Published by the American Physiological Society – *Integrating the Life Sciences from Molecule to Organism*

THE PHYSIOLOGIST

aps American Physiological Society

May 2015 • Vol. 58/No. 3

Mentorship and Learning to Ignore

Michael J. Joyner
Mayo Clinic

Michael J. Joyner

This essay on mentorship reflects ideas I presented during my Bodil Schmidt-Nielsen Distinguished Mentor and Scientist Award lecture at Experimental Biology in 2014. During the talk, I covered some of my career narrative and then discussed my ideas about key elements of mentorship. For those interested in hearing this narrative, the talk and slides can be accessed via the APS website (5). That having been said, I have five major ideas about mentorship that I hope are useful to others. Many of these lessons I saw in action in the person of John T. Shepherd, who was my teacher and sensei when I first came to the Mayo Clinic (4).

However, before I met John Shepherd, I grew up in a family that indulged my curiosity, and I got an excellent basic education in the public schools of Tucson, AZ. I was also lucky enough to get early exposure to research as an undergraduate at the University of Arizona in the exercise physiology laboratory of Jack Wilmore. This experience as an undergraduate was amplified by the graduate students in the lab, especially Eddie Coyle, Pete Farrell, Tom Rotkis, and Steve Constable. When Eddie moved on to post-doc with John Holloszy at Washington University in St. Louis, I had the chance to work there one summer (1981) and get exposure to both John Holloszy and Jim Hagberg, along with a number of other up-and-coming investigators who were in the Holloszy lab, like Doug Seals. The point is that for all of us it really does take a village (or perhaps a tribe), and I was lucky enough to land in the middle of the exercise and applied physiology tribe from the minute I walked into a lab as a volunteer subject in 1977.

During medical school (1982-1987) at the University of Arizona, my mentorship tribe was expanded by physiologists there like Doug Stuart, Paul Johnson, Bob Gore, Bill Dantzler, and Roger Enoka. Another key person was Marlys Witte, who was a clinical investigator interested in "ignorance" and in asking the right question vs. mindless pursuit of the right answer. Maryls also had training grants for medical students and remains a real advocate for medical students trying to do more than just master "the facts" and get good board scores. Perhaps it is easier for a medical student to learn to ask questions with a summer stipend from a training grant.

Continued on page 125

A Matter of Opinion

Impact Factors – The Bane of Our Existence

Did you read the Author Survey 2014 in the March issue of *The Physiologist* (1)? If so, you probably noticed that authors were positive in their assessment of the APS journals. While well received, there were still things that the authors felt we should do to make the journals even better. One of the items on the authors' wish list was "to improve the impact factors" of the journals. However, we also heard that the journal impact factor (JIF) does not accurately reflect the journals' high quality. The JIF is something that has plagued the APS journals as well as most physiology journals for many years and was the

Continued on page 127

THIS ISSUE:

Published by the American Physiological Society – *Integrating the Life Sciences from Molecule to Organism*

THE PHYSIOLOGIST

aps American Physiological Society

Published bimonthly and distributed by The American Physiological Society

9650 Rockville Pike
Bethesda, Maryland 20814-3991
ISSN 0031-9376

Subscriptions: Distributed to members as part of their membership. Nonmembers in the USA (print only): individuals $105.00; institutions $185.00. Nonmembers international: individuals $160.00; institutions $230.00. Single copies and back issues when available, subscriber $25.00 each; nonsubscriber $50.00 each; single copies and back issues of Abstracts issues when available, $30.00. Subscribers to *The Physiologist* also receive abstracts of the Conferences of the American Physiological Society. The online version is available free to all worldwide.

Please notify the APS Membership Department as soon as possible if you change your address or telephone number.

Headquarters phone: 301-634-7118
Fax: 301-634-7241
Email: webmaster@the-aps.org
http://www.the-aps.org
Printed in the USA

Contents

Annual Surveys

Association of Chairs of Departments of Physiology 2014 Survey Results

Elsa I. Mangiarua (Secretary-Treasurer; Marshall University) and Michael Sturek (President; Indiana University School of Medicine)

The Association of Chairs of Departments of Physiology (ACDP) annual survey was sent electronically to 187 physiology departments throughout the U.S., Canada, Mexico, and Puerto Rico. A total of 41 surveys were returned, for a response rate of 22%. This rate is similar to previous years. Of the 41 surveys returned, there were 10 private and 31 public medical schools. We encourage more of our colleagues to respond so that we can have more robust data that will benefit all.

The data provide the reader with general trends of faculty demographics and distribution, 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. AAMC salary data is more generally used, so the ACDP Council decided to no longer collect or report this data. Data are still collected on tenure status, gender, and ethnicity of faculty members (Table 1). Table 1 also includes information on the average

Table 1. Faculty Summary

Faculty Summary (*n* = 694)

	Male	Female	Total
Asian/Pacific Islander	83	33	116
Black (not Hispanic)	5	4	9
Hispanic	36	13	49
White (not Hispanic)	347	122	469
Foreign National	34	17	51
Total	**505**	**189**	**694**

Medical Physiology Course Type

	Yes	No	Total Responded
Integrated Disciplines	30	10	40
Traditional	29	11	40
Within Traditional	21	19	40

Tenure Status in Each Department by Degree

	Tenured	Not Tenured	Not Eligible	Total
MD	14	1	6	21
PhD	418	2	274	694
2 Doctorates	39	0	6	45
Other	5	0	0	5
Total	**476**	**3**	**286**	**765**

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

	Student Type	Average (hours)	Number (inst.)
Lab Hours	Graduate	399	25
	Medical	56	24
	Other	94	9
Lectures	Graduate	90	39
	Medical	58	39
	Other	117	21
Small Group	Graduate	35	23
	Medical	32	35
	Other	28	10

Teaching Interactions

MD/DO	39
DDS	16
DVM	3
Allied Health	20
Pharmacy	9
Other Biomedical	30
Life Science	20
Bioengineering	17
Other	15

Table 2. Student/Trainee Information

Student/Trainee Summary

	Predoctoral		Postdoctoral	
	Male	Female	Male	Female
US Citizen/ Resident Alien	264	245	106	91
Foreign	64	99	140	123

Race/Ethnicity of Pre- and Postdoctoral Students/Trainees

	Predoctoral		Postdoctoral	
	Male	Female	Male	Female
Native American	1	0	0	0
Asian/Pacific Islander	20	34	18	24
Black (not Hispanic)	11	21	4	8
Hispanic	13	18	7	5
White (not Hispanic)	177	150	82	48

US Citizen/Resident Alien Postdoctoral Trainee Completions

	Male	Female
Native American	1	0
Asian/Pacific Islander	5	11
Black (not Hispanic)	1	1
Hispanic	6	4
White (not Hispanic)	35	24
Total	**48**	**40**

Average Annual Stipend ($U.S.)

	Average	Number (inst.)
Postdoctoral	$41,532	41
Predoctoral	$24,904	41

Predoctoral Trainee Completions During the Year Ending June 30, 2014

	Total
Female	60
Male	68
Total	**128**

Foreign National Predoctoral Trainee Completions

	Male	Female
African	2	1
Asian/Pacific Islander	10	12
Central/South American	1	4
European/Canadian, etc.	4	2
Middle Eastern	3	1
Total	**20**	**20**

Number of Foreign Pre- and Postdoctoral Students/ Trainees

	Predoctoral		Postdoctoral	
	Male	Female	Male	Female
African	1	3	1	1
Asian/Pacific Islander	43	65	78	58
Central/South American	1	6	6	12
European/Canadian, etc.	6	16	36	39
Middle Eastern	13	9	14	4
Other	0	0	5	9
Total	**64**	**99**	**140**	**123**

Number of Foreign Pre- and Postdoctoral Trainees Whose Primary Source of Support is:

	Predoctoral	Postdoctoral
Institutional	69	24
Research Grants	93	243
Private Foundations	3	4
Home (foreign) Government	3	5
Other	18	12
Total	**186**	**288**

number of teaching contact hours for faculty and on the type of medical physiology course being taught.

Table 2 provides student/trainee information, including ethnicity for predoctoral and postdoctoral categories, as well as predoctoral trainee completions, stipends provided, and type of support.

Institutional information is provided in Table 3. Departmental budget information (Table 4) shows average dollar amounts for type of support, faculty salaries derived from grants, along with negotiated indirect costs to the departments. New for this year is the mean number of faculty in those departments. Table 5 ranks responding institutions according to their total dollars (institutional hard money, research grants, etc.), research grant dollars (direct or direct plus indirect as appropriate), and departmental space. Space averages are presented as research, administration, teaching, and other.

For an update of AAMC salary data, please see the AAMC Survey (p. 122).

Table 3. Institution Summary

Type of Institution	
Private	10
Public	31
Total	**41**

Space Controlled by Department	
	Average, sq. ft.
Research Space	20,477
Administrative Space	3,475
Teaching Space	1,929
Other Space:	2,708
Total Department Space	**25,881**

Table 4. Institutional Financial Information

Budget by Institution

	All Institutions	No. of Institutions	Mean No. of Faculty	Private Medical	No. of Institutions	Mean No. of Faculty
Institutional hard money, e.g, operating costs, state allocations)	$2,577,085	41	21	$1,850,507	10	15
Outside Research Grants and Contracts (direct costs only)	$4,225,948	41	21	$4,587,533	10	15
Training Grants (direct costs only)	$523,964	16	23	$430,455	3	18
Endowments	$345,648	27	21	$342,692	5	13
Indirect Cost Recovery (amount returned to your department)	$386,140	28	23	$824,487	1	19
Other Budget Support	$459,691	35	20	$943,391	9	15
Average Departmental Budget	$1,191,148			$1,411,272		
Total Faculty			**681**			**131**

	Public Medical	No. of Institutions	Mean No. of Faculty	Non-medical	No. of Institutions	Mean No. of Faculty
Institutional hard money, e.g, operating costs, state allocations)	$2,071,986	25	18	$3,808,762	6	29
Outside Research Grants and Contracts (direct costs only)	$3,827,236	25	18	$4,263,075	6	29
Training Grants (direct costs only)	$467,707	10	21	$673,728	3	30
Endowments	$574,357	17	21	$119,894	5	29
Indirect Cost Recovery (amount returned to your department)	$198,538	22	18	$135,394	5	31
Other Budget Support	$288,490	21	19	$147,190	5	27
Average Departmental Budget	$1,416,518			$1,498,425		
Total Faculty			**433**			**117**

Financial Information

	Average	No. of Institutions
Current fringe benefit rate most frequently used for primary faculty	30	41
Federally negotiated indirect cost rate for FY 13-14 off campus	26	36
Federally negotiated indirect cost rate for FY 13-14 on campus	52	41
Percentage of allocated salary dollars from grants directly returned to your department	67	27
Percentage of indirect costs returned to your department	20	29
Percentage of total faculty salaries derived from research grants (does not include fringe benefits costs)	34	41

Table 5. 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/sqft	Research Dollars/sqft	No. of Faculty
1	23,837,296	1	15,178,697	1	798,879	7	36,042	3	421	19
2	17,787,149	2	10,860,075	5	362,003	8	34,591	8	314	30
3	11,521,176	7	5,835,050	13	253,698	13	21,571	12	271	23
4	11,323,918	4	6,063,835	7	319,149	5	38,751	24	156	19
5	10,412,177	5	5,954,665	22	198,489	16	20,530	9	290	30
6	9,766,870	10	5,110,555	17	232,298	21	18,799	11	272	22
7	9,079,548	12	4,382,766	11	257,810	10	26,926	23	163	17
8	8,967,876	22	3,438,903	18	229,260	37	10,486	7	328	15
9	8,735,077	8	5,494,592	19	219,784	14	20,947	13	262	25
10	8,686,889	21	3,535,132	30	117,838	12	24,166	26	146	30
11	8,668,507	6	5,904,367	12	256712	2	44,170	1	134	23
12	8,562,979	9	5,145,014	4	395,770	6	36,384	29	141	13
13	8,489,672	13	4,354,432	27	145,148	32	12,729	5	342	30
14	8,232,407	15	3,947,121	26	157,885	9	28,199	31	140	25
15	8,133,664	11	5,054,385	9	266,020	19	19,554	14	258	19
16	7,944,542	23	3,366,952	20	210,435	22	16,975	18	198	16
17	6,801,283	36	1,363,000	39	45,433	3	38,867	40	35	30
18	6,724,959	24	3,133,715	32	108,059	1	49,427	37	63	29
19	6,680,943	29	2,355,144	31	117,757	4	38,849	38	61	20
20	6,564,668	14	4,129,367	25	158,822	28	14,492	10	285	26
21	6,552,694	19	3,722,784	8	310,232	15	20,873	20	178	12
22	6,343,341	20	3,659,416	10	261,387	23	16,401	16	223	14
23	6,012,035	25	2,878,093	14	239,841	11	25,288	33	114	12
24	5,552,100	18	3,802,778	15	237,674	24	16,265	15	234	16
25	5,345,479	34	1,888,694	36	89,938	18	19,821	36	95	21
26	5,309,292	32	2,050,000	33	107,895	35	12,048	22	170	19
27	5,226,876	26	2,836,104	16	236,342	17	19,848	28	143	12
28	5,159,768	28	2,446,029	29	135,891	34	12,484	19	196	18
29	5,089,223	3	6,075,783	2	506,315	25	15,955	4	381	12
30	4,963,994	17	3,811,252	6	346,477	36	11,236	6	339	11
31	4,735,243	33	2,043,826	34	107,570	20	19,040	34	107	19
32	4,658,514	31	2,154,615	28	143,641	27	14,774	27	146	15
33	4,001,485	16	3,856,330	3	428,481	39	6,000	2	643	9
34	3,968,001	27	2,484,293	24	165,620	26	15,924	25	156	15
35	3,881,108	30	2,304,423	21	209,493	31	12,994	21	177	11
36	3,863,404	38	1,305,421	38	56,757	38	6,165	17	212	23
37	3,779,450	37	1,334,105	35	95,293	30	13,500	35	99	14
38	3,391,207	40	656,809	40	41,051	29	13,867	39	47	16
39	3,144,891	35	1,512,312	23	168,035	33	12,500	32	121	9
40	2,124,839	39	741,345	37	82,372	40	5,283	30	140	9
41	1,178,098	41	58,000	41	7,250	41	5,064	41	11	8

AAMC Medical School Faculty Compensation Survey

Each year, the American Association of Medical Colleges (AAMC) surveys all the U.S. medical schools as to faculty compensation. Because of this, the ACDP (see ACDP Survey on p. 117) 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. The number of departments responding to the AAMC survey is not the same as the ACDP survey.

