented minorities in science. The APS was recognized for its efforts in 2003 with a Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM), funding for which was provided by NSF and was reinvested in our education programs. We believe that NSF is uniquely suited to administer science education programs of the highest quality, and we recommend that Congress continue to provide federal funds for science education through the NSF.

“The APS is aware that the House Science and Technology committee is currently considering legislation to reauthorize the NSF. We support the committee’s intention to increase the authorized level of funding for the agency. The current version of the legislation also contains a requirement that NSF make reports and citations resulting from NSF funded research available to the public. As a scholarly publisher of 13 scientific journals, we recognize the importance of making research results available to the scientific community as well as the public. To that end, all of our journal content, regardless of funding source, is available without restriction on our website 12 months after publication. By requesting that project reports and citations be made available to the public, instead of the final peer-reviewed journal articles, the committee has found a way to accomplish the goal of making research results available while respecting the copyright of journal publishers and we appreciate its efforts.

“The NSF is an agency that excels at its mission, and the APS has enjoyed a long partnership with the agency. This year, we join with the Federation of American Societies for Experimental Biology (FASEB) in calling for an increase that would bring the NSF budget to a total of \$6.5 billion in FY 2008.

“I would now like to shift gears and spend a few minutes discussing life sciences research at NASA. It is disheartening to see NASA’s life sciences budget



**APS President Hannah Carey in front of the US Capitol.**

slashed from approximately \$1 billion in FY 2005 to \$274 million in FY 2007. These cuts erode the capacity to conduct the experiments necessary to safely achieve goals that involve long duration manned spaceflight. The cuts are especially troubling given the Administration’s commitment to returning humans to space. Our failure to support research to understand the effects of prolonged exposure to microgravity, increased levels of radiation, disruption of sleep patterns and restricted movement on human physiology will be highly detrimental to our efforts to harness space. Problems such as bone and muscle loss, adaptations of the cardiovascular system and disruption of the circadian rhythms represent significant risks to astronauts. APS scientists are actively engaged in research that explores the physiological basis of these problems, with the goal of developing countermeasures. It’s important to keep in mind that research advances that increase our understanding of humans’ responses to the space environment often make their way to improvements in the clinical setting here on earth. The APS joins FASEB in calling for an increase of at least \$39.5 million for biological research at NASA in FY 2008.”

For the full text of both testimony statements, go to: <http://www.the-aps.org/pa/>. ❖



## APS Submits Comments on the NIGMS Strategic Plan

*Earlier this year, the National Institute of General Medical Sciences (NIGMS) issued a request for information on the development of a new strategic plan. Excerpts from the comments submitted on behalf of the APS appear below.*

"The American Physiological Society (APS) appreciates the opportunity to provide input into the strategic planning process at the National Institute of General Medical Sciences (NIGMS). The physiology community represents a diverse group of researchers, many of whom have an interest in the activities of the NIGMS. Below we address some of the questions posed on the NIGMS strategic planning website.

"With respect to new and emerging areas, approaches and technologies in basic biomedical research, we would like to stress the importance of integrative approaches to research. Research into the fundamental molecular components of life has provided the raw materials for understanding the functions of cells, tissues, organ systems, whole organisms and even populations. However, despite tremendous gains in biomedical research there remains a need to apply the findings of molecular biology to organisms in all of their physiological complexity. Doing so will lead to a better understanding of human health and disease, and facilitate the development of new treatments and prevention strategies. Recent breakthroughs in proteomic and metabolomic techniques provide examples of the type of basic research findings that should be translated to the whole organ and whole organism levels. Carrying out this type of research requires formation of multidisciplinary

collaborations and research teams, and support of those collaborations should be a particular priority for the NIGMS. We believe that this is best accomplished by continuing to devote resources to high quality, innovative investigator-initiated research through the R01 grant mechanism.

"Currently, researchers are trained to approach biological problems at a reductionist level, but in order to confirm insights and apply findings from less complex systems (i.e., in vitro models) to whole organisms, researchers need to develop a set of skills that combines knowledge of molecular biology with in vivo systems. The key to bridging this knowledge gap lies in providing training programs and opportunities in integrative biology. Education should focus on bringing together scientists with diverse skills and expertise to exchange knowledge, i.e., scientists who focus on the description of molecular events would benefit from working with researchers who define mechanisms in animal models and vice versa. The next generation of researchers will need diverse skills to carry out translational research, bridging basic and clinical science. In the past, the NIGMS has offered short courses in integrative and systems pharmacology. These programs have been highly successful and should be continued and expanded.

"Encouraging diversity in the biomedical research workforce is a priority for the APS, and we appreciate the support that has come from NIGMS and other NIH institutes over the years. In addition to NIGMS' existing programs, we suggest that applications for center grants and program project grants should include a demonstration that efforts are made to include underrepresented minorities and women as active members of research teams." ❖

## HHMI Seeks Early Career Investigators

The Howard Hughes Medical Institute (HHMI) has announced that it is accepting applications for up to 50 new early career investigators. This marks the first time that HHMI has solicited general applications directly from investigators, rather than seeking nominations from eligible institutions. Support of up to 50 new investigators will represent an investment of approximately \$600 million, a much needed boost as researchers continue to feel the squeeze of flat funding at NIH.

The Institute is looking to support scientists who conduct work that pushes the boundaries of science, including those pursuing biomedical research in related fields such as chemistry and computational biology. Because HHMI supports investigators rather than individual projects, sponsored researchers have more freedom to pursue different avenues than under a traditional grant model.

Applicants must have a PhD or MD, hold a tenured or tenure-track position at an eligible institution, and have between four and 10 years of experience at the faculty level. Candidates must also be a principal investigator on an active, peer-reviewed national grant such as an R01.

The deadline for applications is June 13, 2007 and awards will be made in spring 2008. Information on how to apply is available on the HHMI website: <http://www.hhmi.org>. ❖

## Physiology in Perspective

### Walter B. Cannon Memorial Lecture

The Cannon Memorial Lecture, sponsored by the Grass Foundation, honors Walter B. Cannon, President of the Society from 1913-1916, and is presented annually at the spring meeting to an outstanding physiological scientist, domestic or foreign, as selected by the President-Elect with the consent of Council. The recipient presents a lecture on "Physiology in Perspective," addressing Cannon's concepts of "The Wisdom of the Body." The lecture is considered for publication in the Society journal of their choosing. The recipient receives an honorarium of \$4,000, a plaque, and reimbursement of expenses incurred in association

with delivery of the lecture. The membership is invited to submit nominations for this lecture. A nomination shall be accompanied by a candidate's curriculum vitae and one letter detailing the individual's status and contributions.

More information on the award and nomination procedures are available at <http://www.the-aps.org>. Nominations should be sent to: The APS Cannon Lecture Award, c/o Linda Jean Dresser, 9650 Rockville Pike, Bethesda, MD 20814-3991; or submitted online at [http://www.the-aps.org/cgi-bin/Election/Lecture\\_form.htm](http://www.the-aps.org/cgi-bin/Election/Lecture_form.htm).

## Postdoctoral Positions

### Postdoctoral Research Associate:

We are currently seeking a highly motivated Postdoctoral Fellow in the Department of Physiology and Biophysics at the University of Louisville. Our NIH funded project focuses on mechanisms of vascular responses and changes of blood rheological properties, studying interactions of blood components with endothelium during cardiovascular diseases. Duties: the candidate will be expected to design and execute experiments on various microcirculatory beds in rodents or microvessels and endothelial cells isolated from animals, collect, analyze, and present data, troubleshoot experiments, write academic papers and contribute to the goals of the lab. Techniques to be employed include animal models, intravital light, fluorescent and confocal microscopy, genetic manipulations of cultured endothelial cells, receptor-ligand binding assays, and general biochemical assays (e.g., SDS-PAGE, Western blotting, ELISA, and immunocytochemistry). Requirements: PhD in Physiology or related field and one-year experience in microvascular surgery on rodents. Experience in light and fluorescent microscopy, mammalian cell culture, tissue histology, and biochemical and immunological assays is a plus. Must work as an independent researcher, but will also participate in team work. Excellent written and verbal communication skills are necessary. Salary and position will be commensurate with experience. To apply, please submit a statement of research interests, CV and three letters of reference to: Dr. David Lominadze, Physiology and Biophysics, Email: dglomi01@louisville.edu. For foreigner graduates an evaluation of the degree is requested.

**Postdoctoral Position:** A postdoctoral position is available immediately at the Division of Cardiovascular Medicine, Brigham and Women's Hospital and Harvard Medical School to study cardiac metabolism and signaling transduction in heart failure. The research project will utilize genetically engineered mouse models, isolated perfused hearts and cell culture systems to investigate novel mechanisms underlying the development and progression of heart failure. We seek highly motivated individuals

with a PhD or MD/PhD degree, a strong publication record and excellent writing and oral communication skills. Candidates with experience in cardiac physiology or metabolism are especially encouraged to apply. Please send a cover letter detailing both your previous scientific work experience and your interest in this position, curriculum vitae and contact information for three references to: Rong Tian, MD, PhD, Associate Professor of Medicine, 221 Longwood Ave. Room 247, Boston, MA 02115; Email: rtian@rics.bwh.harvard.edu.

