

Interview with Dr. John J. B. Allen, 2008

Dear Dr. Allen,

Upon hearing of your decision to step down as head of the Student Interest Committee, and moving on to being the president of SPR for the 2008-2009 term, the interview committee unanimously decided that you would be a great candidate for a special interview in the fall newsletter this year. We felt many of the students (and faculty) members of SPR would love to read an interview with you. With your years of experience and involvement in SPR, it would be interesting to hear how you have seen the society grow over the years and how you see SPR developing in the future. Also, we hoped you would share some of your experiences, such as how you started the Student Interest committee, how you have seen student involvement grow, and how you have had a number of your own students graduate and become active members of SPR. We greatly appreciate your participation and are excited to hear your responses.

SPR Past

How have you seen SPR grow and change over the years you have been involved?

During my professional lifetime, SPR has always been a society where students feel welcome. I was struck by that during my first meeting of SPR, in San Francisco in 1988. I needed a roommate, and the SPR manager managed to find me one, none other than Al Ax, one of the founding members of SPR and the third president of SPR. I don't think that would happen in too many scientific societies. After the first meeting, I was hooked, and I've attended every SPR since. Over the years, the size of the meetings has grown, and the number of student members has grown as well. It's harder than it once was to have a chance to see all the posters I'd like to see, and the scientific offerings have increased considerably. Back in the last century, symposia were most often single-tracked, so there was never any decision to be made about which session to attend; one merely attended the only session available at that time. As a result, any talk had the full attention of the conference attendees. But I think the growth in the society has been quite positive, and I am hopeful that throughout this process, the student experience has become even more positive than it was for me in my early years at SPR.

What is the most important result/insight you have gained from doing psychophysiological research?

It would have to be: Things are always more complex than they appear to be, and that's a good thing. It's a good thing in that psychophysiology spans multiple levels of analysis, and that allows us to appreciate findings first from a fairly coarse level, and then to keep investigating to explicate the dynamics and mechanisms of what appear to be fairly straightforward effects.

Two examples come to mind relevant to my own work. The first, with respect to Event-related Brain Potentials, is that these "bumps" that we thought to be discrete events unrelated to background activity may in fact reflect a reorganization of ongoing activity. This reorganization, which may involve both amplitude enhancement and phase-alignment of ongoing signals, produces what merely appears in the average as a discrete bump, but that actually reflects the phase-locked activity across trials. The application of time-frequency methods has enriched our understanding of event-related brain dynamics, and I anticipate that this will be a growth industry.

The second example concerns frontal EEG asymmetry. I was an undergraduate student at the University of Wisconsin when Richie Davidson was hired, and I heard the first version of the asymmetry story (version 1.0) as a student in his Psychophysiology course. This story was a tale of frontal lateralization of valence, so that left frontal systems were involved in positive affect and right systems in negative affect. Version 2.0 of the story emerged when Eddie Harmon-Jones, the first PhD student in my lab, tested the motivational hypothesis, that approach emotions involved left frontal systems, and withdrawal or avoidance emotions

involved right frontal systems, a hypothesis that was supported by the finding that anger (negatively valenced but approach motivation, at least when folks target their anger towards others in the environment) appeared like the positive approach-related emotions, in that it was characterized by greater left frontal activity. The story is clearly more complex, and version 3.0, 4.0 and 5.0 of this story will have to account for the dynamic interplay of the left and right frontal regions, as our metrics are still very crude, summarizing activity across a several minute recording period, neglecting the real-time precision that is possible with EEG.

SPR Future Development

How do you see SPR changing in the future? What challenges do you see SPR facing within the next few years?

SPR is a scientific society that reaches across traditional disciplines, both in terms of content and in terms of methods. This is a strength, as it provides the opportunity for SPR to grow as it attracts members with diverse research interests and those that utilize diverse measures and methods, but it also makes me concerned that we could fall between the disciplinary cracks, and that in times of tight resources, those who don't have the pleasure of knowing us at SPR might opt to attend conferences in their areas of content specialization, or narrower methodological specialization.

The other challenge that faces us is not unique to SPR, but is one that faces many scientific societies: we need to do a better job at growing our membership in ways that reflect the diversity of the younger scientists in our field. For example, at the student level, we have more female members than male members. By the early career level, there are an equal proportion of men and women, and by the regular member level, male members outnumber female members. We've been working on this issue within the Committee to Promote Student Interests, and this has been reflected in the Early Career Conversation Hours and the Women in Science and Education (W.I.S.E.) listserv and special focus lunch each year. SPR is an inclusive society, and we're also working to expand the diversity of our international membership via outreach programs to Latin America, Eastern Europe, and Asia.

There is much research and movement towards new brain imaging methodology. Where do you see the place of peripheral physiological measures in future research?

I see that autonomic and somatic psychophysiological measures are in fact not peripheral, but central in their ability to help us interpret brain imaging findings. Using measures such as skin conductance, facial electromyography, and cardiovascular responses to time-lock brain activity can give investigators a way of coding events that is not dependent on overt responses (such as response choice), and can provide a graded (rather than dichotomous) signal against which to evaluate brain hemodynamics. I think the integration of what might be seen as traditional psychophysiological measures with brain imaging (also a psychophysiological measure I would note!) is among the most promising approaches for future research.

SPR Student Interest Committee

What was your motivation for getting the student interest committee started? Has it developed the way you hoped it would?