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 3 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
All	Private Medical	27	11	14	3	55
	Public Medical	12	23	36	15	86
Physiology	All Medical Schools	16	12	22	11	61

Table 2. Summary Statistics on Physiology Department PhD Faculty Compensation (in $U.S.)

		25th	Median	75th	Mean	No. of Faculty
Chair	All Schools	230,000	262,000	302,000	270,700	61
	Medical Public	227,000	259,000	280,000	252,600	42
	Medical Private	235,000	304,000	350,000	310,700	19
Professor	All Schools	139,000	162,000	193,000	170,100	536
	Medical Public	139,000	162,000	192,000	170,800	378
	Medical Private	136,000	166,000	195,000	168,600	158
Assoc. Prof.	All Schools	98,000	111,000	127,000	114,800	313
	Medical Public	98,000	110,000	126,000	113,200	214
	Medical Private	100,000	112,000	128,000	118,000	99
Asst. Prof.	All Schools	68,000	87,000	97,000	84,900	396
	Medical Public	68,000	86,000	96,000	83,700	269
	Medical Private	68,000	87,000	105,000	87,600	127
Instructor	All Schools	47,000	50,000	57,000	52,700	79
	Medical Public	47,000	50,000	55,000	50,800	53
	Medical Private	47,000	55,000	63,000	56,700	26

Table 3. Change in Total Compensation for Physiology Department PhD Faculty (in $U.S.)

2013 - 2014		2012 - 2013		2011 - 2012		% Change 2012 - 2013 to 2013 - 2014	
Mean	Median	Mean	Median	Mean	Median	Mean	Median
129,100	119,000	126,700	118,000	124,300	115,000	1.9	0.8

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

Table 4. Summary Statistics on Physiology Department PhD Faculty Compensation by Region (in $U.S.)

		Northeast	Midwest	South	West
Chair	25th	231,000	249,000	203,000	169,000
	Median	263,000	275,000	253,000	262,000
	75th	311,000	341,000	300,000	283,000
	Mean	288,100	308,800	250,000	245,600
	Total faculty	16	12	22	11
Professor	25th	148,000	140,000	131,000	146,000
	Median	171,000	164,000	155,000	174,000
	75th	193,000	196,000	190,000	202,000
	Mean	169,500	171,300	164,500	182,900
	Total faculty	104	136	211	85
Assoc. Prof.	25th	106,000	98,000	95,000	104,000
	Median	118,000	110,000	106,000	122,000
	75th	132,000	123,000	123,000	136,000
	Mean	122,300	113,900	109,500	121,300
	Total faculty	70	98	118	27
Asst. Prof.	25th	74,000	62,000	69,000	87,000
	Median	97,000	85,000	84,000	96,000
	75th	109,000	97,000	91,000	102,000
	Mean	92,500	84,000	81,900	93,600
	Total faculty	57	107	200	32
Instructor	25th	49,000	41,000	47,000	49,000
	Median	60,000	44,000	50,000	53,000
	75th	79,000	52,000	55,000	60,000
	Mean	62,100	48,100	51,400	54,300
	Total faculty	9	12	42	16

Table 5. Salary Comparison Between All Basic Science Departments and Physiology Departments (in $U.S.)

		All Basic Science Depts.	Physiology
Chair	25th	227,000	230,000
	Median	275,000	262,000
	75th	331,000	302,000
	Mean	281,100	270,700
	Total faculty	521	61
Professor	25th	140,000	139,000
	Median	168,000	162,000
	75th	204,000	193,000
	Mean	178,700	170,100
	Total faculty	4,270	536
Assoc. Prof.	25th	100,000	98,000
	Median	116,000	111,000
	75th	135,000	127,000
	Mean	119,700	114,800
	Total faculty	3,265	313
Asst. Prof.	25th	75,000	68,000
	Median	92,000	87,000
	75th	106,000	97,000
	Mean	92,500	84,900
	Total faculty	4,061	396
Instructor	25th	51,000	47,000
	Median	57,000	50,000
	75th	70,000	57,000
	Mean	63,600	52,700
	Total faculty	663	79

Continued from page 115:

Mentorship and Learning to Ignore

Five Lessons

With that brief preamble, the five lessons I want to share are ideas that I learned from my mentors that are the basis of the lessons I try to transmit to the younger students and scientists with whom I collaborate. The great basketball coach John Wooden used to refer to his players as the "youngsters under my supervision" (7). I think he used the word supervision as in superior-vision to indicate that the role of the teacher was to provide the vision, skills, and framework so that the "players" could figure out how to do their best in competition and grow as people and players over time.

So, here are the five ideas:

1) Have 1 sharp knife
2) Questions count more than answers
3) Master money before it masters you
4) Lead from behind
5) Learn to ignore

Have 1 Sharp Knife

This lesson is pretty simple, and it is about being good at something and engaging your passion. In other words, don't feel compelled to be well rounded. Having a "sharp knife" is especially important in middle age as life and work catch up with you, and all sorts of potential distractions impinge on your focus. Also, if you can master one thing, you will develop a generic set of skills that can be applied as you pursue excellence in other areas. I am struck when I meet outstanding scientists of all ages at just how many were outstanding at something else earlier in life. When people like this get the "research bug," they can then mobilize their pursuit of excellence and focus skills toward their scientific work. I think this piece of advice is especially important to cultivate in children and young adults, and I encourage everyone to take the advice that you need to be "well rounded" with a grain of salt. How many well rounded people ever accomplished anything special?

Questions and Energy Are More Important Than Answers

Usually school is about mastering information, facts, and concepts. However, knowledge and ideas and the "right answer" turn over. In medicine, for example, perhaps 30-40% of what is state-of-the-art care is superseded every 10 years (6). I am sure this happens in other fields, so if you want to stay at the cutting edge you need to ask good questions and be prepared to have old ideas and dogmas replaced. I think this is especially true in an era of big science and big data that is associated with the implicit belief that if you just have the right industrial strength techniques the answer or solution will emerge without ever really asking a question. Questions are also important because so much of scientific discovery is about making the most out of serendipity and even "mistakes" (1, 2).

Master Money Before It Masters You

We live in a world obsessed with metrics and return on investment thinking. Slogans like "you can't manage what you can't measure" abound. However, my guess is that what you can't measure is what differentiates the outstanding from the good or even success from failure. The other thing we should all remember is that, rather than obsessing about what we can afford to do, perhaps we should ask whether we can afford to not do something. To me, embracing calculated risks vs. worrying too much about resources seems like a better way to live. Mastering money and resources or at least keeping them in perspective is perhaps easier if you in fact do have one sharp knife and if you are focused on framing the right questions. When we think about these things, we should remember that things like jazz music were invented and developed by musicians who did not have access to traditional music education resources like conservatories.

The original masters of jazz show what sharp knives, a questioning spirit, and not worrying too much about money can do for both individual careers and the larger world as a whole. How do we encourage ourselves and the younger people we work with to keep the example of the jazzmen in mind in a world increasingly marked by too many metrics and the sort of reflex careerism that too many metrics generates?

Lead From Behind

Under most circumstances, most of us are not the smartest, wisest, or most experienced people in the room. If you commit yourself to harvesting and facilitating the good ideas of others and delegating authority, you will be "more successful" and you will be part of a team that can do way more than any individual can. Some of the best and most innovative people in history, like Steve Jobs, have essentially stolen, borrowed, and/or adapted

the ideas of others to great effect (3). If you can do these things in an inclusive way, like John Shepherd could, you will be even farther ahead. Additionally, you will be able to lead no matter where you are in an organizational hierarchy via the leverage you generate.

In my own case, some of the best ideas and even research themes that have developed in my lab over the years have come via dialogue with my postdoctoral fellows. Letting them develop new ideas and lines of research might seem high-risk, but in reality it has led to a creative bonanza. I am sure I learned more from my fellows than they have learned from me.

Learn to Ignore

Higher education is about learning to learn, but at least part of life is about learning to ignore. Ignore your own self-doubts. Ignore the ankle biters who are waiting for you and others to fail and be simply average. Also, we all need to learn to ignore the difficult side of talented people we might be working with. Frequently, talented people are hard driving and passionate. They care, but they can also have ego-centric and difficult sides and resist micro-management. Thus the question is: Can you work with these people in a way that their egos are levers and not barriers? This is difficult, it takes patience, and it takes self-control. However, if you can take a calculated risk and help the truly talented get beyond their own egos and chase their dreams, there is an upside for everyone. Good coaches understand the value of getting their best players more touches, so do good mentors.

Closing Thoughts

As you look over the five lessons above, I am sure you can see that they are all connected, but a phrase I have heard from my wife (that she heard from her dad) is that "no one cares how much you know until they know how much you care." When I think of the five lessons, it seems to me that one way or another they are all connected by caring about people and ideas more than simple outcomes. Thus I close with a final challenge for mentors: Can you create a Montessori school or semi-structured playground ecosystem in your classroom, lab, or other learning environment? At some level, it is easier to do things in a linear way, but with a linear approach perhaps the best you can hope for are linear results. If you want nonlinear results, then roll the dice and create a nonlinear learning environment. ●

References

1. Comroe JH, Dripps RD. Ben Franklin and open heart surgery. *Circ Res* 35: 661-669, 1974.
2. Furchgott RF. The discovery of endothelium-derived relaxing factor and its importance in the identification of nitric oxide. *JAMA* 276:1186-1188, 1996.
3. Gladwell M. Creation myth (Online). *The New Yorker,* May 16, 2011. *http://www.newyorker.com/magazine/2011/05/16/creation-myth*.
4. Joyner MJ. In Memoriam: John T. Shepherd (1919-2011). *Physiol J* 589: 5927-5928, 2011.
5. Joyner MJ. Reflections on mentorship (Schmidt Nielson Lecture) (Online). Am. Physiol. Soc., 2014. *http://www.the-aps.org/articulate/EB/2014/Minority%20Scientists/Schmidt-Nielsen%20Online%20Version/Reflections-on-Mentorship/player.html*.
6. Prasad V, Vandross A, Toomey C, Cheung M, Rho J, Quinn S, Chacko SJ, Borkar D, Gall V, Selvaraj S, Ho N, Cifu A. A decade of reversal: an analysis of 146 contradicted medical practices. *Mayo Clin Proc* 88: 790-798, 2013.
7. Wooden JR. The difference between winning and succeeding (Online). *TED Talk,* 2001. *http://www.ted.com/talks/john_wooden_on_the_difference_between_winning_and_success*.

To comment on this article or ask a question of the author, please go to *the-aps.org/forum-mentorship*.

Michael J. Joyner is the Caywood Professor of Anesthesiology at Mayo Clinic where he was named Distinguished Investigator in 2010. His interests include exercise physiology, blood pressure, metabolism, and transfusion practices. He has also explored the limits of reductionism in biomedical research. He attended the University of Arizona, with residency training at Mayo. His lab has been funded by NIH since 1993, and former fellows have established independent research programs at leading institutions throughout the world. He has held leadership positions at Mayo, in the extramural research community, and with leading journals.

Continued from page 115:

Impact Factors – The Bane of Our Existence

subject of an article that I wrote over a decade ago (2). At the time, I was responding to comments from APS journal editor candidates telling us that their goal as editor was to improve the impact factor for the journal. Over the period since I wrote the article, the JIFs for APS journals have remained in the 3-4.5 range, and pressures on authors have only increased.