**Postdoctoral Position:** Available immediately to work on a joint NIH-funded project between the University of Tennessee Health Science Center and St. Jude Children's Research Hospital examining drug efflux transporters at the blood-brain barrier. Approaches include measurements of tracer and drug transport in primary cultures of brain microvascular endothelial cells. Preference will be given to candidates with experience in primary cultures of brain microvascular endothelial cells, immunohistochemistry, and drug transport studies. Knowledge in the areas of ABC transporters, bioengineering and mathematical modeling of transport systems, and molecular approaches to blocking or enhancing transporter function is desirable but not required. Please send curriculum vitae, statement of research interests, and a list of references who may be contacted to Dr. Christopher M. Waters, PhD, Dept. of Physiology, The University of Tennessee Health Science Center, 894 Union Ave., Nash 426, Memphis, TN 38163; Email: cwaters2@utmem.edu. [EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA]

**Postdoctoral Scholar:** The Pennsylvania State University, College of Medicine, Penn State Heart and Vascular Institute is seeking to recruit a postdoctoral scholar immediately to study neural control of the cardiovascular and respiratory systems during exercise. Studies include investigations into both the exercise pressor reflex and central command mechanisms. Collaboration and interaction will be encouraged with other investigators in the Institute. Please send CV and names of two references to Marc P. Kaufman, PhD, Penn State Heart and Vascular Institute, Mail Code H047, The Pennsylvania State

University, Hershey Medical Center, College of Medicine, 500 University Drive, Hershey PA 17033 or Email mkaufman@hmc.psu.edu. For your health, Hershey Medical Center is a smoke-free campus. [AA/EOE]

**Postdoctoral Position:** Evolutionary Physiology, College of William and Mary. A postdoctoral position will be available beginning August of 2007, renewable through May 2009, to investigate the evolution of complex neuroendocrine pathways. Applicants should have a PhD prior to May 2007 and experience in one or more of these areas: physiological ecology, neuroendocrinology, behavior, evolutionary biology, physiology, or cell and molecular biology. The research focus is on the contribution of genetic variation and phenotypic plasticity to the evolution of the photoneuroendocrine pathway in mammals. This pathway integrates photoperiod and other environmental information to regulate reproductive, physiological and behavioral responses to seasons. The model system is a wild-derived laboratory colony of white-footed mice (*Peromyscus leucopus*). The successful candidate will conduct collaborative research, help supervise students in the research laboratory, and teach a one-semester course in animal physiology during the spring. More details on the research are available at: <http://faculty.wm.edu/pdheid>. The College of William and Mary is a "Public Ivy" with 5,500 undergraduate enrollments, an excellent undergraduate program, and a strong research tradition. Starting salary is \$39,000 plus benefits. Please send curriculum vita, a brief description of research interests/experience, and the names and contact information of three references to: Dr. Paul Heideman, Chair, Department of Biology, PO Box 8795, College of William and Mary, Williamsburg, VA 23187-8795; Email: pdheid@wm.edu. Review of applications begins immediately and continues until the position is filled. [AA/EOE]

**Postdoctoral Fellow Position—Kidney Disease:** The Department of Physiology of the Medical College of Wisconsin seeks to recruit a Postdoctoral research fellow interested in the cellular mechanisms by which blood pressure regulates epithelial transport in the kidney and the role of



TGF- $\beta$  and the genetic basis of hypertension and diabetic nephropathy. Available techniques include; micropuncture and tubular perfusion, laser Doppler flowmetry, LC/MS, in vivo and in vitro fluorescent imaging, patch clamp, radiotelemetry, genomics, proteomics and expression arrays. Candidates with a PhD or equivalent degree and expertise in these areas are encouraged to apply. The Department of Physiology provides an outstanding training environment with active research programs in the hypertension and diabetic nephropathy, glomerular disease, vascular biology, proteomics, and the genomics of hypertension and kidney disease. Interested candidates should submit their Curriculum Vitae to Richard J. Roman, Department of Physiology, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226; Tel.: 414-456-8723; Fax: 414 456-6546; Email: rroman@mcw.edu. [AA/EOE/EDE M/F/D/V].

## Faculty Positions

**Assistant Professor:** The Biology Department at the University of Wisconsin-Stout, a Malcolm-Baldrige Award-winning institution, is seeking highly qualified applicants for two (2) full-time, entry-level tenure track teaching positions at the rank of Assistant Professor to begin August 2007. The successful candidates will be organismal biologists who complement existing working groups in human biology, biotechnology, or environmental studies by applying the tools of genomics, proteomics, bioinformatics or bionanotechnology. Selected candidates will integrate research and service activities into the classroom to enrich the student experience for majors and non-majors. The use of laptops in the classroom and web-based technology is also expected. See <http://www.uwstout.edu/cas/biology/> for more information. Completion of PhD in the biological sciences by August 2007 is required. Applicants should provide letter of application describing teaching and research interests, CV, copies of all undergraduate and graduate transcripts, and contact information for three professional references in electronic or hard copy format to nolds@uwstout.edu or Dr. Steve Nold, Selection Committee Chair, Biology

Department, UW-Stout, 204 Science Wing, 817 S. Broadway Ave, Menomonie, WI 54751. Screening will begin March 30 and will continue until the positions are filled. [EEO/AA]

**Faculty Position:** Northwest Christian College in Eugene, OR, is seeking to fill a faculty position in Exercise Science. Successful candidate will teach courses that are part of NCC's new major in exercise science. Doctorate required, ABD considered. Northwest Christian College is a Christian, private, liberal-arts, comprehensive college closely affiliated with the Christian Church (Disciples of Christ) and the Christian Churches/Churches of Christ. The College was founded in 1895 and is accredited by the Northwest Commission on Colleges and Universities. It enrolls an undergraduate and graduate student body of 500 students (150 residential). Northwest Christian College was most recently ranked by *U.S. News and World Report* #16 overall among 40 comprehensive Colleges in the Western Region. Nestled in the vineyard studied Willamette Valley between the breathtaking scenery of the Cascade Mountains and the Oregon Coast Range, Eugene is often referred to as "The Emerald City." Eugene is ranked sixth among US cities for bicycling; ninth among the best places to live by A&E.com and ranked in the Top 5 among college towns in the West by *Sunset* magazine. The beautiful Willamette Valley ranks in the Top 10 among the "Choice Destinations" in the world as selected by Fodor's Travel Publications. The enjoyment of working and living in this community is immeasurable. For a full position description of the faculty opening listed above, please visit <http://www.nwcc.edu/hr/>. To apply, send a cover letter describing qualifications, resume or vitae, statement of Faith, copies of official graduate level transcripts, and contact information for three references to the following address: Director of Human Resources, Northwest Christian College, 828 East 11th Ave., Eugene, OR 97401. Applications will be accepted until the position is filled.

**Assistant/Associate Professor:** The Department of Neuroscience, Cell Biology & Physiology at Wright State University Dayton, OH, ([\[med.wright.edu/ncbp/\]\(http://www.med.wright.edu/ncbp/\)\) invites applications for a tenure track faculty position at the assistant or associate professor level from individuals having research interests in cellular and molecular biology to complement current research expertise in the department, in cell signaling/inflammation, hematology/leukemia, cell death/differentiation/stem cells, host/pathogen interactions and epithelial transport. Candidates with the following backgrounds are preferred: 1\) molecular techniques for the study of cell biology, 2\) characterization of signal transduction pathways, 3\) regulation of gene expression, 4\) use of in vivo genetic models, and 5\) use of imaging techniques to study cell interactions. Candidates are expected to teach molecular and cellular-related topics in graduate and medical school courses. Applicants for the assistant rank must have a PhD degree and at least two years postdoctoral training and a record of publications demonstrating excellence in research and potential for obtaining extramural grant funding. Applicants for the associate rank must also have a sustained high quality research program with a national reputation for excellence, and active funding. Review of applications will begin March 30, 2007 and continue until the position is filled. Interested applicants should submit a curriculum vitae, statements of research and teaching interests and the names of at least three references to: Dr. Julian G. Cambronero, Chair NCBP Faculty Search Committee, Dept. of Neuroscience, Cell Biology & Physiology, 235C Biological Sciences Bldg., Wright State University, 3640 Colonel Glenn Hwy, Dayton, OH 45435 or Email to: \[ncbp@wright.edu\]\(mailto:ncbp@wright.edu\). Underrepresented minorities are highly encouraged to apply. \[AA/EOE\].](http://www.</a></p></div><div data-bbox=)

**Assistant/Associate Professor of Physiology:** The Department of Physiology at Midwestern University (Downers Grove IL; <http://www.midwestern.edu>) invites applications for a 12-month full-time, tenure-track faculty position at the rank of Assistant or Associate Professor. Applicants must have a PhD, at least two years of postdoctoral training, excellent oral communication skills and a commitment to the education of future health-care professionals. The successful candidate will be expected to teach in physiology courses for osteopathic medical, pharmacy and

health sciences students, and to develop and maintain an externally funded research program. Current areas of research in the Department include cardiac electrophysiology and central and peripheral neural control of the cardiovascular, respiratory and gastrointestinal systems in diabetes or during exercise. Review of applicants will begin in early April 2007 and will continue until the position has been filled. Interested persons should submit electronically (pdf file to kohaga@midwestern.edu) a curriculum vita that includes teaching experience, a brief summary of research interests and future research plans, and the contact information for three references to: Kathleen O'Hagan, PhD, Department of Physiology, Chicago College of Osteopathic Medicine, Midwestern University, 555 31st Street, Downers Grove, IL 60515; Email: kohaga@midwestern.edu.

**Assistant Professor:** The Department of Physiology and Biophysics, Keck School of Medicine is seeking an individual to fill an open position of Assistant Professor of Research Physiology and Biophysics. This position is in the non-tenure track and is entirely supported by research grants and contracts. Candidates interested in this position should have an MD, PhD or MD/PhD in the areas of biophysics or cardiovascular medicine/physiology. Postdoctoral training and peer review publications are also necessary. The research activities associated with this position center on blood and cell rheology in both normal and pathologic states. Required experimental skills include measurements of blood viscosity over a wide range of shear rates, optical and microscopic assessment of red cell aggregation, red cell deformability determined via laser diffraction in known shear fields and by micropore filtration, whole cell electrophoresis, and blood hematology parameters using manual and automated methods. An ability to prepare red blood cell and white blood cell suspensions in various media is essential as is knowledge of disorders affecting blood rheology. Individual interested in the position should send a copy of their CV plus the names of three persons familiar with their work to: Ms. Elena Camarena, Department of Physiology and Biophysics, Keck School of Medicine, 1333 San Pablo Street, MMR 626, Los Angeles, CA 90033; Fax: 323-442-2283; Email: ecamaren@usc.edu.

**Assistant, Associate, and/or Professor:** The Department of Physiology, Pharmacology and Toxicology at the Ponce School of Medicine (PSM) invites applications for three full-time faculty positions at the level of Assistant Professor, Associate Professor, and/or Professor. PSM is a private, bilingual center of higher education located in the southern coastal city of Ponce in Puerto Rico. PSM has a dynamic research program that is currently undergoing a period of aggressive growth. The Institution currently receives ~\$5 million per year in NIH research funds. We have a PhD program in Biomedical Sciences, and state-of-the-art Biomedical Animal Resource Facilities, as well as Imaging, Molecular, and Toxicology Core Facilities. We are seeking individuals with a PhD or MD, and postdoctoral research experience. The successful candidate will be expected to develop an independent research program, which complements our existing strengths in Neuroscience, Cancer, and Cardiovascular Research. An established track record in obtaining NIH grant funding is highly preferred. All applicants should have a sound publication record. Review of candidates will begin immediately and will continue until positions are filled. Send curriculum vitae, a statement of research goals, and names and addresses of three references to: Dr. León Ferder, Chairman, Dept. of Physiology, Pharmacology and Toxicology, Ponce School of Medicine, PO Box 7004, Ponce, Puerto Rico 00732; Email: leferder@psm.edu. [AA/EOE].

