

Interview with Jochen Kaiser

February 2006

Jochen, you have just recently been appointed a professorship in medical psychology at the University of Frankfurt, Germany. How did you become a psychophysiologicalist in the first place?

I made my first contact with psychophysiology when I spent a year studying abroad at the University of Glasgow, where I did my diploma thesis project on the relationship between personality traits and physiological recovery from stress. I used one of those big old polygraphs to record peripheral measures like EMG, SCR and HR. This was fun because it gave a much more direct feeling for the data than modern computerized systems; however, analysis options were rather limited. Originally, I was intrigued by the possibility to investigate possible links between psychological factors and potentially disease-relevant bodily processes; but by the time I became increasingly interested in looking at brain signals as correlates of more basic cognitive processes. During my PhD studies in London, I worked with EEG but also witnessed the rise of the modern neuroimaging methods. I am still fascinated by the insights that methods like MEG/EEG and fMRI can provide and by the fact that we are still very much at the beginning of our efforts to understand how our brain works.

Which aspects of a faculty position most excite you? Are there any aspects of the faculty position that scare you?

It's great to be one's own boss (this may be of greater relevance in Germany than in the US where younger researchers seem to enjoy greater independence) and to be able to set up one's own lab and research group. Also, the financial security associated with a permanent position clearly improved the quality of my sleep!

The downsides are the higher teaching and administrative loads and the fact that as a professor, one has many managerial duties. All these tasks take up a lot of time that one would rather spend on research.

You have been abroad for your PhD (University of London, UK and a Post-Doc year (Mental Processes and Cerebral Activation Research Group, Lyon, France). As each nation's academic system has its own peculiarities, how did you decide on a professorship in Germany?

In my opinion, Germany is not a bad place for science in general and for psychophysiology/cognitive neuroscience in particular (which is reflected by the high proportion of SPR members from Germany). Funding and infrastructure are better than their reputation, and as a German professor, one has more independence and freedom than, e.g., a senior researcher in France who is usually part of a hierarchical structure like the national research centre. On the other hand, when I was an assistant professor, I envied those colleagues in France who had already obtained a permanent position in their early thirties (which is almost impossible in Germany). The main advantage of the Anglo-American system is its flexibility: young scientists can set up their own lab earlier, and the academic system provides different options between the more teaching- and the more research-oriented universities. Personal reasons have determined my decision to apply for positions in Germany in the first place (although they are few and far between). Had I not been successful, I would have considered going abroad (Britain, North America or France), like so many of my colleagues.

What are your long-term professional goals, dreams, and hopes (e.g., is there any "mark" you'd like to make professionally)?

In the nearer future I would like to continue basic research on questions of auditory perception and memory and multisensory processing. One aim would be to find out more about interactive processes in the brain, e.g. during multisensory processing or during tasks like working memory where sensory and executive processes have to be integrated. My hope is that the combination of methods like event-related fMRI and the analysis of oscillatory signals in MEG may allow some insights into these questions. In the longer run I would like to apply some of the methods and paradigms we are developing currently to achieve a better understanding of clinically relevant phenomena that are not well understood (e.g., perceptual and sensorimotor integration ("clumsiness") problems that seem to become increasingly common in children).

What has been the highlight of your academic career thus far and is there anything you would have done differently?

There is not really one single highlight in my academic career thus far, but rather multiple smaller successes. When I started my research program on oscillatory activity in MEG it was great to obtain the first interesting data (and a good publication), especially as several people had been highly skeptical about our approach. I would also count the personal contacts and friendships that have developed in the course of research collaborations among the highlights of my work.

Had I known that I would specialize in psychophysiology/cognitive neuroscience, I would have chosen a university for my first degree with a stronger track record in this field. In general, I would have sought more advice from experienced researchers to plan the earlier stages of my career.

Who/what have been your greatest sources of information, support, etc. in your application and interviewing process for

your current position?

Colleagues and friends who were in the process of applying for faculty positions or who had just been successful in obtaining one.

If you weren't an academic psychologist, what else would you be doing?

Good question! I am glad that I never really had to think about it.

What are the top 3 challenges facing young psychophysicologists today?

To acquire methodological competence: in general, it will be difficult to be proficient in more than one of the major methods (EEG/ERP and fMRI are certainly the ones that are most in demand), although it is helpful to have at least some experience with more than one approach.

To find an exciting area of research where you can make significant contributions and develop an individual profile.

To develop teaching skills, if possible also in neighboring disciplines like clinical or cognitive psychology. In Germany, psychophysiology is often combined with these subjects.

What advice do you have for young psychophysicologists?

During your PhD and/or post-doc period, you should try and find a lab a) that provides the infrastructure needed for good research (in terms of research tools/lab equipment but also in terms of an interdisciplinary exchange of ideas) and b) whose head who gives you the freedom and support needed to develop and test your own ideas. In addition, it's important to spend some time visiting different labs (including some in different countries if at all

possible). For a non-English native speaker it is virtually a "must" to spend some time in an English-speaking country (to acquire manuscript writing skills, but also to become acquainted with the Anglo-American scientific culture).

Once you have presentable results, make yourself known to the scientific community: publish, and present your work at meetings (where you should not hesitate to talk to (and have drinks with) people). As a non-American researcher, you should not underestimate national societies and meetings. Although their scientific impact may be lower than for the big international meetings that often take place in the US, it is the local meetings where you meet the people who will review your grant applications or may act as referees when you apply for a faculty position.

How do psychophysiological tools enhance your work?

Almost my entire research over the last years has relied on the use of methods like multichannel EEG and MEG, and recently fMRI has become a further tool. During my post-doc years I worked mostly with MEG. The advantage of this method was that it enabled the collection of data in the time and frequency domain with a good spatial resolution which allowed observations that other methods could not easily have provided.

What are the top challenges currently facing the field of psychophysiology?

Even though membership figures of most psychophysiology societies are healthy (which is certainly the case for SPR), one of the main challenges will be to keep a specific profile without losing touch with developments in mainstream neuroimaging. The problem is that neuroimaging methods (which in my opinion are genuinely psychophysiological tools) are used by many scientists with backgrounds outside psychology who are not even familiar

with the definition of "psychophysiology" (-- I remember a prominent fMRI researcher asking members of the British Psychophysiology Society about the definition of this term 10 years ago). An interesting example in this context is the recent name change of this very society to "British Association for Cognitive Neuroscience" which was performed to symbolize an orientation towards neuroimaging. So there is a risk that "psychophysiology" may become a collective term for the more established methodological approaches (while excluding the more recent ones), and that young scientists may not find their interests covered by psychophysiology societies.

*On behalf of the entire SPR Student Member body,
thank you very much for the interview!*