I asked colleagues in Europe, Asia, Australia, and South America for an assessment of how the JIF was being used in their countries, and it was clear that it was being used to assess an investigator's performance as opposed to as a bibliometric measure as envisioned by Eugene Garfield who created it over 50 years ago. In the UK, investigators at some institutions are being told to publish their work in journals of a certain minimum JIF, generally 5+. In Brazil, there is a lot of pressure to publish in journals with a high JIF. To be considered good, investigators need to publish at least one out of three papers in a journal with a JIF of 5.2 or higher. Another colleague reported that the JIF is a big problem in Europe, Australia, and developing countries.

Scientists and assessment committees have been using JIF to measure the quality and abilities of the authors who publish in the journals. Such behaviors have resulted in efforts to create alternate metrics, each of which can be manipulated, each of which provides an inexact measure of the author. As evaluators, we need to remember that the JIF is not a measure of an author's work. The JIF is a simple ratio of citations and papers. The numerator is the number of current year citations (e.g., citations made in the year 2013) to all of the papers published by a given journal in the previous 2 years (that is, 2011 and 2012). The denominator is the total number of papers published in the journal in 2011 and 2012. Yet when we evaluate an author's work, we have a tendency to equate their work with the impact factor of the journal in which the article is published.

Basing assessments of investigators on the JIF is troubling because so many of the articles published in a journal never are cited and thus do not contribute to a journal's impact factor. No one really knows why a JIF of 5.0 has become the measure of success, but it makes little sense. According to Stephen Hubbard, Senior Editor, JCR, at Thomson Reuters, of the 10,927 journals included in the 2013 data (2014 release), 1,701 (16%) had a JIF of ≥3.0, and 618 (6%) had a JIF of ≥5.0. Based on this information, it is clear that the APS journals with impact factors ranging between 3.0 and 4.5, have maintained a strong position not only in the field of physiology but in all fields. Not surprisingly, the Society's review journals do even better, with *Physiological Reviews* at 29.041 and *Physiology* at 5.645.

Can we ever learn to ignore the JIF when we assess the research of others? The Declaration on Research Assessment (DORA) is one effort to do so. DORA asks all of us to disavow the use of the JIF as a measure of quality. The general recommendation issued by the framers of DORA is something we should all embrace: "Do not use journal-based metrics, such as Journal Impact Factors, as a surrogate measure of the quality of individual research articles, to assess an individual scientist's contributions, or in hiring, promotion, or funding decisions." Indeed, the general recommendation is the reason why the American Physiological Society endorsed DORA even though there are some elements of DORA that are problematic.

While DORA recommends that the JIF not be used to evaluate the author or the journal, one must remember that the JIF is a bibliometric measure to be used to assess the quality of the journal. However, it may also be worthwhile to consider another measure of the journal when determining where to submit your work. Mark Johnston, editor of *Genetics,* has suggested that it might be worthwhile to assess the journal based on the quality of the peer review and the stature of the editors. Johnston notes that "there is a glaring paradox here: editors with the least experience and little demonstrated ability as scientists preside over most of the top-tier journals popular with authors (and with many of the committees that make important decisions about authors' careers). In contrast, most of the journals edited by experienced, accomplished scientists are second (maybe even third) tier, as measured by the widely discredited yet surprisingly influential Journal Impact Factor (JIF)" (3). Using the average H-factor of a journal's editors, Johnston has created the Journal Authority Factor (JAF), demonstrating that journals with high JIF have editors possessing low JAF. If one desires a high-quality assessment of one's research article, whom can you trust? Next time, don't consider the journal's impact

factor when making your decision. Next time consider the Journal Authority Factor. You just might receive a better, more thoughtful, and authoritative review. ●

Martin Frank

References

1. Bennett CN, Scheman R. Author survey 2014. *The Physiologist* 58: 89-90, 2015
2. Frank M. Impact Factors: arbiter of excellence. *J Med Libr Assoc* 91: 4-6, 2003
3. Johnston M. A glaring paradox. *Genetics* 199: 637-638, 2015.

Chapter News

The Seventh Annual Meeting of the Arizona Physiological Society

A very successful seventh annual meeting of the Arizona Physiological Society (AzPS) was hosted by the University of Arizona-Tucson (UA-Tuc), during October 24-25, 2014. In attendance were 87 registrants from five state-wide University campuses: UA-Tuc, University of Arizona-Phoenix (UA-Phx), Arizona State University (ASU), Northern Arizona University (NAU), and Midwestern University (MWU). Of those attending, 36/87 (41%) were faculty members, 14/87 (16%) were postdoctoral trainees, 27/87 (31%) were graduate students, and 10/87 (12%) were undergraduate and medical students. A number of high-quality abstracts (41 total) were submitted from undergraduate students (8), graduate students (16), postdoctoral fellows (10), and regular members (7). The meeting was sponsored by The American Physiological Society, UA-Tuc Department of Physiology and College of Medicine UA-Phx, MWU Department of Physiology, NAU, and ASU, with additional contributions from the following vendors: Fisher Scientific, Data Sciences International, Kent Scientific Incorporation, North Central Instruments, and Phoenix Research Products.

The meeting commenced with an introduction and welcome given by Society President Layla Al-Nakkash (MWU) and followed by the first session of the conference,

Poster prize winners *(left to right):* Dennis Pollow (UA-Tuc, 3rd place, grad. student), James Solyst (UA-Tuc, 2nd place post-doc. fellow), Brittney McCormick (UA-Phx, 1st place, undergrad/med. student), Farmin Samareh-Jahani (UA-Tuc, 3rd place undergrad/med. student). Prizes awarded by Layla Al-Nakkash (AzPS President, *far right*) and Taben Hale (AzPS Treasurer, *far left*).

The AzPS keynote speaker, Gregory Fink (Michigan State University).

"Trainee Physiology Research Presentations-I," chaired by Steve Wright (UA-Tuc) and Cara Sherwood (post-doc, UA-Tuc). There were five talks in this session, with topics ranging from research projects utilizing cellular models ("Drug Discovery: Lipidation of Connexin Mimetic Peptides Increases Efficacy in Gap Junction Inhibition" by Maura Cotter, grad. student, UA-Tuc) to human subjects ("Acute Exercise Activates NRF2 in Young and Older Adults" by Aaron Done, grad. student, NAU).

The second session of the conference, "Trainee Physiology Research Presentations-II," was chaired by Rayna Gonzales (UA-Phx) and Leah Steyn (post-doc, UA-Tuc). There were five talks in this session, with topics ranging from human obesity ("Greater Yield of Subsarcolemmal Mitochondria From Skeletal Muscle of Obese Subjects With No Change in Intrinsic Mitochondrial Function" by Katon Kras, post-doc, ASU) to inflammation and cardiac tissue ("The Role of the Gut Microbiota in Cardiac Injury" by Christianne Danillo, post-doc, UA-TUC).

The third session of the day was chaired by Ralph Fregosi (UA-Tuc), who introduced a talk given by Doug Seals (Professor, Dept. of Integrative Physiology, University of Colorado, Boulder), "Essential Role of Translational Physiology in Achieving Optimal Longevity." The keynote lecture, introduced by Taben Hale (UA-Phx), was given by Gregory Fink (Professor, Pharmacology

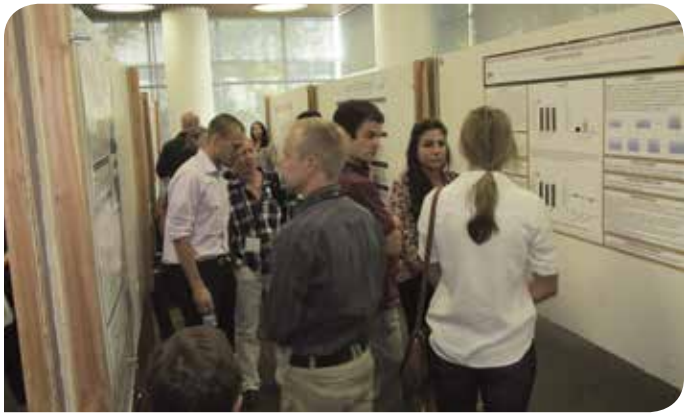
& Toxicology Neuroscience Program, Michigan State University) and entitled "Novel Sympathetic Mechanisms in Obesity Related Hypertension." These two excellent talks by well respected leaders in their fields dove-tailed superbly on hot topics of obesity and hypertension and were followed by a reception and buffet dinner, and the return of the popular minute poster presentations (each poster presenter is given 1 min of microphone time to "advertise who they are, and give a brief overview of the research poster they will shortly present"). The minute poster session was chaired by Scott Boitano (UA-Tuc) and Johnnie Moore-Dotson (post-doc, UA-Tuc), with libations continuing throughout the first poster session, including research presentations by 21 members.

The second day of the meeting began with an opportunity for post-docs to meet with Greg Fink over breakfast. The first session of the day was chaired by Kiisa Nishikawa (NAU) and Phillip Sandoval (Grad student, UA-Tuc), and was entitled "Alternative Career Panel & Discussion." The panel included Yifat Guy (Medical Science Liaison, Ikaria), Paul Eynott (Licensing Manager, College of Science, Tech Launch Arizona), and John Yucel (Account Manager, Data Sciences International). Each presented an overview of their career path, current schedule, and pros and cons to their career choices. The panel fielded many questions from an interested audience.

Scott Boitano (UA-Tuc) then introduced this year's Arizona Distinguished Lecturer, Charles Tipton (UA-Tuc), who gave a wonderfully engaging, animated, and inspiring lecture regarding "The Antiquities of the Advocacy of Exercise for Health Reasons, the History of Exercise Physiology, and of Their Relationships to Exercise is Medicine (EIM)".

The second minute poster session was chaired by Layla Al-Nakkash (MWU) and Nicole Jacobsen (grad. student, UA-TUC), affording the remaining 20 poster presenters an opportunity to give a 1-min spiel of their research before their poster presentations. During both minute poster sessions, attendees were treated to Amazon or iTunes gift card giveaways, generously donated by Data Sciences International and Phoenix Research Products. During the lunch hour, while judges of the poster categories met to discuss the finalists, graduate and undergraduate students were invited to have lunch with Greg Fink. The final oral communication session of the meeting, "Physiology Research in Arizona," was chaired by Stan Lindstedt (NAU) and Robert LeMoyne (post-doc, NAU) and comprised three oral presentations, one of which was entitled "Intranasal Oxytocin Modulates Attention to Social Stimuli in Rhesus Macaques" by James Solyst (post-doc, UA-TUC).

A sample viewpoint of attendees at a talk session.



A sample viewpoint of one area of a poster session.

The seventh annual AzPS conference concluded with the business meeting that was chaired by AzPS President Layla Al-Nakkash. The business meeting commenced with voting taking place to have as part of the executive committee team a position for the "Immediate Past President" to assist in the transition from one president to the next. Members of the executive council who had completed their terms of service [Nicole Jacobsen (Graduate Student Representative, UA-Tuc), Johnnie Moore-Dotson (Postdoctoral Representative, UA-TUC), and Taben Hale (Secretary-Treasurer, UA-Phx)] were

Table 1. Abstract Awardees

Abstract Category	Postdoctoral Fellow	Graduate Student	Undergraduate/Medical Student
First place	**Leah Steyn** (UA-Tuc)	**Matthew Bull** (UA-Tuc)	**Brittney McCormick** (UA-Phx)
Second place	**James Solyst** (UA-Tuc)	**Kristen Ricklefs** (ASU)	**Mark Katsma** (MWU)
Third place	**Michelle Nawata** (UA-Tuc)	**Dennis Pollow** (UA-Tuc)	**Farmin Samareh-Jahani** (UA-Tuc)

thanked for their hard work and awarded a certificate of appreciation. A plaque was awarded by incoming AzPS President Kiisa Nishikawa (NAU) to the outgoing AzPS President Layla Al-Nakkash (MWU) to honor her support of our AzPS Chapter. Recognition was also given to new executive council members who were recently voted into their positions: Kiisa Nishikawa (President, NAU), Cindy Rankin (Secretary-Treasurer, UA-Tuc), Johnnie Moore-Dotson (Postdoctoral Representative, UA-TUC), and Dennis Pollow (Graduate Student Representative, UA-TUC).

The Arizona Distinguished Lecturer, Charles Tipton (UA-Tuc, *right*), receives a commemorative plaque from Scott Boitano (UA-Tuc, *left*).

Outgoing AzPS President (Layla Al-Nakkash, MWU, *right*) receives a commemorative plaque from incoming AzPS President (Kiisa Nishikawa, NAU, *left*).