**Lecturer:** Human Anatomy and Physiology, Department of Kinesiology, the University of Toledo. Position: The Department of Kinesiology of the College of Health Science and Human Service is seeking candidates for a full-time appointment at the rank of Lecturer. This appointment will involve teaching undergraduate lecture and lab courses in such areas as human anatomy, human physiology, and microbiology, and collaboration and implementation of laboratory activities. Rank/Salary: the appointment will be at the Lecturer level. Salary is commensurate with qualifications and experience. Qualifications: the position requires a minimum of a Masters degree in an area related to anatomy and physiology, with experience in teaching in one or more of the following areas of human

anatomy, human physiology, and microbiology. Department of Kinesiology: See <http://www.hhs.utoledo.edu/kinesiology/welcome.html>. Application Procedures: interested applicants should submit a formal letter of application, a curriculum vitae, graduate transcripts, three letters of recommendation, and a statement of teaching interests to: Alice McAfee, PhD, Chair of Search Committee for Human Anatomy and Physiology, Department of Kinesiology, M.S. 119, College of Health Science and Human Service, University of Toledo, Toledo, OH 43606; Email: alice.mcafee@utoledo.edu. Application Deadline and Appointment Date: review of applications will begin immediately, and will continue until the position is filled. The start date for this position is August 13, 2007. [AA/EOE]

**Associate/Full Professor:** The Department of Physiology and Membrane Biology, at the University of California, Davis School of Medicine, is recruiting a mid-career faculty member for a state funded, tenure-track position at the Associate/Full Professor level as part of the Membrane Biology Initiative. The Department of Physiology and Membrane Biology has recently hired six junior faculty, one of whom was a joint hire with the newly formed Shriners' Hospital Institute for Pediatric Regenerative Medicine. Candidates must possess a PhD and/or MD degree and have demonstrated academic leadership as evidenced from superior investigative accomplishment, sustained extramural funding, educational excellence, and effective mentoring and service. The individual selected for the position is expected to maintain a high quality research program and to participate in the teaching of medical and graduate students. The most important criteria in the consideration of applicants are: 1) a record of research excellence, creativity and innovation; 2) a demonstrated ability to communicate effectively as an educator; and 3) a history of fostering collaborative research. The research interests of current departmental faculty are focused in the areas of cardiovascular physiology and neuroscience, with an emphasis on membrane phenomena. It is expected that the successful candidate will complement and extend the existing strengths of the Department and integrate with one or more of the School's strategic focus areas (Cardiovascular,

Neuroscience, Infectious Disease, and Cancer). Individuals that possess the potential to interface with and promote translational studies in partnership with clinical scientists are encouraged to apply. The department web address is: <http://www.ucdmc.ucdavis.edu/physiology/> and <http://www.physiology.ucdavis.edu/>. Letters of interest, curriculum vitae, up to three representative reprints, synopsis of research plans (past, present and future goals), summary of teaching experience/philosophy, and the names/addresses of five references should be forwarded to: Martha E. O'Donnell, PhD, Chair, Search Committee, c/o Department of Physiology and Membrane Biology, 4136, Tupper Hall, East Health Sciences Drive, University of California, Davis, CA 95616. The position will be "Open Until Filled"; for full consideration, applications should be received by November 30, 2007. [AA/EOE].

#### **Assistant or Associate Professor:**

The Medical Genetics Research Center at SUNY Upstate Medical University seeks to fill a tenure track Assistant or Associate Professor position for an individual to promote research involving the discovery or characterization of causative genes and pathophysiological mechanisms in transgenic in rodent models of disease. The position requires expertise in QTL mapping. The selected individual will be expected to develop an independent research program and also to provide assistance to other faculty. The position requires a PhD in a relevant discipline (e.g., Biology, Biochemistry, Physiology, Genetics, Psychology, Zoology). Candidates should send their CV and a letter describing research interests to Stephen V. Faraone, PhD, Director, Medical Genetics Research, SUNY Upstate Medical University, 750 East Adams St., Syracuse, NY 13210; Email the same to [genetics@upstate.edu](mailto:genetics@upstate.edu).

#### **Assistant Professor in Physiology – Tulane:**

Applications are invited for one research track and one tenure track appointment at the rank of assistant professor. Candidates should hold the PhD or MD degree, have a record of excellence in research, and committed to academic programs in medical and graduate education. Research areas marked for expansion include cardio-

vascular-renal, cellular/molecular, membrane/transport physiology, systems physiology and functional genomics. The successful applicant will be expected to develop an independent extramurally funded research program. Send curriculum vitae, a brief statement of research interest, copies of representative publications, and the names of three references to: Dr. L. Gabriel Navar, Chairman, Tulane University Health Sciences Center, School of Medicine, Department of Physiology SL-39, 1430 Tulane Avenue, New Orleans, LA 70112. We will accept applications until a qualified applicant is found. [AA/EOE]

#### **Assistant/Associate Professor:**

The Department of Physiology at the Medical College of Wisconsin (MCW) invites applications for two tenure-track faculty positions at the Assistant or Associate level with research interests in the physiological function of the cardiovascular system, the kidney, or pulmonary system. Favored candidates will be those that: *a)* complement the department's strengths in connecting genes to complex functional pathways; *b)* are highly focused on endothelial or epithelial ion channels and cell signaling; *c)* are capable of extending their research to more integrated level; *d)* are interested in developing translational collaborative projects with clinical scientists. The overall goal of the department is to sustain a breadth of scientific expertise and research spanning from genome and cell to the whole organism. Superb opportunities exist for collaborative research and our faculty are closely affiliated with the MCW Human and Molecular Genetic Center (housing the NHLBI Program of Genomic Applications), the Cardiovascular Center (housing the NINDS-PPG in stroke), the Biotechnology and Bioengineering Center (housing the NHLBI Center of Proteomics), and the Center of Kidney Research. Candidates will be expected to participate in both the graduate and medical curriculums. The candidate must hold a PhD and/or MD degree, demonstrate clear evidence of research independence such as current or imminent grant support. The positions will remain open until filled and applicants should send their curriculum vitae, statement of interest and three letters of recommendation to: Allen W. Cowley, Jr., PhD, Chairman, Department of Physiology;

email: [cowley@mcw.edu](mailto:cowley@mcw.edu); Website: <http://www.phys.mcw.edu/index.htm>.

**Assistant/Associate Professor:** Saint Louis University, Center of Excellence in Neuroscience, Department of Pharmacological and Physiological Science. Saint Louis University is a Catholic Jesuit Institution dedicated to student learning, research, health care and service. The newly formed Center of Excellence in Neuroscience at Saint Louis University has begun an ambitious effort to significantly increase the number of interdisciplinary neuroscience investigators at the University. At present, the center is seeking to fill two tenure track positions at the rank of Assistant and/or Associate Professor. We are particularly interested in applicants utilizing interdisciplinary approaches to address fundamental problems in molecular, cellular, development or systems neuroscience. It is expected that the successful candidates will have or develop a strong extramurally-funded research program and participate in the teaching of medical and graduate students. The primary faculty appointment for both positions will be in the Department of Pharmacological and Physiological Science, situated within the School of Medicine. We offer a supportive, collegial environment and generous start up funds and laboratory space. Interested candidates must submit a cover letter, application, curriculum vitae, and research interests and objectives to <http://jobs.slu.edu>. Three letters of recommendation should be mailed to: Search Committee, Center of Excellence in Neuroscience, Department of Pharmacological and Physiological Science, Saint Louis University School of Medicine, 1402 S. Grand Boulevard, St. Louis, MO 63104. For more information, please visit our website: <http://medschool.slu.edu/pharmphys/>; Email: [inquiry@slu.edu](mailto:inquiry@slu.edu). [AA/EOE]

## Research Positions

**Senior Research Scientist– Cardiovascular Physiology:** CVRx, a world leader in device therapy for hypertension, invites applications for the position of Senior Research Scientist. We seek a high-potential, self-starting indi-



vidual with a PhD (or equivalent experience of seven+ years) in Physiology or a related field. The candidate must have a background in integrative cardiovascular physiology and autonomic regulation. Other requirements for the candidate include: history of exceeding work expectations in quality and timeliness; record of high productivity and collaboration in a team environment; acumen in planning and executing complex, interdisciplinary tasks; proven ability to design and conduct in vivo experiments; clinical experience; strength in analyzing integrative physiologic data and distilling salient results; excellent verbal and written communication skills; record of impactful scientific communication in journal publications and conference presentations; talent for cultivating relationships with healthcare professionals. Candidates with experience in the medical device industry and familiarity with electrical stimulation of nerves or muscle are preferred. Interested parties should submit curriculum vitae to ResumeRD@cvrx.com.

**Research Physiologists/Research Nutritionist:** GS-0413/0630-12/13/14, Salary Range of \$63,417 to \$115,848 per annum. The USDA, Agricultural Research Service, Grand Forks Human Nutrition Research Center, Grand Forks, ND, seeks a permanent, full-time research scientist to join a developing team to work to solve the problem of obesity and related illnesses. This scientist will develop a research program involving physical activity and dietary interventions to promote physiological function and health in the context of maintaining a healthy body weight. Incumbent will conduct independent and multidisciplinary, team-based research to evaluate the efficacy and effectiveness of physical activity, dietary and behavioral interventions to prevent obesity and maintain healthy body weight and will have the opportunity to develop/enhance skills in conducting human studies for the US population. To have a printed copy of the vacancy announcement mailed to you, call Isela Losek at 701-795-8370 or access information online at <http://www.afm.ars.usda.gov/divisions/hrd/index.html>. Send applications for announcement

ARS-X7W-0166 to: USDA, Agricultural Research Service, Human Resources Division, Attn: Keli A. Martin, 5601 Sunnyside Avenue, Stop 5106, Beltsville, MD 20705-5106; Fax: 301-504-1535; Email: [scirecruit@ars.usda.gov](mailto:scirecruit@ars.usda.gov). Applications must be marked ARS-X7W-0166 and postmarked by **June 25, 2007**. US Citizenship is required and must be verified before entrance on duty. [AA/EOE].

