

# Professor Oliver Hanemann: a nexus between clinician and scientist

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## Introduction

For the modern clinician, in addition to exercising one's clinical repertoire, evidence of research enterprise has become a cardinal pillar in their portfolio. It is increasingly important for medical students to obtain a holistic understanding of a career in research alongside clinical practice. The aim of this article is to provide an appreciation of the benefits of research, including top tips on how to get involved. To this end, a face-to-face interview was conducted with an eminent researcher who has achieved the delicate nexus between being an insightful clinician and an enterprising scientist: Professor Clemens Oliver Hanemann.



Prof. Hanemann trained at medical schools in Hamburg, Glasgow, Baltimore (Johns Hopkins) and Cambridge, USA (Harvard). Following a Deutsche Forschungsgemeinschaft (DFG) research fellowship, he undertook clinical and academic posts, including working as a consultant neurologist and senior lecturer at Duesseldorf and Ulm University, Germany, all whilst continuing to exercise a voracious appetite for conducting neuroscience research. Over the years, he has acquired an extensive portfolio, including a multitude of publications, and has been a senior reviewer for more than 17 international journals. He built and was founding director of the Institute of Translational and Stratified Medicine (ITSMED) in the Faculty of Medicine and Dentistry at the University of Plymouth. He also leads a national centre of excellence for brain tumour research.

## Questions

### How did your journey into research begin?

So, I guess it was different from when I went to medical school. If you wanted to get a good job after medical school, you were almost expected to do research. If you wanted to go to the best training centres, there was no way you could train there without doing any research. I started off with a research fellowship in the same hospital I trained in afterwards. It allowed me to establish an idea of the research field, getting addicted to it, and to establish working relations with a research group, which I could then re-join during my clinical training. After starting with two years of research, I went into clinical training where there was a mechanism where you could buy yourself back into research if you got some grant funding. This became possible and I knew where to go back to as I had my projects and collaborations going.

### What do you think are the benefits of undertaking a PhD alongside clinical work?

It is very important that you get a deeper systematic and scientific insight into a specific area, be it brain tumours or neuroscience or cancer. Especially here in the UK, the medical training is very clinical- and practical-orientated. So, a very thorough understanding of a specific topic is a very complimentary approach to the current teaching, and scientific thinking is different from thinking. Clinical thinking is very practice-based and guideline-

following. Scientific thinking is different; it is problem solving. You have a bit of intellectual freedom. You design an experiment, you fail, discuss it with colleagues, read a bit, try it again, fail again, you finally succeed, you build a story, present it at meetings... So, it is a process of systematic in-depth working and intellectual freedom.

### What is the subject of your current research interest?

My current interest is in brain tumours and we are a centre of excellence for low-grade brain tumours. As I see patients with brain tumours, I run clinics for low-grade brain tumours, so that gives me the motivation to research biomarkers and therapies. But I'm fully aware, as I have been doing research for a while, that this is not a question of just going back into the lab for a couple of days, weeks, months and then I find a cure. No, it takes a long time. But I'm confident that finally I myself, or people I have trained with or colleagues, will succeed. So that's why I'm doing research.

I drifted into brain tumour research as I was doing neuromuscular research earlier on Schwann cells. So, my current field is a mixture of serendipity, drifting into it, and then the conscious decision from seeing patients with it.

### How do you manage to combine clinical work with research?

It's a constant battle. During my career I've always asked myself, should I stop this one or the other? You must reserve time for both research and clinical practice in an appropriate way. I don't think you can do a day research a week; you must block time to do research or clinical work, otherwise you lose your focus. There is no doubt that it's difficult to combine it but it's worth it – it's worth the suffering!

## What would you advise a student interested in undertaking research?

I would probably advise to do research earlier. In the UK, commonly the tendency is to do it when you reach specialist training but then it's probably too late. I would advise to do it well earlier and preserve some time for it.

## What are the three most valuable skills you have learnt from undertaking research?

1. Scientific thinking. It's different from what you do in the clinical routine. It's a different kind of approach.
2. Openness to discussions and other ideas.
3. Not a skill precisely but being part of a scientific community is a thing which I value greatly.

## What would you advise students when selecting a research project?

You need to get more information about what you like, try to taste what research is like and what you personally like. You could do clinical research projects, for example, in functional MRI of the brain and that is totally different from doing brain tumour research in the lab. For some 4 year PhD studentships, for example, you do taster research work in different groups to then make an educated decision to study what you like. Similarly, with the Inspire scheme, you can volunteer in the summer, and there are also other possibilities where you can get a taste of research, discuss with your potential supervisor and then make a semi-educated decision. But you need to taste to make an educated decision.

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