Subsequently, financial awards were given for abstract submissions: $100 for first place, $50 for second place, and $25 for third place. Listed in Table 1 are the names and institutions associated with the various awards. Select photographs from the 2-day meeting are described in the figure legends. Our 2-day Annual Chapter meeting continues to flourish in Arizona, bringing together physiologists from throughout the state. This meeting provides valuable support for our trainees and emboldens positive interactions between trainees and faculty. The ability to build and foster new collaborations, and share techniques and ideas serves to improve physiology research and teaching within Arizona. ●

Fifth Annual Meeting of the Puerto Rico Physiological Society

Guido Santacana and Sabzali Javadov

APS Puerto Rico Chapter-Puerto Rico Physiological Society

The Fifth Annual Meeting of the Puerto Rico Physiological Society (PRPS) was held on Friday, February 6, in San Juan. The meeting was organized by the University of Puerto Rico (UPR) School of Medicine and brought together over 120 faculty, students, postdoctoral fellows, and research staff from universities and research institutions in Puerto Rico and the U.S. The topic of the meeting was "Diabetes and Metabolic Syndrome: Pathophysiological Consequences" to discuss scientific achievements in elucidating diabetes mellitus and metabolic syndrome. This area of biomedical research is becoming a worldwide health issue that is of significant relevance for the health of Puertoricans living on the island and in the U.S.

The meeting opened with welcoming remarks from Noel J. Aymat, Chancellor of the UPR Medical Sciences Campus, Edgar Colon, Dean of the UPR School of Medicine, and Guido Santacana, President of PRPS. The sessions, moderated by Guido Santacana, Sabzali Javadov (Vice-President, PRPS), and Sylvette Ayala-Peña (Secretary-Treasurer, PRPS), included eight speakers from Puerto Rico and the U.S., and the poster session.

Jane Reusch (Departments of Medicine and Biochemistry, University of Colorado Denver) gave the presentation "Decreased Exercise Capacity in Diabetes: Why Do We Care? What Can We Do?" which contained new data suggesting that abnormalities in the skeletal muscle blood flow and oxidative capacity (mitochondrial function) play a key role in the exercise impairments in Type 2 diabetic patients. The role of statins as a novel therapeutic approach to reduce cardiovascular risk in diabetes was discussed in the talk given by Maria Crespo (Department of Physiology, UPR School of Medicine). Yamil Gerena (School of Pharmacy, UPR Medical Sciences Campus) presented results of his group on soluble insulin receptor dysfunction and cognitive impairment in HIV-infected patients. These presentations on diabetes were followed by an exciting talk on the role of mitochondrial calcium in regulating cardiac metabolism and cell death, given by Elizabeth Murphy (Cardiac Physiology Section, Systems Biology Center, NIH Heart, Lung and Blood Institute), who presented new data obtained from her studies of the mitochondrial calcium uniport in knockout mice hearts.

The second part of the meeting was dedicated to the metabolic syndrome. A comprehensive discussion of pathophysiological mechanisms and consequences of metabolic syndrome in Puerto Rican adults and children

Meeting session

Speakers and PRPS Executive Committee members *(from left):* Guido Santacana, Sylvette Ayala-Peña, Jane Reusch, Alan Preston, Elizabeth Murphy, Yamil Gerena, Katherine Tucker, Maria Crespo, Sherly Pardo-Reoyo, and Sabzali Javadov

Poster session

was provided in presentations by Katherine Tucker (Department of Clinical Laboratory and Nutritional Sciences, University of Massachusetts Lowell), Alan Preston (Department of Biochemistry, UPR School of Medicine), and Cristina Palacios (Graduate School of Public Health, UPR Medical Sciences Campus). Sherly Pardo-Reoyo (Department of Biochemistry, UPR School of Medicine) highlighted the role of genetics in translational research.

The main session was followed by a poster session, where over 30 posters were presented by undergraduate and graduate students, postdoctoral fellows, and other research staff from several universities in Puerto Rico. The posters were evaluated to estimate the overall quality of the presentations by the Judge Committee, composed of faculty members and experienced postdoctoral fellows. The following winners were awarded by the PRPS Executive Committee:

First place: Rebeca Nuñez, Department of Physiology, UPR School of Medicine. Title of presentation: "Angiotensin II (Ang II) Receptor Blockade in Ang II-Preconditioned Rat Hearts Following Ischemia/Reperfusion."

Second place: Marieli González-Cotto, Department of Anatomy, Central University of the Caribbean. Title of presentation: "The Paradoxical Role of TREM-like 1 in Atherosclerosis."

Third place: Marangelie Criado-Marrero, Ponce Health Sciences University-Ponce Research Institute. Title of presentation: "Modulation of Fkbp5 Affects Fear Conditioning and Extinction."

Following the poster session, President of the PRPS Guido Santacana informed attendees on the society's activities during the past year. One of the main activities of the society was outreach efforts (PhUn Week activity) organized by graduate students and faculty members at high schools around the island. Members of the PRPS from both the University of Puerto Rico School of Medicine Department of Physiology and the Ponce School of Medicine Department of Physiology participated in the PhUn Week activities on November 7, 2014 at three public schools, with a total of more than 200 high school students. During the meeting, a faculty member presented a talk about physiology, its role in daily life, and his/her own experience as a physiologist. Graduate students and postdoc fellows presented

Poster presentation winners *(from left):* Marangelie Criado-Marrero, Rebeca Nuñez, and Marieli González-Cotto

Top: PhunWeek activities at the Gilberto Concepcion de Gracia School in San Juan and the San Conrado School in Ponce. *Bottom:* Teachers visit the research laboratories in the Department of Physiology UPR School of Medicine during the "Physiology for Science Teachers" workshop.

basic physiological concepts, with demonstrations and active participation by the high school students. Afterward, everyone was available for questions from the students.

The PRPS organized a new outreach activity (workshop) with faculty members from the Department of Physiology, University of Puerto Rico School of Medicine, entitled "Physiology for Science Teachers." The main goal of the 1-day workshop was to create a bridge between high school science teachers and medical school basic science departments. Eighteen high school science teachers from several Puerto Rico public schools attended the workshop. Faculty members of the department of physiology shared with the teachers their experiences in teaching physiology, followed by an interactive discussion of "Physiology Concepts: How to Teach Students." The attendees also visited research laboratories and met with graduate students and research staff. The teachers were given cost-free membership in the PRPS and invited to participate in the 2015 PRPS meeting.

In concluding remarks, the President acknowledged the sponsors: the American Physiological Society, UPR Medical Sciences Campus, and School of Medicine, Ponce Health Sciences University, and Central University of the Caribbean for their support.

The meeting announced the following officers of the PRPS Executive Committee for 2015-2016: Sabzali Javadov (President, UPR Medical Sciences Campus), Priscila Sanabria (President-Elect, Central University of the Caribbean), Guido Santacana (Past-President, UPR Medical Sciences Campus), Sylvette Ayala-Peña (Secretary/Treasurer, UPR Medical Sciences Campus), Siomara Hernandez (Councilor, Ponce Health Sciences University-Ponce Research Institute), Cariluz Santiago (Councilor, Pontifical Catholic University of Ponce), and Iris Salgado (Councilor, UPR Medical Sciences Campus). ●

Education

2015 K-12 Minority Outreach Fellows Announced

The APS K-12 Minority Outreach Fellowship seeks to foster communication between minority graduate and postdoctoral students and middle/high school minority life sciences students. Program activities include year-long outreach fellowships for senior graduate students and postdoctoral fellows to visit K-12 classrooms, help conduct teacher professional development workshops, and attend scientific meetings.

The APS and Porter Physiology Development and Minority Affairs Committee congratulate the 2015 K-12 Outreach Fellows:

Nicholas Aguirre, University of California, Davis
Elinette Albino, Ponce School of Medicine

Fellows attend EB 2015 and 2016, work with the Frontiers in Physiology Research Teachers, participate in PhUn Week, and attend conferences for minority students in the fall (ABRCMS or SACNAS national conference). For more information, see the APS website at *http://www.the-aps.org/k12minorityoutreach* or contact Brooke Bruthers in the APS Education Office at *education@the-aps.org*. The application deadline for 2016-2017 fellowship year is December 30, 2015. ●

2015 Undergraduate Summer Research Fellows and Research Hosts

APS is pleased to announce all the 2015 undergraduate summer research fellows and research hosts. To find out more, visit the awardee pages on each program web site.

IOSP Fellowships

Eight students were selected to conduct integrative organismal systems (comparative) physiology research in the lab of an APS member.
www.the-aps.org/iosp

STEP-UP Fellowships

Twenty-three students were selected to conduct physiological research in the NIDDK mission areas.
www.the-aps.org/stepup

STRIDE Fellowships

Twenty-one students were selected to conduct physiological research in the NHLBI mission areas in the lab of an APS member.
www.the-aps.org/stride

UGSRF Fellowships

Twenty-four students were selected to conduct physiological research in the lab of an APS member.
www.the-aps.org/ugsrf

UGREF Fellowships

Six students were selected to conduct physiological research in the lab of an APS member.
www.the-aps.org/ugref

Congratulations to the Fellows and Hosts!

Minority Travel Fellowship Awards for 2015 Endothelin, Bioenergetics, and Sex & Gender Conferences

APS will be offering Minority Travel Fellowship Awards, which provide up to $1,800 in travel expense reimbursement, for the upcoming 2015 APS Conferences:

- 14th International Conference on Endothelin: Pathophysiology and Therapeutics; September 2-5, 2015 in Savannah, Georgia
- 2015 APS Conference: Physiological Bioenergetics: From Bench to Bedside; September 9-12, 2015 in Tampa, Florida
- 2015 APS Conference: Cardiovascular, Renal and Metabolic Diseases: Physiology and Gender; November 17-20, 2015 in Annapolis, Maryland

For more information about the Minority Travel Fellowship Award program and to apply, visit *www.the-aps.org/minoritytravel* or contact Brooke Bruthers, Senior Program Manager, Diversity Programs at *education@the-aps.org*.

Publications

Call for Nominations for the Editorship of *The American Journal of Physiology–Endocrinology and Metabolism*

http://ajpendo.physiology.org/

Nominations are invited for the Editorship of *The American Journal of Physiology – Endocrinology and Metabolism* to succeed Charles H. Lang, who will complete his term as Editor on June 30, 2016. The APS Publications Committee plans to interview candidates in the Fall of 2015.

Applications should be received before August 15, 2015.

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

Curt D. Sigmund, PhD
American Physiological Society
9650 Rockville Pike
Bethesda, MD 20814-3991

You may also send your nominations to Curt Sigmund via e-mail, care of the APS Publications Dept. Administrative Assistant, Charmon Kight (*ckight@the-aps.org*). ●

Calls for Papers

For a full list of Calls-For-Papers for all APS Journals including ongoing calls and extended deadlines, visit *the APS website*.

Physiological Genomics

- Cellular Plasticity
- Gut Microbiota in Health and Disease
- Systems Biology and Polygenic Traits

Journal of Neurophysiology

- Active Sensing *(Submission deadline: January 1, 2016)*
- Neurological Disease and Autonomic Dysfunction *(Submission deadline: January 1, 2016)*
- Methods to Understand Brain Connections and Neural Function *(Submission deadline: January 1, 2016)*
- Control of Autonomic Function: Insights From Neurophysiological Studies in Conscious Animals (Including Humans) *(Submission deadline: July 1, 2015)*
- Neuronal Diversity: Categorizing Types of Neurons *(Submission deadline: July 1, 2015)*
- Neurophysiology of Tactile Perception: A Tribute to Steven Hsiao *(Submission deadline: June 1, 2015)*

Advances in Physiology Education

- Pre-Professional Education in Transition

American Journal of Physiology – Cell Physiology

- Cell and Molecular Processes in Cancer Metastasis *(Submission deadline: June 30, 2015)*
- Cell Signaling: Proteins, Pathways and Mechanisms *(Submission deadline: June 30, 2015)*
- Cellular Responses to Hypoxia *(Submission deadline: June 30, 2015)*
- Omic and Systems Biology Approaches in Neurodegenerative Diseases *(Submission deadline: June 30, 2015)*
- Stem Cell Biology *(Submission deadline: June 30, 2015)*
- STIM and Orai Proteins in Calcium Signaling *(Submission deadline: June 30, 2015)*

American Journal of Physiology – Endocrinology and Metabolism

- Stress-Induced Metabolic Regulation *(Submission deadline: December 31, 2015)*

American Journal of Physiology – Gastrointestinal and Liver Physiology

- Innovative and Emerging Technologies in GI Physiology and Disease
- Intestinal Stem Cells in GI Physiology and Disease
- Physiology and GI Cancer

American Journal of Physiology – Heart and Circulatory Physiology

- Cardiovascular Responses to Environmental Stress *(Submission deadline: May 15, 2015)*
- Exercise Training in Cardiovascular Disease: Mechanisms and Outcomes *(Submission deadline: May 15, 2015)*

Calls for Papers, *continued*

- Mechanisms of Diastolic Dysfunction in Cardiovascular Disease
  (Submission deadline: August 1, 2015)
- Arrythmias, Electrophysiology and Optical Mapping
  (Submission deadline: August 1, 2015)

American Journal of Physiology – Lung Cellular and Molecular Physiology

- Sex Differences in the Respiratory System
- Nanoparticles and the Lung: Friend or Foe?
  (Submission deadline: March 1, 2016)
- Translational Research in Acute Lung Injury and Pulmonary Fibrosis

American Journal of Physiology – Renal Physiology

- Juxtaglomerular Apparatus – New Mechanisms and Functions
  (Submission deadline: June 30, 2015)
- Lower Urinary Tract Symptoms
  (Submission deadline: June 30, 2015)
- Non-Coding RNA in Kidney Disease
  (Submission deadline: June 30, 2015)
- Transport Proteins as Regulators of Blood Pressure Homeostasis
  (NEW Submission deadline: December 31, 2015)

Science Policy

FY 2016 Budget Proposal Overview

On Monday, February 2, 2015, President Obama released his proposal for the FY 2016 federal budget. This document puts forward the President's vision for government priorities and marks the start of the annual budget and appropriations cycle. The FY 2016 budget proposal asks for a 6% increase in federal spending on research and development, and a 7% increase in overall discretionary spending. And, as expected, the budget would lift the spending caps put in place by the Budget Control Act of 2011, ending sequestration. Funding levels and details for the NIH, NSF, NASA, and VA Medical and Prosthetic Research Program are below.