## NIH Training Grant

**Training Grant for DVMs in Comparative Biomedical Sciences:** Candidates sought for an NIH-funded training grant at the University of Wisconsin-Madison. Applicants must be US citizens or permanent residents and

possess a DVM degree. Accepted applicants will receive an attractive stipend (NIH postdoctoral level) and perform their research under the supervision of one of 24 trainers with expertise in infectious diseases and cellular and molecular physiology. Applicants will jointly apply online for admission into the Comparative Biomedical Sciences PhD program and the Training Grant using <http://www.vetmed.wisc.edu/pbs/gradprogram/index.html>. Qualified applicants should contact Dr. Czuprynski (Training Grant Director; [czuprync@svm.vetmed.wisc.edu](mailto:czuprync@svm.vetmed.wisc.edu); 608 262 8102) or Dr. Debbie McKenzie (PhD Program Administrator; [mckenzie@svm.vetmed.wisc.edu](mailto:mckenzie@svm.vetmed.wisc.edu); 608 262 0470) with questions regarding the program. The University of Wisconsin-Madison is an Equal opportunity/affirmative action employer. ❖

### Cleveland Clinic

#### Endowed Chair for Laboratory Research

The Division of Anesthesiology, Critical Care Medicine and Comprehensive Pain Management is seeking a qualified individual to serve as Director of the Center for Anesthesiology Research. A doctoral degree (M.D., Ph.D. or equivalent), qualifications for appointment as Full Professor and a proven track record of peer-reviewed funding are required. Current strengths in the Center include cellular and molecular mechanisms of cardiac, vascular, endothelial and sensory neuron (pain) function, although expertise in other research areas would be acceptable. Start-up package and compensation are highly competitive. The Center occupies new, state-of-the-art research space. Many collaborative opportunities are available through the Lerner Research Institute. Qualified applicants should send a CV and research plan to:

Michael Roizen, M.D.  
Chairman, Division of Anesthesiology,  
Critical Care Medicine and  
Comprehensive Pain Management, E30  
Cleveland Clinic  
9500 Euclid Avenue  
Cleveland, OH 44195  
[roizenm@ccf.org](mailto:roizenm@ccf.org)



## **Cardiovascular Disease, Methods and Protocols: V.2. Molecular Medicine.**

Qing K. Wang, (Editor), Totowa, N.J.: Humana Press, 2006, 376 pp., illus., index, \$125.00. ISBN: 1-58829-892-2.

The menace of cardiovascular disease has challenged and inspired many of the brightest physiologists of several centuries. Such giants of physiology as Carl Ludwig, Thomas Lewis, Carl Wiggers, and Silvio Weidmann dedicated their entire careers to this field. Yet, at the turn of the 21<sup>st</sup> century, despite all the titanic efforts of so many, we realize that cardiovascular disease will remain the major cause of human mortality well into the future. Perhaps it is time to step back and ask ourselves a tough question: where do we stand and where should we go from here? The book by Qing K. Wang presents an excellent opportunity to reflect on this theme.

The history of cardiovascular physiology swings like a pendulum between reductionist and integrative approaches. In the first case, investigators attempt to dissect complex phenomena and rigorously quantify simplified models of a physiological system. This approach yields breakthroughs in technology development and an understanding of the system's individual components. However, eventually a reductionist model fails to grasp the systemic complexity of the studied phenomenon and becomes overwhelmed by the sheer number of complex quantitative relationships involved in the system. Subsequently, the pendulum swings to the integrative approach, which reestablishes the systemic view. It synthesizes the wealth of knowledge accumulated by reductionists of the preceding period and identifies new feedbacks and regulatory networks. However it too eventually fails because

of its inherent qualitative nature.

The second half of the 19th century was the era of Ludwig's integration, which was followed by the reductionist views of Starling. The pendulum again swung towards the integrative approach at the turn of the 20th century with the work of Wiggers, who dominated American physiology for nearly half a century. The discovery of ion channels has led to the dominance of the reductionist paradigm for the past half century and led to the channelopathy hypothesis of cardiac arrhythmias, which is arguably the most distinguished showcase of the reductionist approach linking a physiological mechanism to disease from gene to bedside. Wang presents numerous excellent chapters with state-of-the-art accounts of powerful technologies applied to cardiovascular disease, including microarray, genomics and proteomics approaches, studies of ion channel biophysics in heterologous expression systems, and protein structure/function studies with X-ray crystallography and NMR spectroscopy. Experts on their respective fields, authors of the chapters did a superb job in presenting the strengths and limitations of the techniques.

However, this triumph of reductionism has also signaled the end of the pendulum cycle. While, in some cases single molecular abnormalities have been linked to arrhythmias in a particular population of patients, these cases offered no treatment. And limited progress has been made to address such gigantic problems as atrial fibrillation and heart failure. Despite the efforts of several generations, no effective antiarrhythmia drugs have resulted. Many physiologists sense that a new synthesis is needed to integrate the wealth of knowledge accumulated by the reductionists. It appears that the period of paradigm shift is approximately 50 years, and the time has come to reestablish the synthetic complexity of

the cardiovascular system using integrative approaches.

One of the major obstacles in advancing our understanding of the mechanisms of cardiovascular disease is a lack of comprehensive technologies to address the structure-function relationship at the tissue, organ and physiological system levels. In order to comprehend the complexity of the remodeling processes leading to diseases of the heart, one needs to investigate the mechanisms of excitation, contraction, autonomic control, and their molecular basis in the same heart. Wang presents masterfully written chapters with an impressive array of novel approaches to integration in cardiovascular physiology rooted in the most advanced technologies learned by reductionists of previous generations: transgenic animal models, various animal models of hypertension, heart failure, atherosclerosis and arrhythmia, biophotonics techniques to study genetics and electrophysiology, in vivo and in vitro gene transfer methodology, and stem cell techniques.

Max Planck is quoted as saying that "science advances funeral by funeral." Every shift from reductionism to integration or back has been a painful process of renewal in physiology filled with drama. Recently, Eugene Braunwald, who published his reflections on the Founding Editor of *Circulation Research* Carl J. Wiggers, described a century old competitive rivalry between the reductionism of Ernest H. Starling and integration of Carl J. Wiggers. *Cardiovascular Disease: Methods and Protocols* by Qing K. Wang presents an opportunity for a peaceful transition to a systemic integrative approach that will build upon the breakthroughs of previous decades of reductionism. ❖

Igor R. Efimov  
Washington Univ. in St. Louis, MO

## Book Received

*Handbook of Psychophysiology.*

John T. Cacioppo, Louis G. Tassinary, and Garry G. Berntson, (Editors).  
New York, NY: Cambridge Univ. Press, 2007, 898 pp., illus., index, \$175.00.  
ISBN: 978-0-521-84471-0.

## *Physiology Case Studies in Pharmacy*

Laurie Kelly McCorry, PhD  
Washington, DC: American  
Pharmacists Association, 2006.  
208 pp., index, \$35.00  
ISBN: 1-58212-089-7.

*Physiology Case Studies in Pharmacy* is a collection of 82 cases distributed in nine "systems." Each case is accompanied by a varying number of open-ended questions. An Appendix contains brief descriptions of a large number of diagnostic tests (and normal values where appropriate). There is also a Glossary with brief definitions of physiological and clinical terms. Answers to the questions are not found in the book. An Email address is provided, not very prominently, for requesting answers from the publisher (which arrives as a large pdf file).

The case descriptions are very brief, most consisting of no more than a dozen lines of text with a few being as long as 20 lines of text. Most problems contain relatively little data. The questions that follow each case description are almost all open-ended (not multiple-choice), and they range in difficulty from requests for definitions of terms to explanations of the results of diagnostic tests. It appears that the preponderance of questions is at a very low level of difficulty, with only a few questions requiring the application of significant problem solving skills. Many of the questions, while germane to the general topic area of the case, seem to have been included only as probes of the students' knowledge of basic physiology.

The answers that are provided to the questions also tend to be very brief, ranging from one to two sentence definitions of a term or the identification of a structure (Question 10, page 19—identification of Wernicke's area as the locus of language comprehension) to 15-20 lines of text describing a complex mechanism (all of E-C coupling in skeletal muscle in 133 words—Question 12, page 57). There is a hand full of answers containing something in addition to text: a graph, a chemical equation, or a calculation. While the answers seem to be factually correct, it is not clear how much help they would be to students who do not

understand the physiology involved. Acquiring an understanding of E-C coupling requires reading more than 130 words!

Who would benefit from using this book? The title identifies pharmacy students as the intended audience. In the Preface the author offers some clues about what this book is about: it "... provides an opportunity for integrative thinking," offers an "... early introduction to the case-based nature of their future careers," and the cases provide "... a review of basic physiologic principles." The author clearly sees this book as a supplement to the assigned textbook.

How well does the book meet these objectives? I admit that I have only a limited knowledge of the needs of pharmacy students. Nevertheless, I would have to say that the author has failed to

provide a book that meets those objectives. The fundamental problem is that the cases are very impoverished, usually providing little more than a description of patient symptoms. The questions accompanying each case are too often limited to requests for names or definitions. Thus, the cases and their questions do a poor job of providing opportunities for integration and real application of knowledge of physiological mechanisms.

What this book does provide is a possible resource for self-assessment. Students should be able to use their ability to answer the questions as a guide to what they know, and more importantly, what they don't yet know.

Joel Michael  
Rush Medical College, Chicago, IL

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## Florant Receives Award



**Gregory Florant**

*APS Member Gregory Florant received the Multi-Ethnic Distinguished Service Award at the Colorado State University (CSU). It was presented to him on April 26, 2007. Following is his introduction upon receiving the award.*

“Since his arrival at Colorado State University in 1995, Gregory Florant has been a member of the Minority Caucus, a mentor for Black Student Services, the Principal Investigator on a National Institutes of Health training grant for under-represented groups in science, and chair of the Native American Women in Science Scholarship Committee. Nationally, Dr. Florant's contributions to minorities in science include: membership on several committees for the American Physiological Society, membership on the NIH Minority Biomedical Research Support program, service to the Ford Foundation Fellowship program, and membership on the NIH Network of Minority Research Investigators Committee. In addition to these important contributions, Dr. Florant has been an inspirational role model for scores of students through his teaching and research program.”

## Four APS Members Elected to National Academy of Sciences

Four members of APS were elected to the prestigious National Academy of Sciences on May 1 in recognition of their “distinguished and continuing achievements in original research.” They were among the 72 new members and 18 foreign associates selected during the academy's 144th annual meeting.

The four APS members selected to the National Academy are:

**John G Hildebrand**, professor of neurobiology, biochemistry and molecular biophysics, entomology and molecular and cellular biology at the University of Arizona, Tucson. He is also the director of the Arizona Research Laboratories Division of Neurobiology at the university. He studies the insect nervous system to discover fundamental principles common to many or all nervous systems.