My motivation was, candidly, that Bill Iacono asked me during his presidential term to head an ad-hoc committee to evaluate and enhance the student experience. Of course I was eager to do so, but credit for the impetus belongs to Bill. When I first began in 1996, I had modest goals to survey students and early career members, make a few fixes and enhancements, and perhaps host a conversation hour. The initial committee, which I asked Eddie Harmon-Jones and Hannie van Hooff to join, surveyed students and advisors, did a bit of brainstorming, and I then presented our ideas to the Board of Directors. I did not

anticipate that they'd encourage us to keep going as a committee, but we were reappointed as an ad hoc committee by Judy Ford, and then with the help of Secretary Treasurer Connie Duncan, we worked to become a regular committee. (As an aside, Connie and I went back and forth about the name for this committee, and with an eye towards detail, Connie pointed out that the acronym for Student Interests Committee - SIC - was a nonstarter in her book; hence the longer moniker, the Committee to Promote Student Interests.)

I also did not envision that SPR would have the resources to support the committee's efforts in the way that it has. We now have 15 student poster awards with cash prizes (whereas we had one student poster award in 1996). A good share of this is underwritten by generous contributions of members each year, a further testimonial to the commitment of SPR's members to the next generation of psychophysiologicalists. I also certainly did not think we could offer travel awards, but the financial circumstances for SPR have changed considerably since 1996, and I'm very pleased and thankful that the officers and the board of directors' members over the years have supported the student travel grant initiative.

But what has really surpassed my expectations is the interest and efforts of the student and early career members. The Committee to Promote Student Interests has grown far beyond what I could have imagined, with most of our subcommittees formed in response to student ideas. I feel that this committee has grown in a grass roots fashion, with the ideas and energy of the students creating new initiatives and opportunities.

Do you have any parting words as the chair of the student interest committee?

I am thankful for the opportunity to have chaired this committee as long as I have, as it's the best job one could have. I've met so many great new scientists over these years, and had the tremendous pleasure of seeing their careers develop, and seeing them each year at SPR.

Training and Education

Through the years you have trained a number of students who became prominent members in SPR. How do you think you have shaped the field of psychophysiology?

I think I best let history be the judge of how my efforts have shaped the field. But I feel fortunate to have worked with some really stellar students, and I'm delighted to see that they are now active SPR members with highly successful careers. I hope that I've given to them, and also to other SPR students, the vision that psychophysiology is an exciting scientific approach, and that with creative operationalization, psychophysiology can provide a really fun and powerful set of tools.

What is your vision or dream for the future of the education and training of young psychophysiologicalists?

I'd like to see SPR help to bring the diversity of expertise of our members to anyone who wants it. Many of us teach overview psychophysiology courses, but they of necessity provide an introductory coverage of a wide variety of topics. Each university has one or perhaps a few experts in one or a few domains. But could we as a society think creatively about how to make this expertise available to our membership more broadly? For example, we have a new research training grant mechanism this year that Greg Siegle, John Curtin, Greg Hajcak, Christine Larson, Iris Mauss, and I devised and that the board of directors approved. This mechanism allows student members, early-career members, or even faculty to obtain off-site mentorship/training in psychophysiological assessment/analysis which they could not get at their home institution.

For the future, I'd like to see us sponsor summer training institutes much like those that have become popular for functional neuroimaging, but that would focus on other psychophysiological measures and approaches. And might we utilize technology that is currently available to bring instruction from the

classroom to the broader community? As an example of such an approach, I have created video podcasts of my entire psychophysiology course. This was, quite frankly, a bit scary for me as I certainly am not an expert in all of the domains I cover in the psychophysiology course, and I imagined that somewhere experts in those domains would be shouting at the podcast and correcting my lectures. But I braved the concerns, and have made the entire course available as video podcasts, with lecture notes, so that students without access to a psychophysiology course might be able to take a version of this course. I envision we could do the same for specialized advanced topics, and have a library of educational lectures by and for our members.

What advice can you give to graduate students? Is there anything you have learned the hard way in your career you wish you would have known/somebody had told you when you were a grad student?

In terms of advice, I'd say: Love your career, and also love your personal life. Bill Iacono, my graduate mentor, once told me that although he did not have the data to back it up, he suspected there would be very few 70+ year old psychologists who would look back on life and say "I wish I'd spent more time on my career." Of course we enter grad school to pursue the promise of developing a highly successful career, and of course you should work hard to make that a reality, yet balance in your life is good for you, good for your loved ones, and good for your career too. Sometimes the most obvious breakthroughs come when one takes time away from work. And I'd recommend having a hobby, both a professional hobby and a personal hobby. The personal hobby is of course just one more component of that balance idea. Although "professional hobby" sounds like an oxymoron, I'm serious. Dabble in something new. Discover an area where you have little experience or expertise. Sometimes it goes nowhere, and sometimes it merely provides a pleasant diversion. Yet sometimes it develops into something that keeps your career varied and fresh. And sometimes it may even move your career in new directions. For example, ten years ago I attended an SPR workshop on respiratory sinus arrhythmia (RSA), hosted by Gary Berntson and John Cacioppo. I attended simply out of curiosity. I was a total novice, and had in mind no immediate application for RSA. But I went home and added EKG to our protocol, played with the signals, read more and more, and now use RSA as a tool in my research program.

In terms of learning things the hard way, I guess I've been a bit lucky in that regard. But one thing I discovered late in my graduate school days, and that I hope is worth sharing, is that this balance I just touted is a goal seldom realized. You may find yourself having a really nice balance of personal and professional life for a week, a day, an hour, or merely a nanosecond, and then things have this entropic way of getting back out of balance. But as long as you know the direction in which balance lies, you can keep it in sight, and get there again. And again. And again.

Thank you very much for your time and answers to our questions. And thank you in the name of the Student Interest Committee for inaugurating this committee within SPR, for heading and steering it for such a long time, and for staying close to the students of SPR!