NIH

The proposed budget for the NIH is **$31.3 billion**. This is an increase of $1 billion over the FY 2015 budget, a 3.3% increase. For reference, the NIH recently announced that the rate of biomedical research inflation (BRDPI) is estimated to be 2.4%.

The NIH budget request highlighted three flagship programs this year:

- The **Precision Medicine** initiative would be funded with $200 million in FY 2016, with $70 million going to cancer genomics and $130 million to develop a national research cohort of 1 million participants. This is a multi-agency initiative.
- Another $100 million would go to the **Antimicrobial Resistance** initiative, a multi-agency project intended to address the growing public health crisis represented by the rise of multiple drug-resistant pathogenic bacteria.
- Funding for the **BRAIN** initiative would increase by $70 million, for a total investment of $135 million in FY 2016.
- An additional $50 million in the President's budget proposal would go to Alzheimer's disease research.

The NIH estimates that the budget proposal would fund more than 10,000 competing RPGs, for a total of more than 35,000 total RPGs. This would represent an increase of 1,200 grants over the current fiscal year, with an estimated overall success rate of 19.3%.

The budget proposal also highlighted NIH's plans to continue to foster a diverse and talented workforce. There would be an increase of $23 million in training funds and an average stipend increase of 2%.

NSF

The proposed budget for the NSF in FY 2016 is $7.7 billion, a $379.34 million increase over FY 2015 (5.2%). The budget for research and related activities (R&RA) would increase by 4.3%, and education and human resources (E&HR) would increase by 11.2%. The BIO directorate is slated for a 2.3% increase.

The NSF budget request highlights four NSF-wide priority areas:

- **Understanding the Brain,** the NSF's contribution to the BRAIN initiative, would be funded at $143 million, $37 million over the FY 2015 level.
- **Risk and resilience,** an effort "to improve predictability and risk assessment and increase resilience to extreme natural and man-made events in order to reduce their impact on quality of life, society and the economy" would be funded at $58 million. This would represent an increase of $38 million over FY 2015.
- **Innovations at the Nexus of Food, Energy and Water Systems** is a new effort to understand, design and model the interconnected food, energy, and water system. This program would be funded at $75 million in FY 2016.
- **Inclusion across the Nation of Communities of Learners that have been Underrepresented for Diversity in Engineering and Science** (INCLUDES) is a new initiative to increase participation of traditionally underserved and/or underrepresented persons in STEM. It would be funded with $15 million in FY 2016.

NASA

The proposed budget for NASA is $18.5 billion, a $0.5 billion (2.7%) increase over FY 2015. The budget for the Human Research Program would increase to $167 million, and $394 million would be provided for research on the International Space Station.

The budget documents highlight the year-long joint US/Russia ISS mission, which will allow a twin study between astronauts on ISS and Earth.

VA Medical and Prosthetic Research Program

The proposed budget for VA Medical and Prosthetic Research is $622 million, $33 million over FY 2015 (5.7%).

The budget documents highlight a $10.2 million strategic initiative to support improvement in health care through research on a "Learning Health Care System," which is responsive to new information, adapts to implement more effective clinical practices, and supports a culture of self-reflection and continuing education. Other areas seeing significant increases include brain injury, aging, infectious disease, and mental illness.

For links to each agency's budget documents, go to *http://www.the-aps.org/FY16Budget*. ●

OLAW and USDA Clarify Policies on Sharing Animal Welfare Concerns

OLAW and USDA issued statements in late 2014 explaining how information about serious animal welfare concerns self-reported by institutions is shared between the two oversight agencies. These policies explain what types of incidents OLAW shares with USDA and which ones may result in a USDA citation. The policies also define when complaints from a third party may be investigated.

Incidences of noncompliance that are self-reported to OLAW are subject to the federal Freedom of Information Act (FOIA), and, in recent years, animal rights groups have requested these reports with increasing frequency in search of potentially damaging information. Therefore, IACUCs should avoid including extraneous information in noncompliance reports. Details on agency policies concerning reports of serious animal welfare issues may be found in OLAW's Policy on Shared Animal Welfare Concerns (NOT-OD-15-028), the transcript of an OLAW webinar on this topic, and the USDA's Tech Note on The Reporting of Adverse Events at Research Facilities on USDA Inspection Reports.

Serious Adverse Events

Upon completing an investigation of a serious adverse event involving a USDA-regulated animal, OLAW will share the information with the USDA. These events are defined as incidents leading to significant injury or illness, unrelieved pain or distress, or the death of a regulated animal (NOT-OD-15-028, Tech Note). Serious adverse events may include "death from weather extremes, death from an animal going through a cage washer, and death as a result of heating, ventilation or air conditioning failure" (see the webinar transcript for details).

The USDA does not require institutions to report serious adverse events, and OLAW only requires that instances of noncompliance in PHS-funded activities be reported (NOT-OD-15-028, Tech Note, webinar transcript).

Citations

According to USDA's Tech Note, an event that is self-reported to OLAW will not receive a USDA citation if the incident did not cause serious adverse effects; if the institution has no history of repeat noncompliance; if the problem is corrected in a timely manner; *and* if the institution took steps to establish effective preventative measures (NOT-OD-15-028, Tech Note). A citation will be issued when any *one* of these criteria is not met. USDA may also issue a citation even if OLAW has closed its investigation of a case (see Tech Note and the webinar transcript for details).

Inspection Reports

USDA inspectors may include OLAW's final decision on an incident in their inspection reports, as well as the corrective measures made by the institution. By doing so, USDA will have a more updated and accurate compliance status listed in their report.

Third Party Complaints

Unless new information is provided, USDA and OLAW will not reinvestigate institutions for incidents of noncompliance that have already been reviewed or that occurred more than 3 years ago (NOT-OD-15-028, Tech Note).

FOIA

The FOIA requires that records of federal agencies be made available to the general public when requested. FOIA was intended to promote transparency within the government, and some animal rights activists are systematically using FOIA requests to gather information on researchers who work with laboratory animals. Investigators should be aware that grants, assurances, compliance cases, and written correspondence submitted to a government agency may be disclosed under FOIA. There are specific

exemptions from FOIA to prevent the disclosure of trade secrets and commercial or financial information; attorney-client communication or the deliberative process; or information that would constitute a clear unwarranted invasion of personal privacy (see the webinar transcript for a list of these exemptions). Many states also have their own open records laws that may apply to state-funded institutions.

When creating documents pertaining to animal research and care, including reports of noncompliance, the document should be "factual, devoid of extraneous information, and accurately reflect an institution's animal care and use program," Taylor Bennett, NABR's Senior Scientific Advisor, said during the webinar. This means that institutions should avoid including the names of individuals in noncompliance reports and should not include personnel records, resumes, or animal facility floor plans in PHS Assurances. In addition, when an institution prepares an incident report, investigators should ask to review it to ensure that the names of personnel are not included.

For more information on FOIA and best practices for dealing with open records requests, see the NIH FOIA Office website, the USDA Animal and Plant Health Inspection Service FOIA website, and the FASEB-SFN-NABR fact sheet, "Responding to FOIA Requests: Facts and Resources." ●

Improve Your Advocacy Skills

The Office of Science Policy has a new online resource to help APS members learn how to become better research advocates.

Biomedical research offers the promise of improved health for humans and animals as well as insights into ecological and environmental challenges. The public is eager to enjoy the benefits of research, yet many find science itself confusing and frustrating.

If we want to see continued public support for biomedical research, scientists need to help people understand the discovery process as well as why research is a good investment of tax dollars. "Building Public Support for Science" (*http://www.the-aps.org/BuildingSupport*) offers simple advice on how to become a better advocate for science. Topics covered include simplifying your language; weeding out extraneous details; and making the connection between basic research and real-world challenges. ●

Membership

New Regular Members

***transferred from student membership**

Justine M. Abais
Med. Coll. of Wisconsin, Milwaukee, WI

Ariel Agmon
West Virginia Univ., Morgantown, WV

Aftab Ahmad
Univ. of Alabama at Birmingham, Birmingham, AL

Shama Ahmad
Univ. of Alabama at Birmingham, Birmingham, AL

Abdullah F. Alghannam
Loughborough Univ., Loughborough, United Kingdom

Otor K Al-Khalili
Emory Univ., Atlanta, GA

Raffaele Altara
The Univ. of Mississippi Med. Center, Jackson, MS

Shawn M. Anderson
Saint Vincent Coll., Latrobe, PA

Ligia M Antunes-Correa
Univ. of Sao Paulo M Campinas, Sao Paulo, Brazil

Nami Aso-Someya
Chiba Prefectural Univ. of Hlth. Sci., Chiba, Japan

Curtis L. Baker
McGill Univ., Montreal, Canada

Andre Sales Barreto
Federal Univ. of Sergipe, Aracaju, Brazil

Mark Bayley
Univ. of Aarhus, Aarhus, Denmark

Mark Bellingham
Univ. of Queensland, Brisbane, Australia

Saverio Bellusci
Justus Liebig Univ., Giessen, Germany

Charlampos Birmpas
Old Dominion Univ. Res. Foundation, Norfolk, VA

Alina Boico
Duke Univ., Durham, NC

Randy Wayne Bryner
West Virginia Univ., Morgantown, WV

Tuan Vu Bui
Univ. of Ottawa, Ottawa, Canada

Mark William Burke
Howard Univ., Washington, DC

Deborah Burks
Samford Univ., Birmingham, AL

Erwin Tolentino Cabacungan
Med. Coll. of Wisconsin, Milwaukee, WI

Tongshuai Chen
Key Laboratory of Cardiovascular Remodeling and Fu, Ji'Nan, China

Zi Chen
Dartmouth Coll., Cambridge, MA

Catherine Cheng
The Scripps Research Inst., San Diego, CA

David Z. I. Cherney
Univ. of Toronto, Toronto, Canada

Eva R. Chin
Univ. of Maryland, College Park, MD

Luca Cocchi
The Univ. of Queensland, St. Lucia, Australia

Jeffrey Robert Comer
Kansas State Univ., Manhattan, KS

Steven Wesley Copp
Pennsylvania State Univ. Med. Ctr., Hershey, PA

Ryan James Cornelius
Univ. of Nebraska Med. Ctr., Omaha, NE

Zelieann Rivera Craig
Univ. of Arizona, Tucson, AZ

Jan Czogalla
Inst. of Anatomy, Zurich, Switzerland

Melissa Ann Foltz Daggett
Missouri Western State Univ., St. Joseph, MO

Carolina Dalmasso
Univ. of Mississippi Med. Ctr., Jackson, MS

Rob Kevin Delong
Kansas State Univ., Manhattan, KS

Niraj Desai
The Univ. of Texas at Austin, Austin, TX

R. Blair Dodson
Univ. of Colorado Denver Anschutz Med. Ctr., Aurora, CO

Raphael Doenlen
Swiss Fed. Inst. of Tech., Lausanne, Switzerland

Donald H. Edwards
Georgia State Univ., atlanta, GA

Saurabh Mehta
Cornell Univ., Ithaca, NY

Karen Anne Mesce
Univ. of Minnesota, Saint Paul, MN

Kai Joshua Miller
Stanford, Stanford, CA

Peter Nathanael Mittwede
Univ. of Mississippi, Jackson, MS

Patricia Bernadette **Munroe**
Queen Mary Univ. of London, London, United Kingdom