**Eve E. Marder**, professor of neuroscience, department of biology, and the Volen Center for Complex Systems at Brandeis University in Waltham, MA. She is the editor of the *Journal of Neurophysiology* and is president-elect of the Society for Neuroscience. Her research focuses on how interactions between neurons give rise to the function of neuronal circuits.

**Gerald I. Shulman**, investigator, Howard Hughes Medical Institute and professor of medicine and cellular molecular physiology, Yale University School of Medicine, New Haven, CT. His research focuses on insulin resistance with an aim to develop therapeutic targets to reverse insulin resistance in patients with type 2 diabetes.

**Masao Ito**, director, RIKEN Brain Science Institute, Saitama, Japan. His research centers on the molecular and cellular basis for learning and memory. He has served as the president of the Physiological Society of Japan and is an honorary member of the APS.

The National Academy of Sciences has 2,025 active members and 387 foreign associates, and more than 200 of them have won the Nobel Prize. The academy is a private organization formed in 1863 to provide expert advice to the federal government on scientific and technological issues. The academy was formed with the approval of Congress and President Abraham Lincoln.

**Stephen L. Archer** is presently Section Chief of Cardiology, Department of Medicine, University of Chicago, IL. Formerly, Archer was an Assistant Professor, University of Alberta, Edmonton, Canada.

**William M. Chilian**, Professor and Chair, recently affiliated with the Northeastern Ohio University College of Medicine, Department of Physiology/Pharmacology, Rootstown, OH. Prior to his new position, Chilian was Professor and Head, Department of Physiology, Louisiana State University Health Sciences Center, New Orleans.

**Jonathan M. Davis** is currently Professor of Pediatrics, Chief Newborn Medicine, Department of Pediatrics, Tufts New England Medical Center, Boston, MA. Prior to his new position, Davis was an Assistant Professor of Pediatrics, Chief Newborn Medicine, Winthrop University Hospital, SUNY, Mineola, NY.

**Allan Doctor**, an Associate Professor of Pediatrics and Director, Division of Pediatric Critical Care Medicine, has joined the Washington University School of Medicine, St. Louis, MO. Prior to his new appointment, Doctor was an Assistant Professor of Pediatrics, Division of Pediatric Critical Care, University of Virginia, Charlottesville.

**Matthew D. Douglass** has affiliated with the Department of Exercise Physiology, Human Performance Lab, Ball State University, Muncie, IN. Douglass was formerly associated with the Department of Kinesiology, Anderson University, Anderson, IN.

**Jonathan P. Dugas** is currently a Postdoctoral Student, Department of Movement Sciences University of Illinois, Chicago, IL. Dugas had been a Student at the Research Unit for Exercise Science & Sports, University Cape Town, Newlands Cape Town, South Africa.

**Kirsten Farrand** is currently an Assistant Lecturer, University of Queensland, School of Biomedical Science, St. Lucia Queensland, Australia. Farrand was formerly affil-



ated with the University of Adelaide, Department of Physiology, Adelaide, South Australia.

**Allan T. Gulledge**, an Assistant Professor, has joined the Department of Physiology, Dartmouth Medical School, Lebanon, NH. Prior to his new assignment, Gulledge was affiliated with the National Institute for Physiological Sciences, Department of Cerebral Circuitry, Okazaki-shi, Aichi, Japan.

**Kenneth A. Hoekstra**, an Assistant Professor, has moved to the Division of Basic Sciences, Western States Chiropractic College, Portland, OR. Hoekstra was formerly an Instructor, School of Rehabilitation Sciences and the MD Undergraduate Program, Faculty of Medicine, University of British Columbia, Vancouver, Canada.

**Tokihisa Kimura** recently accepted the position of Hospital Administration Manager, Miyagi Prefectural Government, Sendai, Miyagi, Japan. Kimura was formerly an Associate Professor, Furukawa City Hospital, Furukawa City, Miyagi Prefecture, Japan.

**Ryuta Kinugasa**, is a Postdoctoral Researcher, University of California, San Diego, at the MR3T Research Laboratory, Department of Radiology, San Diego, CA. Kinugasa was formerly an Assistant Professor, Research Center of Sports Sciences, Department of Radiology, Musashino University, Tokyo, Japan.

**Harm J. Knot**, an Associate Professor, has affiliated with Wake Forest University, Department of Regenerative Medicine, Winston-Salem, NC. Knot was formerly associated with the Department of Pharmacology/Therapeutics, University of Florida, Gainesville, FL.

**Susumu Koyama** is currently an Assistant Professor, Pharmaceutical Sciences, Fukuoka University, Johnnanku, Fukuoka, Japan. Prior to his new position, Koyama was a Visiting Research Assistant, Department of Physiology & Biophysics, University of Illinois, Chicago.

**Todd Jason McWhorter**, a Postdoctoral Research Fellow, has associated with Murdoch University, Department of Veterinary Biology & Biomedical Sciences, Murdoch, Western Australia. McWhorter was formerly a Postdoctoral Research Fellow, Department of Wildlife Ecology, University of Wisconsin, Madison, WI.

**Carlos E. Milla**, an Associate Professor, has affiliated with the Center for Excellence in Pulmonary Biology, Stanford University Medical School, Palo Alto, CA. Milla, as Assistant Professor, had been with the Department of Pediatrics, University of Minnesota Medical School, Minneapolis.

**Patrick J. Mueller** has joined the Department of Physiology as an Assistant Professor, at Wayne State University, Detroit, MI. Prior to his new position, Mueller had been a Research Assistant Professor, Department of Biomedical Science, University of Missouri-Columbia, Dalton Cardiovascular Research Center, Columbia.

**P. Darrell Neuffer**, an Associate Professor, has joined the Department of Physiology & Exercise Sport Science, East Carolina University Brody School of Medicine, Greenville, NC. Formerly, Neuffer was an Assistant Fellow and Assistant Professor, John B. Pierce Laboratory, Yale University, New Haven, CT.

**Robert Paine**, an Associate Professor, has joined the Division of Pulmonary and Critical Care Medicine, University of Utah, Salt Lake City, UT. Prior to his new position, Paine was an Associate Professor, Division of Pulmonary and Critical Care Medicine, University of Michigan, Ann Arbor.

**Barry M. Prior**, an Assistant Professor, has affiliated with Mercer University School of Medicine, Division of Basic Medical Sciences, Macon, GA. Previously, Prior was a Postdoctoral Fellow, Department of Biomedical Sciences, University of Missouri, Columbia.

**Rhonda D. Prisby**, is presently a Postdoctoral Fellow, University Saint Etienne, Faculty of Medicine, Saint Etienne, France. Prisby was formerly affiliated with the Department of Exercise Physiology, Robert C. Byrd Health Sciences Center, West Virginia University, Morgantown.

**Luis Reuss**, as Professor and Chair, joined the Department of Physiology, Texas Tech University Health Sciences Center, Lubbock, TX. Previously, Reuss was Professor, Department of Neuroscience & Cell Biology, University of Texas Medical Branch, Galveston.

**Masaru Shoji**, a Professor, has recently affiliated with the Department of Pharmacodynamics, Meiji Pharmaceutical University, Tokyo, Japan. Formerly, Shoji was an Associate Professor, Department of Laboratory Medicine, Hirosaki University School of Medicine, Hirosaki, Japan.

**Craig S. Stump**, an Associate Professor, has joined the Department of Endocrinology, University of Arizona, Tucson. Prior to his new assignment, Stump was an Assistant Professor, Department of Internal Medicine, University of Missouri, Columbia.

**Varsha Thakur** is a Research Associate, Department of Nutrition, Case Western Reserve University, Cleveland, OH. Thakur was formerly a Research Associate with the Department of Microbiology/Immunology, University of Illinois, Chicago, IL.

**Yoshio Watanabe**, a Consultant Cardiologist, has affiliated with the Department of Cardiology, Nagoya Tokusumukai General Hospital, Kasugai, Japan. Prior to his new position, Watanabe was a Consultant Cardiologist with Shonan Kamakura General Hospital Heart Center, Kamakura, Japan.

**Akinori Yanaka** has affiliated with the Tokyo University of Science as Professor, Department of Clinical Pharmacology, Chiba-ken, Japan. Yanaka was formerly an Instructor, Department of Gastroenterology, University of Tsukuba, Tennodai, Tsukuba, Ibaraki, Japan. ❖



## The Wine Wizard

Peter Wagner

Hi to all fellow winelovers. This time of year sees lots of new releases. Quite a few seem to be good value, including the following: California Sauvignon Blancs (I still prefer those from New Zealand)

1. 2006 Bonterra Vineyards (\$10). This wine is 50% Lake County/50% Mendocino County in origin, and beat out 9 other SB's (including more expensive Rochioli, V. Sattui, and Gary Farrell) in a recent tasting of ours. Nose has tropical fruit: passionfruit and lime. It takes a few minutes to open in the glass, but then there is rich, clean fruit (also passionfruit/lime with some herbal grassiness). Acidity is good, not over the top. No oak.

2. 2006 Geysler Peak, California (\$10). I have mentioned this bottle many times before, and tasted again recently, it continues to impress. Clean, varietal grassy herbal fruit with high acid, it remains very good value. I do prefer the Bonterra above.

3. 2006 Kenwood, Sonoma (\$12). This is the kind of SB that has more soft ripe melon fruit than herbal grassy tart fruit, so if that is your preference, this should appeal. There is a floral touch, and evident richness on the palate.

New Zealand Sauvignon Blanc 2006 Omaka Springs, Marlborough (\$11). Typical fresh gooseberry and passionfruit nose and palate, rich, clean and with very good length on the palate. Lots of lemony acid too, so



Peter Wagner

needs food. This recommendation is NOT the result of a comprehensive tasting survey of NZ SB's, it is just one I came across and liked.

California reds 2004 Donati "Paicenes" Syrah (\$16). This is a very big but not too tannic wine. Very deep in color, it is very rich and mouthfilling. Plums, dark berries and a slight citric end due to excellent acidity mark this wine. Hints of spices, chocolate and vanilla oak are in the background. This wine has appeal now, should keep a couple of years, and has complexity.

2004 Minassian Young Zinfandel, Paso Robles (\$9). This wine has lots of alcohol (16.2%). It also has 19% Mourvedre and 4% Pinot Noir, a most

unusual pair of blending additions. Flavors include prune plummy fruit, spice, vanilla, slight raisins. However, there is good acidity and the finish is quite dry. As with any wine I suggest, there is good balance, depth, and length.