E. Angela Murphy
Univ. of South Carolina, Sch. of Med., Columbia, SC

Kazuyuki Narimatsu
National Defense Med. Coll., Tokorozawa, Japan

Surya Nauli
Chapman Univ., Irvine, CA

Terry O'Donnell
Univ. of Otago, Wellington, New Zealand

Hiroshi Onimaru
Showa Univ. Sch. of Med., Tokyo, Japan

Sandosh Padmanabhan
Univ. of Glasgow, Glasgow, United Kingdom

Dominic L. Palazzolo
Lincoln Memorial Univ., Harrogate, TN

Elizabeth Jane Parks
Univ. of Missouri, Columbia, MO

Ying-Jie Peng
Univ. of Chicago, Chicago, IL

Sylvia P. Poulos
Kellen Company, Atlanta, GA

Arun Prakash
UCSF, Dept. of Anesthesia and Perioperative Care, San Francisco, CA

Michael J. Previs
Univ. of Vermont, Burlington, VT

Jeremy W. Prokop
Med. Coll. of Wisconsin, Milwaukee, WI

J Thales Sena Reboucas
Univ. Sao Paulo, Sao Paulo, Brazil

Ashley Rhodes
Kansas State Univ., Manhattan, KS

Ian Michael Robertson
Univ. of Alberta, Edmonton, Canada

Matthew M. Robinson
Mayo Clinic, Rochester, MN

Steven A. Romero
UT Southwestern Med. Ctr., Dallas, TX

Alexander S. Rosemurgy
Florida Hosp. Tampa, Tampa, FL

Terence E. Ryan
East Carolina Univ., Greenville, NC

Dimitri Ryczko
Univ. De Montréal, Montréal, Canada

Michael Prescott Seaman
Lincoln Memorial Univ.-Debusk Coll. of Osteopathic Med., Harrogate, TN

Kathleen P. Seiler
Champlain Coll., Burlington, VT

Ekihiro Seki
Cedars-Sinai Med. Ctr., Los Angeles, CA

Brahim Selmaoui
Ineris Verneuil en Halatte, France

Malcolm N. Semple
New York Univ., New York, NY

Mahalakshmi Shankaran
Kinemed, Inc., Emeryville, CA

Carwyn Sharp
National Strength & Conditioning Association, Colorado Springs, CO

Tabitha Shen
Univ. of Florida, Gainesville, FL

Jamila H. Siamwala
Univ. of California, San Diego, CA

Mariusz Sikora
Med. Univ. of Warsaw, Warsaw, Poland

John Stabley
Sanford Burnham Med., Orlando, FL

Claudia Stanescu
Univ. of Arizona, Tucson, AZ

Davor Stanic
Florey Inst. of Neuroscience and Mental Hlth., Parkville, Australia

Abigail Suzanne
Laymon Stickford Inst. for Exercise and Environmental Med., Dallas, TX

Kristi Ann Streeter
Univ. of Florida, Gainesville, FL

Dawn A. Tamarkin
Springfield Technical Community Coll., Springfield, MA

Dhananjay T. Tambe
Univ. of South Alabama Mobile AL

Duangrat Tantikanlayaporn
Thammasat Univ., Pathum Thani, Thailand

Wendy Evelyn Thomas
Univ. of Washington, Seattle, WA

Robrecht Thoonen
Massachusetts General Hosp. Harvard Med. Sch., Boston, MA

David W. Threadgill
Texas A&M Univ., College Station, **TX**

Cynthia Tsui
Univ. of Michigan, Ann Arbor, MI

Kenji Tsuji
Massachusetts General Hosp., Arlington, MA

Hiroaki Tsukano
Brain Research Inst., Niigata Univ., Niigata, Japan

Greg B. Vanden Heuvel
Western Michigan Univ. Sch. of Med., Kalamazoo, MI

Matt Wachowiak
Univ. of Utah, Salt Lake City, UT

Xuewen Wang
Univ. of South Carolina, Columbia, SC

Norbert Weissmann
Justus Liebig Univ., Giessen, Germany

David J Wendt
Chattanooga Heart Inst., Chattanooga, TN

Sarah Jo Wherry
Univ. of Colorado, Aurora, CO

Kathleen Woolf
New York Univ., New York, NY

Jiaxi Xu
LSU-New Orleans, New Orleans, LA

Wee Kian Yeo
National Sports Inst. of Malaysia Bukit Jalil, Kuala Lumpur, Malaysia

Kathryn Young
Univ. of Central Florida, Orlando, FL

David P. Zenisek
Yale Univ. Sch. of Med., New Haven, CT

Beiyun Zhou
Univ. of Southern California, Monterey Park, CA

Kelu Zhou
Univ. of Oklahoma Hlth. Sci. Ctr., Oklahoma City, OK

Giovanna Zoccoli
Univ. of Bologna, Bologna, Italy

New Graduate Student Members

Billie Katherine Alba
Pennsylvania State Univ., State College, PA

Kristen Lena Alexander
Brigham Young Univ., Provo, UT

Julie E. Anderson
Univ. of Arkansas, Little Rock, AR

Olubusayo Ayobami Awe
Johns Hopkins Univ., Germantown, MD

Bryce Balmain
Griffith Univ., Gold Coast, Australia

Silvana Bazúa-Valenti
Inst. De Investigaciones Biomédicas, UNAM Ciudad De México, Mexico

Nathaniel T. Berry
Univ. of North Carolina at Greensboro, Greensboro, NC

Darin Bloemberg
Univ. of Waterloo, Waterloo, Canada

Lizzette Doralyn Cambron
North Dakota State Univ., Fargo, ND

Troy L. Campbell
Univ. of Waterloo, Burlington, Canada

Theresa Cantu
Med. Univ. of South Carolina, Charleston, SC

Marc Casati
Med. Coll. of Wisconsin, Milwaukee, WI

Richard Chang
Texas A&M, College Station, TX

Craig Coronado
The Coll. of St. Scholastica, Benicia, CA

Matthew J. Crilly
York Univ., Brampton, Canada

Xiaoyu Cui
Marshall Inst. for Interdisciplinary Res., Huntington, WV

Michael Winthers Cypress
Tulane Univ., New Orleans, LA

Josine M. De Winter
VU Univ., Amsterdam, The Netherlands

Andrew D'Lugos
Arizona State Univ., Phoenix, AZ

Anthony Adam Duplanty
Univ. North Texas, Denton, TX

Chiemelie Ebeledike
Georgia Regents Univ., Augusta, GA

Avigail Tamar Erlich
York Univ., Thornhill, Canada

Michelle Favre
Rutgers BioMed. and Hlth. Sci., Saddle Brook, NJ

Jeremie L. A. Ferey
East Carolina Univ., Greenville, NC

Cristina Santos Fonseca
Univ. Federal De Minas Gerais, Belo Horizonte, Brazil

Alicia Fuchs
Bond Univ., Kangaroo Point, Australia

Brennan Dayton Gerlach
Albany Med. Coll., Albany, NY

Shuhong Guo
Univ. of New Mexico, Albuquerque, NM

Leanne Marie Hochberg
The Univ. of Northern Colorado, Greeley, CO

Yuri Hosokawa
Univ. of Connecticut, Danielson, CT

C. Hurr
The Univ. of Texas, Austin, TX

Hashim Islam
Wilfrid Laurier Univ., Waterloo, Canada

Lisa Tjorven Jansen
Univ. of Arkansas, Fayetteville, AR

Isaac B. Kessler
Tulane Univ., New Orleans, LA

Rebecca Lutz Kimball
Brigham Young Univ., Provo, UT

Wenjun Kou
Northwestern Univ., Evanston, IL

Yoke Peng Leong
California Inst. of Tech., Pasadena, CA

Joshua Lewis
Brigham Young Univ., Highland, UT

Jing Li
Univ. of Cincinnati, Cincinnati, OH

Charnell Renee Long
Univ. of Wisconsin-Madison, Madison, WI

Kaitlyn Lowder
UCSD, La Jolla, CA

Hui Ying Luk
Univ. of North Texas, Denton, TX

Matt M. Mallette
Brock Univ., Collingwood, Canada

Namyr A. Martinez
Univ. Puerto Rico Sch. of Med., San Juan, Puerto Rico

Fikri Mirza
Putranto Faculty of Med. Univ. of Indonesia, Jakarta, Indonesia

Andrew Scott Mitchell
Univ. of Waterloo, Kitchener, Canada

Timothy M. Moore
Univ. of Southern California, Los Angeles, CA

Kathleen Marie Munley
Louisiana State Univ., Baton Rouge, LA

Matthew Nicholas Musselwhite
Univ. of Florida, Gainesville, FL

Marshall Alan Naimo
West Virginia Univ., Morgantown, WV

Ancy Dimpy Nalli
Virginia Commonwealth Univ., Richmond, VA

Daniel E. Newmire
Texas Woman's Univ., Plano, TX

Benard Ojwang Ogola
TUHSC, Amarillo, TX

Jacqueline Alexandra Overton
Univ. of California-Davis, Davis, CA

Young-Min Park
Univ. of Missouri, Columbia, MO

Rebecca María Parodi
Univ. of Puerto Rico Sch. of Med., San Juan, Puerto Rico

Willem Peppler
Univ. of Guelph, Guelph, Canada

Moner A. Ragas
Wright State Univ., Dayton, OH

Melissa Reiterer
Florida International Univ., Coral Springs, FL

Ahlam Salameh
Case Western Reserve Univ., Cleveland, OH

Bryce Alan Schuler
Med. Coll. of Wisconsin, Milwaukee, WI

Jacob William Sherwood
Univ. of South Florida, Tampa, FL

Jeremy Ryan Shipley
Cornell Univ., Ithaca, NY

Emily Kristie Sochovka
Samford Univ., Birmingham, AL

Fariborz Soroush
Temple Univ., Philadelphia, PA

Carola Staedele
ULM Univ./Inst. of Neurosci., Normal, IL

Steven Philip Stelly
The Univ. of Texas at San Antonio, San Antonio, TX

Talia R. Strahler
Univ. of Colorado, Boulder, CO

Venkata N. L. R. Sure
Tulane Univ. Sch. of Med., New Orleans, LA

Staci Nicole Thornton
Univ. of Connecticut, Vernon, CT

Viktor Nikolayevich Tomilin
UTHSC at Houston, Houston, TX

Jacob Alexander Torres
Univ. of California-Santa Barbara, Goleta, CA

Jared Tur
Univ. of South Florida, Oldsmar, FL

Bathri Narayan Vajravelu
Univ. of Louisville, Louisville, KY

Jiaju Wang
Rosaline Franklin Univ. of Med. Sci., Waukegan, IL

Aaron Tyler Ward
The Univ. of Toledo, Toledo, OH

Ling Xin
Univ. of Massachusetts-Amherst, Amherst, MA

Emi Yamada
Graduate Sch. of Med. Sci., Kyushu Univ., Fukuoka, Japan

Christina Carrell Yildirimer
Portland State Univ., Portland, OR

Jimmy Zhang
Univ. of Rochester Med. Ctr., Rochester, NY

Joseph Zullo
New York Med. Coll., Valhalla, NY

Michael Zurawlew
Bangor Univ., Bangor, United Kingdom

Undergraduate Student Members

Kawaiola Cael Aoki
Univ. of Hawaii at Manoa, Honolulu, HI

Florian Bartenschlager
Freie Univ. Berlin, Berlin, Germany

Breanna Elizabeth Behlke
Marywood Univ., Clarks Summit, PA

Matthew Brown
Wayne State Univ., Tecumseh, Canada

Mark Bugada
Univ. of Dayton, Montgomery, OH

Akhil Chandra
The George Washington Univ., Washington, DC

Eric Dai
Washington Univ. in St. Louis, Saint Louis, MO

Taylor Gabrielle Glausen
LeMoyne Coll., Coram, NY

Slavina Borisova Goleva
Univ. of Kentucky, Lexington, KY

Laura Jane Keller
Bowdoin Coll., Brunswick, ME

Janis Kim
UC Davis, Davis, CA

Joshua David Linnane
Univ. of New Hampshire, Weare, NH

Caela Conway Long
Swathmore Coll., Latrobe, PA

Murphy Elizabeth Marx
Texas Christian Univ., Overland Park, KS

Ebony Louise Miller
Georgia Regents Univ., Grovetown, GA

Ashabari Mukherjee
Univ. of Illinois, Urbana-Champaign, Hoffman Estates, IL

Kashif' Osmani
Univ. of Illinois at Chicago, Chicago, IL

Bobby L. Porter
South Univ. of Georgia Psychology Program, Decatur, GA

Shahana Prakash
Univ. of Cincinnati Coll. of Med., Columbus, OH

Nicholas Andrew Pugliano
Univ. of Minnesota-Twin Cities, Minneapolis, MN

Forrest Gillette Quick
Idaho State Univ., Pocatello, ID

Brian Paul Sullivan
Adrian Coll., Adrian, MI

Andrew Blake Tucker
Pennsylvania State Univ., Phoenixville, PA

Elisa Viveros
Univ. Icesi, Cali, Colombia

Sarah Boone Voth
Our Lady of the Lake Coll., Baton Rouge, LA

Golbahar Yazdanifar
Univ. of Arizona, Tucson, AZ

Nicholas Yee
Univ. of Calgary, Calgary, Canada

Affiliate Members

Wayne W. Chang
Saddleback Coll., Buena Park, CA

Kristen Kimball
Univ. of Connecticut, Storrs, CT

Tien Thuy Cao Le
War Related Illness and Injury Study Center VA NJ, East Orange, NJ

Ho Sub Lee
Wonkwang Univ. Oriental Med, IKSAN, Republic of Korea

Kamila Migdal
VANJHCS, East Orange, NJ

Glauciane Lacerda Miranda
UFRJ, Rio de Janeiro, Brazil

Ayako Murao
Oceanside, CA

Dolu Oluwagbotemi Obatusin
Veterans Biomedical Res. Inst., East Orange, NJ

Waldemar Popik
Meharry Med. Coll., Nashville, TN

James Michael Poteracki
Michigan State Univ., Brighton, MI

Bishoy Samy
Veteran Affairs, East Orange, NJ

Siwang Wang
Inst. of Materia Med., Xi'An, China

People and Places

AAAS Lifetime Mentor Award Honors Horwitz


Barbara A. Horwitz

Barbara A. Horwitz, distinguished professor of neurobiology, physiology, and behavior at the University of California, Davis, has been honored with the AAAS Lifetime Mentor Award in recognition of her transformative impact toward creating a diverse doctorate workforce in the field of physiology. In her roles as professor, department chair, and vice provost for academic personnel/affairs, Horwitz has contributed to the success of undergraduate and graduate students, as well as junior faculty, throughout her career.