Australian reds 2005 Schild Estate Barossa Shiraz (\$17). This is a classical high-impact wine with all the pleasing attributes we have come to expect from the region and the grape. There is very ripe, lush, but NOT over-the-top fruit that is dark cherry and blackberry in nature with a strong but NOT dominating dose of American oak manifest by dill and vanilla. Acidity is excellent, balancing the sweetness of the oak and ripeness of the fruit. Mouthfeel is pleasing with good but not heavy viscosity, and the tannins are soft, making this very approachable now. Alcohol is moderate (14.5%), helping tone the wine down a bit. Nice stuff.

2003 Elderton "Command" Shiraz (\$60). I am assured this is better than the 2002, which I bought last year—with my own money yet—and love. I have not tasted the 2003, but am certain of its worth. Great now, very ageable in a well-controlled cellar; this wine has never, ever disappointed me. It's a higher priced, special occasion wine, but better than many three times the price. I present it now because by the time I get to taste it, it will all be gone. Limited quantities and a loyal following will make sure of that. Similar words as for Schild estate above usually describe this wine, but there is much more depth and complexity of structure and flavor. ❖

## Moving?

If you have moved or changed your phone, fax or Email address, please notify the APS Membership Office at 301-634-7171 or Fax to 301-634-7241. Your

membership information can also be changed by visiting the Members Only portion of the APS Website at <http://www.the-aps.org>. ❖

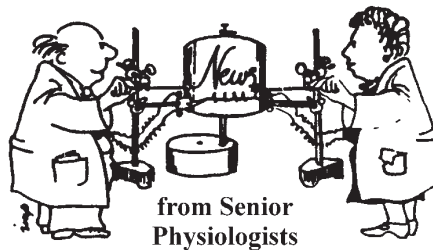
## Letter to Harvey Sparks

**Jay Tepperman** writes: "This is our fourth annual report from scenic downtown Oakland. We feel 4 ½ years older than we did when we moved here but we are still more or less vertical most of the time. The rhythm of our lives goes on from day to day at a Tai Chi pace. Since few of the nation's and the world's problems seem to have tidy solutions we find our consolations in our family and in our rich memories of 64 years of loving partnership.

"One of the most memorable events of the year was the occasion of my sister Evelyn's 100<sup>th</sup> birthday celebration. Three generations of her progeny and many relatives, including cousins from Canada and friends from the East Coast, came to show their love and admiration. The floor show included the ultimate photograph album, a Power Point slide show that started in the late 19<sup>th</sup> century.

"Our family continues to be our main source of pleasure. Each of the boomers and generation Xers has distinguished him/herself in different, but equally admirable, ways. Jean continues as Executive Director of a non-profit Action Alliance for Children and editor of their publication, *The Children's Advocate*. We especially enjoy her weekly lunch visits in our apartment. Kathy is a senior Professor in the University of Cincinnati's large biology department. We are delighted by her frequent West Coast visits and were very happy that we were able to visit her at Thanksgiving time with the help of Jim and Jean. Jim and his lab mates are going through an especially stressful time because Peter Quail, their eminent Chief, is seriously ill. Jim is keeping the lab together and maintaining communication between the team members and Peter, who is recuperating from a difficult operation.

"We can get tiresome on the subject of our grandchildren. Carolyn Norr has been very successful in a curriculum enrichment program for inner city schools sponsored by a private foundation. She teaches art and creative writing in several 7<sup>th</sup> grade classes of poor Oakland schools. Sarah Norr is working as a counselor to unorganized hotel workers. Elizabeth Elder received a PhD in mathematics from Stanford last June. She was awarded a five year fellowship by the American Mathematic Institute,



the first woman and the first west coast graduate student to win the fellowship. She and her fellow mathematician husband, Mark Meckes, will be professors at Case Western Reserve University in the fall of 2007. Sarah Elder has been commended for innovative teaching in the Teach for America program in Philadelphia school. Sam, after clerking for two years for Federal judges in Philadelphia, has just been awarded a fellowship to work for a public interest law firm in Oakland starting next September.

"Please forgive our emphasis on our private concerns. The 'big picture' is too discouraging to contemplate."

## Letters to Beverly Bishop

**Karl Wasserman** writes: "Thank you for the birthday greetings. The 10 years between my 70<sup>th</sup> and 80<sup>th</sup> birthdays went fast. I am still Professor Emeritus on Recall at the UCLA School of Medicine located on the Harbor-UCLA campus. While our research entity has changed its name from Research and Education Institute to Los Angeles Biomedical Research Institute of Harbor- UCLA of the David Geffen School of Medicine of UCLA, I am physically in the same place that I was 10 years ago. I still go into my office every weekday, do research, write, edit, teach and occasionally consult on patients with special problems, usually related to exercise intolerance.

"With respect to research, I have two advanced post-doctoral research Fellows and I am mentor for the NIH K 23 award of one of our young cardiologists. Fortunately, I have the help of my long-time colleague, Dr. James Hansen, who has helped me interact with research Fellows in these activities, during the past decade. Our focus in this research has been the physiology and pathophysiology of exercise, and pulmonary function testing. This has led to a number of publications that have focused on the

exercise pathophysiology of pulmonary hypertension, heart failure and lung diseases, in addition to physiological responses in normal subjects and changes with aging. In addition, I am PI on two contracts (through the Los Angeles Biomedical Research Institute) for the purpose of serving as the core laboratory for studies on left ventricular failure and coronary artery disease. I have been fortunate in having had good research Fellows on a continuing basis during my career. They have been essential to my research productivity.

"I have retained good contact with former research Fellows. Thus I continue to collaborate with some of them in their research at their home institution. In addition, for purposes of teaching abroad, I have been responsible for three-day post-graduate courses on principles of exercise physiology, testing and interpretation, over the past 12 to 15 years. Thus with my Japanese colleagues, we shall give the 11<sup>th</sup> course in Japan (Tokyo) in July, 2007 and, with my European colleagues, the 11<sup>th</sup> course in Europe (Rome), in October, 2007. We have been giving the same course twice a year for the last 25 years with my Division colleagues at Harbor-UCLA.

"I suppose that the reason that I am still doing what I have been doing for many years is two-fold. First, physiology has been my hobby, not my labor. Second, I am still asked on an almost daily basis to write, edit, research or teach. This is gratifying.

"While I do start out early in the morning, as always, I go home earlier than before and try to spend more time with my wife of 54 years, who has been my guiding inspiration. We also look forward to visits with our children and grandchildren. You asked me if I have words of wisdom to pass on to younger physiologists. My advice is to do what you love and love what you do. And most importantly, enjoy those wonderful opportunities to be with family. Life goes by too fast to do otherwise."

**Max Harry Weil** writes: "I was pleased and grateful to receive your letter of February 9, 2007 and it is my privilege to attach a copy of my Curriculum Vitae and a copy of the newspaper insert called 'Healthy Heart' which appeared only today in the local paper, namely 'The Desert Sun.'

"With respect to the specific questions that you posed, yes, I am continuing

with scientific activity and writing and most especially working with the post-doctoral fellows in our Institute. I have never been able to distinguish between presumed labor working and the love for what I do, including now that I have shed administrative responsibilities.

"In planning, as suggested by you, my intent is to leave correspondence, unpublished writings and archival materials in the library of the Institute for either or both reference and disposition by those who succeed me.

"Thank you very much for writing and for your birthday wishes."

**John Schlag** writes: "Thank you for your inquiry. I retired at the age of 78. Since then, with disguised apprehension, many colleagues have asked me how I was taking it? I did retire because I no longer had the patience of writing applications for research and for animal permit. My main NIH grant was 40 years old and, up to the last day, I recorded unit activity in neurophysiological experiments. After that, of course, there are still papers to complete, reviews to write, manuscripts to referee but, let us be frank, together, they are not fulfilling activities. My research field has always been competitive and, as my colleagues did, I enjoyed it. As I no longer have the means to test an idea as it emerges, I am somewhat losing interest in my own field. Too long, I have been a research activist. But I have a lot of interest in physics, history and economics and no ambition to contribute anything there, and I have a passion (outrage) for politics. So I am not at all unhappy. I started my career in Europe. If I had pursued it there, I would have been force-retired 15 years ago. So, why would I complain?"

## Letters to Virendra Mahesh

**Tom Hoshiko** writes: "Thanks for your greetings and inquiry of what I am doing in my 80th year! I am well and enjoying life with family in rural Ohio although a small stroke has affected short term memory."

**I. I. Hirsch** writes: "It was a delightful surprise to receive your birthday greeting on behalf of the APS on the occasion of my 80th birthday. I am reminded, as I remember it, on my 70th I received a birthday greeting from the APS, however the birth year was mixed up and the

greeting was for my 80th birthday. I responded at that time indicating that I had not yet reached the "Geezer" stage. I informed the note writer, whose name I do not recall except he was an old acquaintance, that in order to reach the "Geezer" stage one had to pass through the "Codger" Stage -age 70, the "Old Codger" stage - age 75 and finally the "Geezer" stage - age 80. I was informed of these stages by my grandson who is now a junior at Indiana University. He recently sent me an Email informing of my advancement. I do not know if there is a stage for 90 year olds, but I hope to find out in 10 years.

"As to my activity of late: this past summer I removed myself as a reviewer for the *International Journal of CV Research* and for *Chest*. However, I still play tennis three times a week, continue my long distance bicycle rides - (50-60 miles weather permitting) and hope to do a Century ride this fall. The last time I did a Century was in 2002.

"In addition I carry on my continuing education courses for retirees, which I began at Northwestern University and now at National Lewis University. I am a co-coordinator of a seminar type course on 'International Relations' in which students present an oral report each week on a specific area of a important current world events.

"I am also vicariously involved in my grandchildren's educational endeavors, two of whom are in college, and one who will be entering 6th grade in the fall.

"And that is how I spend my time now in addition to caring for my wife who has Parkinson's.

"With best regards to my American Physiological Society colleagues who are still around from our early days."

**Béla Halász** writes: "Thank you very much for your kind letter and for the greetings.

"Concerning my current activities I am pleased to give you the following information.

"Of course, I am retired, emeritus professor. Give a few lectures for graduate students and I am still active in research, working in the Neuromorphological and Neuroendocrine Research Laboratory supported by the Hungarian Academy of Sciences and the Semmelweis University. The main interest of my group is the structural organization and functional significance of the glutamatergic innervation of the hypothalamus with special

emphasis on the neuroendocrine aspects. My group regularly publishes papers. I am member of editorial boards of journals and review manuscripts for international journals. I am active member of some committees of the Semmelweis University, Budapest and of the Hungarian Academy of Sciences.

"I am very grateful for the publications of the APS which I receive regularly and read. After having read them, I always pass on them to the members of the Department of Physiology of our University. They are very happy to get them and to have the chance to read the excellent articles dealing with actual research or with teaching physiology."

**Kenneth M. Hanson** writes: "I recently, with great pleasure, celebrated my 80th birthday. My wife, Sue, arranged a wonderful party. There were many visiting children and grandchildren.

"Since my retirement in 1992 from the Physiology department at the Ohio State University, I have managed to remain quite active. I continued to work for several years as a consultant to the Gastrointestinal Physiology Laboratory at Grant Medical Center in Columbus, OH. The work consisted largely of studies on esophageal and biliary motility. Ironically, during this time I developed Barrett's esophagus, which, fortunately, has been well controlled with treatment. In spite of having this, as well as rheumatoid arthritis, I am feeling quite well and have been able to enjoy my years of senior status very much indeed. A group of retired faculty and staff from the Ohio State University Physiology Department gets together for lunch on a regular basis. We love to reminisce over happenings of past times. The conversation can be saddened when the passing of a friend or former colleague is noted. One subject that comes up from time to time is the seeming demise of Physiology as we knew it and the appearance of a new discipline, alien to us, but still physiology. Physiology of the new age, maybe.

"My wife and I enjoy entertainment, fine dining and travel. We have done the latter quite extensively. I have visited all seven continents. My wife six. Our favorites, so far, an Amazon cruise from the mouth to Iquitos, Peru, and recently Antarctica. As for other hobbies, I do photography and I am learning the digital way; maintain three aquariums and have a large collection of sea shells from around the world.



"Currently, I am looking forward to the coming of spring, and April trip to Easter Europe, and, of course, many more birthdays."

**Robert L. Hazelwood** writes: "Thank you so much for your recent letter alerting me to the fact that I have outlived both my parents and as such, continue to engage in competitive sports, gardening, philately, and interact with faculty colleagues on an international level. Your letter arrived here in Texas while I was in Thailand lecturing to Medical Students, a pleasant task that I have been doing on a pro bono basis for 22 years. Thus, the delay in answering your kind letter.

"I have now been retired roughly 10 years from my Chair position at the University of Houston. We looked for a spot to retire in the Bay Area of northern California where my family has resided for over many generations, but found the financial considerations more than we could comfortably handle, and so returned to Texas and settled in a nice, historically quiet town of Georgetown, about 30 miles north of Austin. Giving up the lab and working with my graduate students was the hardest thing for me to adjust to, but the opportunities presented to us in this Del-Webb retirement community were innumerable and challenging, indeed. It took our Springer Spaniel about two days to adjust to retirement life away from the big cities of our professional past as San Francisco, Boston, and Houston.

"Barbara has continued her intense interest in teaching Scottish Country dancing, as well as participating in clogging, and tap dancing/performing, and has widened her interest in performance by joining the local Theatre Group, where she acts, directs backstage, and play directs local talent in all types of theatrical performances. She is professional in all aspects of endeavor and is in constant demand to lend her talents to various organizations.

"As for myself, I found not having day-to-day contact with physiologically oriented colleagues difficult to adjust to, compounding the problem of having no close-by University and library to keep

me up to date in events of interest. Despite the fact I still subscribe to a number of journals (not an easy task in these days of escalated subscription prices), the explosion of new knowledge, combined with the evolution of a new form of scientific language, make it extremely difficult to stay abreast of things in my arena of interest. Of particular interest has been the developments following our co-discovery of the pancreatic polypeptide (PP) family with Joe Kimmel of the University of Kansas Medical School in the early 1970s. We were the first to establish its involvement with feeding behavior and GI physiology, receptor characteristics identified, and CNS actions strongly suggested. All of this laid groundwork for the explosion of work (initiated by Mutt and co-workers) involving NPY that followed.

"Fortunately, I still have some contact with many of my past Graduate Students who have gone on to accomplish much in the field. I only hope that I gave them the same clear insight to their work as I received from my mentors in various stages of my career, namely, Leslie Bennett, Max Klieber, and Piero Foa. These three were true scholars and genuine leaders, each in their own manner, and taught me the fun inherent in Physiology.

"On a daily basis, I still pursue my gardening interest, where I have won several 'Garden of the Month' awards in competition with 1,100 other residents. I also work two 6 x 25 foot garden plots in an horticultural acreage set aside for residents, growing most of our own vegetables and giving the surplus to the local food bank. My interest in Philately

continues, and I have been successful in competitive events of exhibiting at local, regional and national levels. My specialty is Hong Kong and Thailand. And I play bocce ball almost daily with other senior citizens.

"I found early that my real void in activities here was a lack of sharing my enthusiasm for Physiology, especially with students and colleagues. So, I approached the retirement community's leaders with the suggestion that I be allowed to give a series of lectures on health-related topics; no tests, no grades, just mental satisfaction and fulfillment to fit in with the expanding series of physical activities already in place. My suggestion was listened to and politely and quietly dismissed as 'being too naïve.' Strangely, 12 months later a 'Senior University' was incorporated and affiliated with our local Southwestern University, and we now have over 600 senior residents enrolled in a large variety of six-week courses, ranging from Hayden's music to 'That Wonderful Machine: The Human Body.' The latter is taught by yours truly in conjunction with a former Dean at Kansas University Medical School, Bob Manning. We cover such topics as Pain, Sleep, Sensory Perception, The Body's Response to Heart Attacks, Obesity, Diabetes, Food Intake, etc. The University of Texas at Austin calls upon us from time to time to give similar lectures in their SAGE program.

"Fortunately, I have been successful in continuing my overseas contacts that were originally made through Fulbright Scholarship and Sabbatical leaves. For the last 22 years I have been a Visiting

## CALL FOR NOMINATIONS

for the Editorship of the

*Journal of Neurophysiology*

Nominations are invited for the Editorship of the *Journal of Neurophysiology* to succeed E. Marder, who will complete her term as Editor on June 30, 2008. The Publications Committee plans to interview candidates in the Fall of 2007.

Applications should be received before **August 15, 2007**.

Nominations, accompanied by a curriculum vitae, should be sent to the Chair of the Publications Committee:

Kim E. Barrett, Ph.D.  
APS  
9650 Rockville Pike  
Bethesda, MD 20814-3991



Professor in Physiology and Endocrinology at Chiang Mai Medical School in northern Thailand. I lecture to third year medical students (in a six year medical course), assist in the labs and Clinical Presentations, and aid the Graduate Student program as well. I find it very rewarding in all aspects, as the Thais are very courteous, gentle and gracious people, and they enjoy life; they love to smile and laugh. They are very appreciative of my (and other visiting persons) efforts, poorly spoken Thai that I have.

"While there in the Department of Physiology, I saw again what I have found all over Thailand, and that is a serious lack of educational materials available to the student to use during their course of study. Current texts are a notable example. Therefore, a number of years back, I enlisted the Dean's assistance in establishing a departmental library, a library embracing all aspects of biological, organismic Physiology which was as current as possible. Ours is the only basic science departmental library in the entire medical school! And we find that most other departments are frequent users of its resources, as it contains tomes of not only standard Physiology texts, but also those of Anatomy (including Netter's classics), Biochemistry, Endocrinology, Pharmacology, Pathology, Genetics, Immunology, Nutrition, Neuroscience, Cell Biology, etc. I have been successful in furnishing the library with four up-to-date computers, four carrels for study and thesis writing, a 14-foot teakwood conference table, and my own personal Physiology library, which is updated every other year. Five series of Annual Reviews are present, also, including one (Physiology) dating yearly back to the 1956 volume. Each text is barcoded and recently via mainline the operation was 'digitalized.'

"So, retirement for me has been fun, fruitful, and challenging. I sincerely hope that my former Graduate Students have found their work as such, as most of them are on the so-called 'cutting edge' of their fields and are making contributions far greater in significance than when in my laboratory. Physiology gave me unusually gifted students; I gave them an opportunity, and a little guidance.

"It is time for me to close this epistle. I do so with an apology for my tardy reply (noted above) and a hope that I haven't rambled too much. I also hope that when you write again to me 80 years from now, that you, too, will find retirement full of as much fun and rewards as we both have found in Physiology. Take care!"

## Letter to Donald Marsh

**NR Brewer** writes: "Since a copy of your letter intended for physiologists born in 1906 was also sent to me (born in 1904), and since it was the first time I have received such a letter, and since your letter indicated you would like to know what elder physiologists do (and so would I).....I just received a copy of the Journal of the American Association for Laboratory Animal Science in which appeared an article under my name that indicates what I have been doing most of my life."

## Letter to Julio Cruz

**Neena Schwartz** writes: "So, what is this 'Senior Physiologist' doing these days? I still have a small office in the Department of Neurobiology and Physiology, on the Evanston campus of Northwestern University in Evanston. I closed my lab in 1998, having decided five years before, when I received my last five-year R01 from NIH, that I was not going to apply again. I have now also retired from my position as Director of our Center for Reproductive Science, a bicampus endeavor between the Medical School in Chicago and the College of Arts and Science in Evanston.

"I have continued to serve locally and nationally on several advisory committees for multidisciplinary research grants. Occasionally someone even takes my advice! I represented the Endocrine Society for several years on the FASEB Women's Excellence in Science Award committee. I am presently chairing a committee for the Endocrine Society- the History Committee, which is focused currently

on building a library specializing in the history of Endocrinology. We have received a major collection of books and papers from the wife of the late Clark Sawin, who was a great collector of endocrinological history memorabilia. It looks as though a number of societies are nurturing their collective memories before we seniors all disappear. The Society for the Study of Reproduction has begun video taping interviews with its past presidents.

"Traveling has been a great pleasure, especially where I can see animals and birds. I have been to the Galapagos, and Macchu Picchu, and also Patagonia in Argentina and Chile. Costa Rica was a birding paradise, and in this country I have birded in Alaska, along the Platte River in Nebraska and in Yellowstone and the Tetons.

"But much of my time has been spent in writing a kind of memoir. My life as a physiologist overlapped with the feminist movement in the sciences. A lot of my efforts have gone into this, and I wanted to tell this story, as well as write about the joys (and frustrations) of doing research and administration. Not only did I serve as first President of The Association of Women in Science, but I helped start Women in Endocrinology, a focus group within the Endocrine Society. I have participated in mentoring a number of women (and men!) and won the Lifetime Mentor Award from AAAS in 2003. So far I have not found a publisher for the book but I am trying.