As a principal investigator for programs funded by the National Institutes of Health (NIH), Horwitz mentored and encouraged graduate and undergraduate students, including underrepresented minorities, to become involved in science. Through the University of California, Davis' Initiative for Maximizing Student Diversity/Development, Horwitz teaches a year-long course on professional skills development for underrepresented minorities in their first year of doctoral studies in biomedical sciences. To date, 44 of the underrepresented minority program participants, including 26 women, have earned their PhDs.

Horwitz has overseen graduate studies as major professor/co-major professor for 20 PhD students, including 13 women. In total, she has mentored 68 underrepresented students through completion of their doctoral degrees. Horwitz also mentors undergraduate students participating in the Maximizing Access to Research Careers Undergraduate Student Training in Academic Research (MARC-U-STAR) program. She was honored with the University of California Presidential Award for Excellence in Fostering Undergraduate Research in 1995.

In addition to her mentoring, Horwitz has been recognized as an outstanding professor, and she has been honored twice with the University of California, Davis Distinguished Teaching Award. Former students raved about Horwitz's teaching and described her classes as "life-changing."

In 2007, Horwitz received the Bodil Schmidt-Nielsen Distinguished Mentor and Scientist Award, the highest honor given to members of the American Physiological Society (APS). Since joining in 1969, Horwitz has served on numerous APS committees, was elected to the APS Council in 1993, and served as APS president from 2002 to 2003, only the second woman to serve in that position in the organization's history.

The AAAS Lifetime Mentor Award honors AAAS members who have mentored significant numbers of underrepresented students pursuing PhDs in science, technology, engineering, and mathematics (STEM), and/or those who have changed the climate of a department, institution, or field to significantly increase the diversity of students pursuing PhDs in STEM fields. Nominees must also demonstrate scholarship, activism, and community building, and have more than 25 years of mentoring experience. The award includes a $5,000 prize, a commemorative plaque, and complimentary registration to the AAAS Annual Meeting. ●

Waldrop Named President of University of South Alabama

Tony G. Waldrop has been named President of the University of South Alabama, Mobile. Waldrop was formerly Provost and Executive Vice President at the University of Central Florida.

News from Distinguished Physiologists

Letter to Lois Jane Heller

Robert E. Schuhmann writes: "I am so sorry for the late response, due to health problems, but I will try to give you a summary of my activities.

"My service in WWII was in the 5th Air Force in the western Pacific, from new Guinea to the Phillipines to le Shima Okinawa when the war ended. At an age of only 20, I was radar navigator-bombardier in the 319th Squadron, 90th Heavy Bomb Group, B-24 aircraft.

"Professionally, I was engaged in research and teaching, including a period as Dean of the School of Science and Technology at the University of Houston Clear Lake. Teaching was in the life sciences, including the physiology of biosystems mathematics. Fellowship from NIH paid off well for the taxpayers.

"Research that was most pleasing to me was the development of left ventricular catheterization without thoractomy, proven with the heart in fibrillation for long heart bypass periods of several hours. Papers initially were published in about 1969 and 1970 with Les Geddes (Baylor College of Medicine); he later went to Perdue.

"That achievement, to maintain blood flow in the lungs without a pumping heart, has laid the basis for all modern heart surgery, I am convinced. Given the knowledge of that capability, both open-heart and only open-chest surgery are now more readily available. Coronary bypass surgery can be performed with one Sarns blood pump instead of four. Plus the heart-lung machine (HLM) is now eliminated because the oxygenation of blood is done within the patient's own lungs. In many cases, a plasma expander, such as dextran, can be used in lieu of blood bank supply. That minimizes the chances of blood contamination using the HLM. And a major financial advantage is the reduction of surgical team, sometimes by as much as half. In 1997 (I had retired), I was the patient, and Gonzalo Vargas in Houston performed the coronary bypass surgery, saving my life.

"In recent years, I have studied and written non-fiction Texas history. My grandfather came to Texas in 1833; he was *Andrew Houston from Tennessee, Texas Ranger.* For The Sons of the Republic of Texas, there is *A Merger of Two Republics* (available at Amazon), and now *The Legend of Texas* is awating publication some day.

"I seem to stay busy. However, my wife died 3 years ago, so I am lonely; our daughter is a comfort whenever she and her husband are here. And old friends write to me." ●

Book Review

Pioneers of Neurobiology: My Brilliant Eccentric Heroes

John Nicholls
Sunderland, MA: Sinauer, 2015, 148 p., $14.95
ISBN: 978-1605353258

Anyone who remembers seeing the first edition of the classic text *From Neuron to Brain* (rapidly becoming simply Kuffler and Nicholls) when it came out in 1976 will recall the surprise of realizing that it started almost straight away with a description of Hubel and Wiesel's work on the visual cortex (the "neurons" in the title come later). Departing from conventional style of building up from the physical chemistry, K&N seemed to wade right in at the deep end, firing up students with the enthusiasm of exciting new science. Another novel feature was that the pages were scattered with pictures and potted biographies of the main players in the founding of modern neuroscience. It gave a very human face to the research. It made us all want to be in on the excitement too.

In this slim little volume, John Nicholls has provided a series of vignettes that takes this approach further. It describes his encounters with students and scientific colleagues in his long career as a neuroscientist at the center of the action. This is definitely not an autobiography but something much more entertaining as he recounts the idiosyncrasies of some of the key players. And it is clearly all true! These are little stories that really illuminate the personal side of the scientific endeavor, finely written but sometimes with a serious message in the punch line. Accessible to professional and lay reader alike, these stories are told with such a light touch that one often creases up with laughter. Are the jokes only British in their humor? I am not really in a position to say, but Nicholls is too good a writer to let that alter the pleasure of reading *Pioneers of Neurobiology.*

Now Professor of Neurobiology in Trieste, Italy, John Nicholls started his scientific journey as a medical student in London and then, after completing a PhD with Bernard Katz at University College London, he migrated though Oxford, Harvard, Stanford, and Basel as well as becoming an indefatigable neuroscience lecturer to audiences around the world. So it is not completely surprising that between the covers of this book are finely tuned descriptions of Nicholls's encounters with colleagues, scientists, and technicians during a long life in research. We discover that Stephen Kuffler, who formed–no–invented, the first Neurobiology Department at Harvard, was known to jump out of the window rather than have to meet David Nachmanson (the author of a now-discredited theory of how excitable membranes work); how Bob Werman came to be driving around Tel Aviv without his trousers; the cunning ways that physiologists such as Ladislav Vyklicky or Platon Kostyuk found to circumvent the seemingly intolerable difficulties of the Soviet era; the life of a research fellow in 1950s Oxford during the agonizing ritual of afternoon tea; and even that Katz farted.

This collection of tales, teetering on the edge of the libellous (but suavely prefaced in the book by a wildly improbable Professor P. P. Preobrazhensky), generate a mounting envy as one reads on: Nicholls has met so many interesting people in his scientific travels. Cartoon drawings by Bettina von Hacke pepper the text, not really there to reveal what either Nicholls, Kuffler, or their friends actually look like but nicely to complement the affectionately written portraits. The powder blue cover, like that of the early editions of K&N and Nicholls's own trademark woollen jumper, is back. And don't be put off by the title: the sketches are definitely not hagiographies. At times the characters seem to inhabit another era of gentlemen scientists, but these are the people who made modern neuroscience. The heroes of the title are not so much eccentric as definitely clever and clearly great fun to be with. John Nicholls will tell you why. Read this book and you will agree! ●

Jonathan Ashmore
University College London

Positions Available

Assistant or Associate Professor: The Department of Nutritional Sciences in the University of Michigan, School of Public Health is seeking candidates for a tenure-track position at the assistant or associate professor level in the area of physical activity and nutrition. Faculty hired into this position will have joint appointments in both the School of Public Health and the School of Kinesiology. *Required qualifications:* Candidates must hold a PhD or equivalent doctoral degree in nutritional sciences, exercise science, or related public health or medical discipline. Postdoctoral training in these areas is expected. Applicants should have research interests in public health, physical activity behavior, and/or prevention and treatment of obesity and obesity-related health complications. Successful applicants at the assistant professor rank must demonstrate a record of high-quality publications in peer-reviewed journals and the potential to secure competitive, external research funding. Those applying at the associate professor rank must have a well established academic record of independent scholarship, including a sustained record of high-quality publications and an externally funded research program. Priority areas include research on the influence of diet and physical activity on metabolism, body composition, and obesity-related disease. *Responsibilities:* The successful candidate will be expected to *1)* develop rigorous, externally funded, translational research in nutrition and physical activity; *2)* contribute to teaching undergraduate and graduate courses in the candidates area of expertise; *3)* mentor pre- and postdoctoral trainees; and *4)* participate in service to the department, school, university, and community. *Department/School/University:* The Department of Nutritional Sciences is a new department within the School of Public Health (effective 07/01/15) that was previously known as the "Program in Human Nutrition," which was housed within the Department of Environmental Health Sciences. The new department will build on this foundation and the work of affiliated research centers: Michigan Nutrition Obesity Research Center, Children's Environmental Health & Disease Prevention Center, and the Momentum Center on Childhood Obesity. This exciting initiative will enhance the dynamic culture of collaboration and transdisciplinary strengths in basic, clinical, and epidemiological nutrition research. The successful candidate will have the opportunity to collaborate with investigators in the Schools of Kinesiology, Medicine, Department of Psychology, Taubman School of Architecture and Urban Planning, and the Institute for Social Research. The University of Michigan is an equal-opportunity, affirmative-action employer. Women and minorities are strongly urged to apply. To apply, please send (electronically in PDF format) a letter of application, including a statement of current and future academic interests, a current curriculum vitae, and contact information for three references to Nancy Polderdyke (*nop@umich.edu*). Include "Physical Activity and Nutrition Faculty Search" in the subject line of your e-mail submission. Applications will be considered on a rolling basis until the position is filled and will be reviewed upon receipt.

Assistant or Associate Professor Position: The Doctor of Physical Therapy Program at the University of Jamestown is accepting applications for the position of assistant or associate professor in physiology and/or anatomy. The UJ Doctor of Physical Therapy Program is located in Fargo, North Dakota. The program received Candidacy for Accreditation status from CAPTE on July 31, 2013, and is scheduled for an accreditation site visit in November 2015. The first class of 36 students matriculated August 25, 2013. Please visit our website *http://www.uj.edu/academics/doctorphysicaltherapy* for more information. The successful candidate will join a growing, dynamic faculty committed to excellence and innovation in education, service, and research. The candidate will participate in the program's ongoing development and assessment. The successful candidate will be required to engage in service, research, and teaching activities consistent with the program's expectations and productivity guidelines. Service duties include participation in appropriate professional organizations and volunteer work in the community. Research duties are expected to demonstrate evidenced-based research in the candidate's area of interest. Teaching expectations are in the physiology, pathology, pharmacology, and anatomy courses; however, all areas of expertise will be considered. Minimum qualifications include an academic terminal degree (applicants near doctoral degree completion will be considered), active membership in appropriate professional organization, and experience as a successful academic or clinical teacher. The greater Fargo area is a dynamic, growing, urban center of ~200,000 people and is the cultural, retail, manufacturing, educational, and healthcare center of the region. It is home to a new, 384-bed hospital, one of the top-10 health care projects in the U.S. North Dakota

is ranked as one of the best states to live in; being located 40 miles from Minnesota lakes country, it is close to exceptional outdoor recreational opportunities. Starting date: July 1, 2015. Application review will begin immediately and will continue until the position is filled. For questions about the position, contact Chair of the Search Committee, Dr. Sara Farquhar Voorhees at *sara.voorhees@uj.edu* or 701-356-2136 ext. 5903. A letter of application, curriculum vitae, and names of three references should be sent to Dr. Sara Farquhar Voorhees via e-mail to *sara.voorhees@uj.edu*, or University of Jamestown Physical Therapy Program, 4190 26th Ave S, Fargo, ND, 58104. Any offer of employment is contingent on the verification of credentials and other information required by law or university policies. UJ is an EO/AA employer.