"I was surprised when I received the little 'statue' from our society commemorating my 50 year membership. Where have the years gone?

## Letter to Charles Tipton

**Ian Darian-Smith** writes: "I was very pleased to receive the birthday card from the Senior Physiologists' Committee of the American Physiological Society and thank you and your colleagues for the kind thoughts.

"I am in good health, and still do a little gardening with my wife." ❖

*July 7-10*

**Genomics of Common Diseases, Cambridge, United Kingdom.** *Information:* Patricia van der Valk, Conference Organiser, The Wellcome Trust Genome Campus, The Wellcome Trust Conference Center, Hinxton, Cambridgeshire, CB10 1RQ. Tel.: +44 0 1223 495110; Fax: +44 0 1223 495023; Email: p.vandervalk@wtconference.org.uk; Internet: <http://firstcontact.hinxton.wellcome.ac.uk>.

*August 6-9*

**IBC's 12th Annual World Congress Drug Discovery and Development of Innovative Therapeutics (DDT), Boston, MA.** *Information:* IBC Life Sciences. Tel.: 800-858-4881; Fax: 941-365-0104; Email: reg@ibcusa.com; Internet: <http://www.drugdisc.com/>.

*August 12-16*

**7th International Congress of Comparative Physiology and Biochemistry, Salvador, Bahia, Brazil.** *Information:* Internet: <http://www.ib.usp.br/iccpb-brazil/index.html>.

*August 12-17*

**2nd Annual Placenta Human Workshop - Laboratory Techniques and Clinical Lectures, Kingston ON, Canada.** *Information:* Placenta Workshop 2007 Co-ordinator, Dept. of Anatomy and Cell Biology, Botterell Hall, Room 863, Queen's University, Kingston ON K7L 3N6. Tel.: 613-533-2853; Fax: 613-533-2566; Email: placenta@post.queensu.ca; Internet: <http://post.queensu.ca/~placenta>.

*August 15-19*

**8th World Congress for Microcirculation, Milwaukee, WI.** *Information:* Internet: <http://www.microcirccongress.org/Home/tabid/71/Default.aspx>.

*August 19-22*

**Setting the Stage for the Future: Psychoneuroendocrinology in the 21st Century, Madison, WI.** *Information:* 38th Annual ISPNE Conference. Tel.: 608-263-2281; Fax: 608-265-2565, Email: SheltonS@wisconsin.edu; Internet: <http://www.ispne.org>.

*August 23-26*

**2007 World Conference of Stress, Budapest, Hungary.** *Information:* Congress Secretariat, Diamond Congress Ltd., H-1255 Budapest, P.O. Box 48, Budapest 8, Hungary. Tel.: +36 1 214 7701; Fax: +36 1 201 2680; Email: diamond@diamond-congress.hu; Internet: <http://www.stress07.com/index.html>.

*September 5-9*

**Mouse Molecular Genetics, Cambridge, United Kingdom.** *Information:* Pam Garland, Conference Organiser, The Wellcome Trust Genome Campus, The Wellcome Trust Conference Center, Hinxton, Cambridgeshire, CB10 1RQ. Tel.: +44 0 1223 495111; Fax: +44 0 1223 495023; Email: p.garland@wtconference.org.uk; Internet: <http://firstcontact.hinxton.wellcome.ac.uk>.

*September 16-19*

**10th International Conference on Endothelin, Bergamo, Italy.** *Information:* Francesca Di Fronzo, Mario Negri Institute for Pharmacological Research, via Gavazzeni, 11-24125 Bergamo, Italy. Tel.: +39 035 319888; Fax: +39 035 319331; Email: difronzo@et-10.it; Internet: <http://www.et-10.it>.

*September 18-22*

**VIIth World Congress on Neurohypophysial Hormones, Regensburg, Germany.** *Information:* Internet: <http://www.uni-regensburg.de/wcnh2007>.

*September 23-27*

**9th Annual International Symposium on Mutation Detection, Xiamen, China.** *Information:* HUGO, 144 Harley St, London W1G 7LD, UK. Tel: [44] (20) 7935 8085; Fax: [44] (20) 7935 8341; Email: hugo@hugo-international.org; Internet: <http://www.hugo-international.org>.

*October 18-21*

**AACVPR 22nd Annual Meeting, Salt Lake City, UT.** *Information:* AACVPR, 401 North Michigan Avenue, Suite 2200, Chicago, IL 60611. Tel.: 312-321-5146; Fax: 312-527-6635; Email: aacvpr@aacvpr.org; Internet: <http://www.aacvpr.org/>.

**2008**

*June 28-July 3*

**33rd FEBS Congress and 11th IUBMB Conference, Biochemistry of Cell Regulation, Athens, Greece.** *Information:* Georgina Alexopoulou, Promotion and Communication. Tel.: +30 210 6889100; Fax: +30 210 6844777; Email: febs-iubmb2008@cnc.gr; Internet: <http://www.febs-iubmb-2008.org/>.

# Physiology

## Journals of the American Physiological Society

The Journal Publishing Program of the American Physiological Society (APS) covers the entire spectrum of physiology—examining major physiological systems, from the cellular and molecular to the organ and system level. These prestigious peer-reviewed journals are available in print and online. An online subscription to the APS journals provides you with immediate access to the latest issue of the journal as well as with continued access to all content published previously online. Subscribers to the online journals also get access to the fastest possible publication of original research articles through our Articles in PresS feature—articles published in manuscript form within a few days of acceptance. The APS journal titles are

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- *AJP-Lung Cellular and Molecular Physiology*
- *AJP-Heart and Circulatory Physiology*
- *AJP-Regulatory, Integrative and Comparative Physiology*
- *AJP-Renal Physiology*
- *Journal of Applied Physiology*
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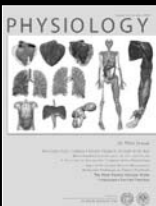
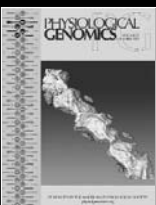
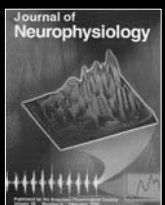
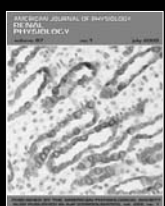
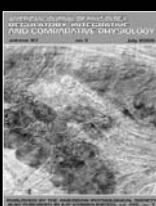
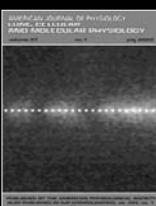
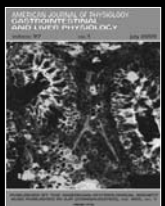
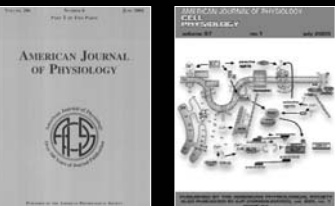
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# MEMBERSHIP APPLICATION FORM

## The American Physiological Society

1. Check membership category you are applying for:  Regular  Affiliate  Student
2. Do you currently hold membership in the APS?  Yes  No
3. If you answered yes to above, what is your category of Membership? \_\_\_\_\_ Year elected? \_\_\_\_\_
4. Name of Applicant: \_\_\_\_\_  
Last Name or Family Name / First Name / Middle Name
5. Date of Birth \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Optional: Male  Female
6. Institution Name \_\_\_\_\_ Department \_\_\_\_\_  
(Please do not abbreviate Institution Name)
7. Institution Street Address \_\_\_\_\_
8. City/State/Zip/Country \_\_\_\_\_
9. Home Address (**Students only**) \_\_\_\_\_
10. Work Phone \_\_\_\_\_ Home Phone \_\_\_\_\_
11. Fax \_\_\_\_\_ E-mail \_\_\_\_\_

**12. EDUCATIONAL STATUS:** ► **IMPORTANT for STUDENTS: \*\*If you are enrolled as a student for an advanced degree (Ph.D., M.D., D.V.M.) please include the month and year you expect to receive your degree.**

<b>Dates **</b>	Degree	Institution	Major Field	Advisor
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**13. WHAT IS YOUR SECTION AFFILIATION?** Please identify and rank up to three sections to which you desire affiliation. (e.g., 1 = primary affiliation, 2 = secondary affiliation, 3 = tertiary affiliation). **There can be only one "Primary" affiliation.**

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Cardiovascular                        | <input type="checkbox"/> Endocrinology & Metabolism            | <input type="checkbox"/> Renal Physiology                |
| <input type="checkbox"/> Cell & Molecular Physiology           | <input type="checkbox"/> Environmental & Exercise Physiology   | <input type="checkbox"/> Respiration Physiology          |
| <input type="checkbox"/> Central Nervous System                | <input type="checkbox"/> Gastrointestinal & Liver Physiology   | <input type="checkbox"/> Teaching of Physiology          |
| <input type="checkbox"/> Comparative & Evolutionary Physiology | <input type="checkbox"/> Neural Control & Autonomic Regulation | <input type="checkbox"/> Water & Electrolyte Homeostasis |

**14. DO YOU WORK IN INDUSTRY?**  YES  NO

**15. SPONSORS** (Sponsors must be Regular APS Members. If you are unable to find sponsors, check the box below, and we will locate them for you.)

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*\*signature indicates that sponsor attests applicant is qualified for membership.*

► **Please turn over for more questions...and mailing instructions.**



**Membership Application** (Continued...) **Applicant Last Name** (please print) \_\_\_\_\_

**16. OCCUPATIONAL HISTORY** [Check if student ]

**Current Position:**

Dates	Title	Institution	Department	Supervisor
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**Prior Positions:**

Dates	Title	Institution	Department	Supervisor
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**17. LIST YOUR MOST SIGNIFICANT PUBLICATIONS, WITH EMPHASIS ON THE PAST 5 YEARS** (Publications should consist of manuscripts in peer-reviewed journals. List them in the same style as sample below.)

**Sample: MacLeod RJ and Hamilton JR.** Volume Regulation initiated by Na<sup>+</sup>-nutrient cotransport in isolated mammalian villus enterocytes. Am J Physiol Gastrointest Liver Physiol 280: G26-G33, 1991.

**18. DOCTORAL DISSERTATION TITLE** (if applicable):

\_\_\_\_\_

**19. POSTDOCTORAL RESEARCH TOPIC** (if applicable):

\_\_\_\_\_

**20. WHICH FACTOR INFLUENCED YOU TO FILL OUT OUR MEMBERSHIP APPLICATION?**

Mailer    Meeting (Which meeting? \_\_\_\_\_)    Colleague    Other \_\_\_\_\_

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