Assistant/Associate Professor: The Department of Physiology & Biophysics at Boston University School of Medicine seeks a faculty member with a PhD or MD degree and demonstrated excellence in teaching human physiology at the graduate level. The successful applicant will participate significantly in the human physiology courses taught within the medical, dental, and graduate schools. Teaching will be the primary responsibility. The Physiology & Biophysics Department prides itself on having a highly cooperative and interactive faculty, with consistently excellent evaluations. The appointment would be at the assistant or associate professor level, depending on experience. For full consideration, please send a single PDF file containing a cover letter, curriculum vitae, statement of teaching philosophy, and names and contact information of at least three references able to comment on your teaching/speaking capabilities to Raphael A. Zoeller, PhD, Faculty Search Chair, at *rzoeller@bu.edu*. Electronic applications are strongly encouraged. Boston University School of Medicine is an equal-opportunity/affirmative-action employer. *Contact information:* Raphael A. Zoeller, PhD, Department of Physiology & Biophysics, Boston University School of Medicine, 700 Albany St., W302, Boston, MA 02118 (e-mail: *rzoeller@bu.edu*).

Tenure-Track Position: The University of Missouri invites applications for a tenure-track faculty position in nutrition and/or exercise physiology at any level, assistant to full professor. The successful applicant will have a MD/DO and/or PhD, with formal training in nutrition, exercise physiology, or a closely related discipline, with postdoctoral research experience. For an associate or full professor, a strong and established track record of external funding is expected. At the assistant professor level, strong promise of obtaining and sustaining a nationally funded research program is expected. The NEP department is part of three colleges: College of Human Environmental Sciences (HES), College of Agriculture Food and Natural Resources, and the School of Medicine. The tenure home for this position will be in the School of Medicine. Earlier in 2014, the newly renovated Gwynn Hall re-opened with new research facilities for NEP including the MU Nutritional Center for Health (MUNCH), consisting of a research metabolic kitchen, a state-of-the-art teaching kitchen, and observational behavior lab. In addition, new wet lab facilities and human research facilities (MU-Physical Activity and Wellness program: MU-PAW) were built. MUNCH and MU-PAW are located near the MU Child Development Lab. Additional facilities routinely utilized by NEP researchers include the Brain Imaging Center and the Clinical Research Center. We are seeking investigators who will collaborate and synergize with existing investigators in NEP and across campus, and will utilize the physical resources recently built. Strong research areas on campus include obesity, metabolism, and cardiovascular diseases. It is expected the faculty will contribute to the educational missions, including medical student and graduate education. Information about the Department of Nutrition and Exercise Physiology can be found at the departmental link (*http://ns.missouri.edu*). Review of applications will begin immediately and will continue until the position is filled. Competitive salary and start-up funds will be provided to successful candidates. Located midway between St. Louis and Kansas City, Columbia is a vibrant university town that is consistently ranked among the top small cities to live in America. To apply for this position (job posting reference #14232), please visit the MU web site at *http://hrs.missouri.edu/find-a-job/academic/*. Please submit curriculum vitae, a narrative of research and educational interests, and the names and contact information of three references. For additional information about the position, please contact: Elizabeth Parks, PhD Professor, e-mail: *parksej@missouri.edu*.

Postdoctoral Fellow Positions: The Department of Pharmacology at New York Medical College currently has NIH postdoctoral positions. NIH-funded

postdoctoral positions are available to study translational and transcriptional regulation of adiposity and the vascular system. Positions are available immediately, and applications will be accepted until the positions are filled. Salary will be commensurate with experience, and positions can be 2-4 years. Applicants should have a recent PhD and significant experience with standard culture techniques / molecular probes; animal experience is a plus. Successful candidates will be encouraged to develop their own approaches and strategies and be able to interact with other individuals in the laboratory. New York Medical College is one of the nation's largest private health sciences universities, leading the way in improving the health of the population through the education of physicians, scientists, and health providers. It is situated in the picturesque Hudson Valley region in Westchester County, just 30 minutes north of New York City. Please send a letter of interest, CV, and two letters of recommendation (one letter should be from your current mentor), as well as copy of your passport (for overseas applications) to: Nader G Abraham, PhD, Dr. H.C., FAHA, Professor of Medicine and Pharmacology, New York Medical College, BSB Rm. 509, 15 Dana Rd., Valhalla, NY 10595; e-mail: *Nader_Abraham@NYMC.EDU*. Equal opportunity employer. Women and minorities are encouraged to apply.

Postdoctoral Position: The University of Florida, Department of Medicine, Division of Nephrology, Hypertension and Renal Transplantation has a postdoctoral position for a highly motivated candidate in the laboratory of Charles Wingo, at the University Florida, to contribute to our ongoing research program and receive training in renal and ion transport physiology. We recently identified a unique role for the renal HKα2 H,K-ATPase in fluid and electrolyte homeostasis. The successful candidate will primarily perform studies in conditional knockout mice to dissect the mechanisms that regulate electrolyte homeostasis and blood pressure. We employ whole animal, isolated perfused tubule, electrophysiology, molecular biology, and biochemical approaches, including radiotelemetry of blood pressure and epigenetic gene regulation, which allows diverse training opportunities. Candidates with a PhD and training in physiology or pharmacology with expertise in patch-clamp analysis are encouraged to apply. The candidate should have excellent oral and written communication skills, and will be expected to present research findings at scientific conferences, compose manuscripts, and assist in experimental design. Send a curriculum vitae and a cover letter describing research interests and experience to *cswingo@ufl.edu*.

Postdoctoral Position: The Department of Exercise Science, in the School of Education at Syracuse University is seeking applications for a 3-year teaching postdoctoral position in exercise physiology beginning August 24, 2015. Applicants must have an earned doctorate (PhD or EdD) at the time of hire in exercise science or a related discipline. Preferably, candidates will have had college teaching experience. Teaching responsibilities in the first year would include four courses per year in consultation with current faculty members. In subsequent years, teaching responsibilities would include five courses per year. Existing teaching needs include but are not limited to PPE295 Intro to Exercise Science, PPE497 The Physiology of Exercise, and PPE385 Motor Behavior. We have a number of other upper level course needs, e.g., PPE500 Obesity and Body Composition, and would welcome the development of new courses at either the undergraduate or graduate levels, especially if these reflected a candidate's area of expertise. The person hired for this position would also be expected to engage in some advising of students at the MS level, particularly those students enrolled in our MS Athletic Trainer program. Salary is commensurate with experience. The new appointee will join an energetic group of exercise scientists and physical educators within the School of Education (*http://soeweb.syr.edu*) at Syracuse University (*www.syr.edu*). The department has a strong research focus on chronic disease, human physical activity, human genetics and performance, muscle, and cardiovascular physiology. The department houses several laboratories and is actively funded by federal and foundation research grants. Opportunities to work with research faculty exist, given the collegial and collaborative nature of our faculty. Syracuse University is a private university founded in 1870 and enrolling over 20,000 students. The total student population at Syracuse University represents all 50 U.S. states and 126 countries. SU offers a rich mix of academic programs, alumni activities, and immersion opportunities in numerous centers in the U.S. and around the globe, including major hubs in New York City, Washington, D.C., and Los Angeles. Syracuse is located in the heart of Central New York and is within easy driving distance of Toronto, Boston, Montreal, and New York City. To be considered, applicants

must complete an online application for job number 071620 at https://www.sujobopps.com. Applicants should attach a current CV, a list of courses taught (if applicable), a statement on teaching that explains your teaching interests/expertise vis-à-vis new course development and/or the courses listed above, and a list of three references. Syracuse University is interested in candidates who have the communication skills and cross-cultural abilities to maximize their effectiveness with diverse groups of colleagues, students, and community members. Women, military veterans, individuals with disabilities, and members of other traditionally underrepresented groups are encouraged to apply. Syracuse University is an equal-opportunity employer, as well as a federal contractor required to take affirmative action on behalf of protected veterans. Apply at *http://www.Click2Apply.net/r4hsbgq*.

Postdoctoral Research Position: The Penn State Hershey College of Medicine has a postdoctoral research position in the Heart and Vascular Institute in the laboratory of Dr. Marc Kaufman. The Institute focuses on animal models of neural control of the cardiovascular system during exercise, specifically examining the responses of thin-fiber muscle afferents to exercise and the differential sympathetic responses to exercise. This position offers a highly competitive salary, benefits, and an outstanding research environment. Applicants with an interest in integrative, cardiovascular, electrophysiology, or exercise physiology are encouraged to bid on job #55926 at *http://psu.jobs/Search/Opportunities.html*.

Postdoctoral Research Assistant: The Department of Surgery at the University of Nebraska Medical Center, laboratory of Kamenskiy/MacTaggart, is looking for a postdoctoral research assistant with cardiovascular biomechanics and mechanobiology expertise to perform research in experimental characterization and constitutive modeling of arterial passive/active responses and damage and computational multiphysics modeling with user-defined materials, contact problems, and arterial growth/remodeling. Applications are being accepted online at *http://unmc.peopleadmin.com/postings/22817*. Individuals from diverse backgrounds are encouraged to apply. ●

Meetings & Congresses

2015

May 15-20

American Thoracic Society (ATS) 2015 International Conference: Pulmonary, Critical Care, and Sleep Medicine, Denver, CO. *Information:* internet: *http://conference.thoracic.org/2015/*

May 26-28

Drug Discovery and Development in the Post-Genomic Era, Toronto, Canada. *Information:* internet: *http://www.cspscanada.org/*

June 6-11

International Neuromodulation Society 12th World Congress, Montreal, Canada. *Information:* internet: *http://www.neuromodulation.com/in-congress*

June 29-July 1

Exploring Human Host-Microbiome Interactions in Health and Disease, Cambridge, UK. *Information:* internet: *https://registration.hinxton.wellcome.ac.uk/display_info.asp?id=480*

June 30-July 1

SEB Prague 2015, Prague, Czech Repbulic. *Information:* internet: *http://www.sebiology.org/meetings/Prague/Prague2015.html*

July 10-12

National Directors of Graduate Studies in Pharmacology and Physiology, Cincinnati, OH. *Information:* e-mail: *montromh@ucmail.uc.edu*; internet: *http://www.the-aps.org/ndogs2015*

July 13-23

IV International Course on Comparative Physiology of Respiration, Sao Paulo, Brazil. *Information:* Luciane Gargaglioni, PhD, e-mail: *lucihel@fcav.unesp.br*

August 3-7

14th International Congress on Amino Acids, Peptides and Proteins, Sao Paulo, Brazil. Information: Professor Gert Lubec, c/o Medical University of Vienna, Wahringer Gurtel 18, A-1090 Vienna, Austria; e-mail: *icapp@meduniwien.ac.at*; internet: *http://www.meduniwien.ac.at/icaap*

August 23-28

The 9th International Congress of Comparative Physiology and Biochemistry: From Molecules to Macrophysiology, Kraków, Poland. *Information:* internet: *http://www.iccpb2015.confer.uj.edu.pl/*

August 29-September 1

The 11th World Congress on Neurohypophysial Hormones (WCNH2015), Queenstown, New Zealand. *Information:* Colin Brown, e-mail: *colin.brown@otago.ac.nz*; internet: *http://wcnh.otago.ac.nz/*

September 2-5

APS Conference: 14th International Conference on Endothelin: Physiology, Pathophysiology and Therapeutics, Savannah, GA. *Information:* internet: *http://www.endothelins.com/Conferences/ET-14/. #Endothelin14*

September 9-12

APS Conference: Physiological Bioenergetics: From Bench to Bedside, Tampa, Florida. #Bioenergetics15

November 17-20

APS Conference: Cardiovascular, Renal and Metabolic Diseases: Physiology and Gender, Annapolis, Maryland. #SexGender15

2016

January 13-16

Genomics of Neurodegenerative Disorders, Cairo, Egypt. *Information:* internet: *http://www.goldenhelix.org/index.php/education/golden-helix-conferences/symposia/upcoming-symposium/222-2016-golden-helix-symposium-cairo-egypt# welcome*

April 2-6

2016 Experimental Biology, San Diego, CA.

July 21-25

12th International Congress of Cell Biology, Prague, Czech Republic. *Information:* internet: *http://www.cscb.cz/*