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## Back to Chemistry

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# LIFELONG LEARNING AT KUMPULA

**LIFELONG LEARNING** is an important goal at all levels of the educational system. My personal path of lifelong learning has taken me to many places and professions. After working (and always studying something at the same time) as a pharmacist, a consultant, a columnist and a teacher I ended up doing my PhD studies at the Unit of Chemistry Teacher Education four years ago. Ending up there was a lucky coincidence thanks to my previous fellow student in chemistry who for some reason kept insisting me that I should become a teacher. I think she was right. Working and studying at the Unit of Chemistry Teacher Education has been a pleasant experience and I'd certainly do it all over again.

Soon it will be time to contemplate which way to go next. Being a researcher and a teacher might be the path to follow. My doctoral thesis will be about low-achieving students and teacher support. The ambition is to indicate that learning chemistry is important and possible to everyone despite the students' achievement levels or backgrounds. Adequate teacher training and support is an essential tool to ensure the lifelong learning, which I think is everyone's equal right. ●

**Päivi Kousa**  
PhD Student



Kuva **Veikko Somerpuro**

# BACK TO CHEMISTRY

**D**ear colleagues, six months behind and I am feeling spectacular. My name is Dr. Johannes Pernaa and I have worked as a university lecturer in the Unit of Chemistry Teacher Education since August 1, 2017. My main responsibility is to teach chemistry education courses, supervise theses and do research in professor **Maija Aksela's** research group.

This is my second round at the Department of Chemistry. I was a PhD student at Maija Aksela's Chemistry Education research group in 2008–2011. In my PhD dissertation, I developed Information and Communication Technology (ICT) based chemistry learning environments via a design based research approach.

I left the department in 2012 and switched into the private sector. I worked about five years in the textbook publishing industry in the field of electronic learning materials. I returned to the Chemistry Department because a position in chemistry education research and university teaching has always been my dream. In my heart I have always been a researcher and teacher.

So, what has happened in my research field while I was away? The answer is plenty – for example new theories, technologies and research methodologies have been developed. Five years in business did not do well for my theoretical knowledge framework, so there has been a lot of reading and learning to do. For example, the model of pedagogical content knowledge (PCK) has been expanded into technology, so now the model is called technological pedagogical content knowledge (TPCK). Also, the chemistry educational research field has been developing the concept of relevance, which was completely new for me.

Fortunately, I have talented people around me. I can learn from my professor, other members in the research group and from the whole department. I am really pleased to see that the spirit in our department is very good and people have readily offered their help to assist me.

I am looking forward to work together with all of you. Any research collaboration in the field of chemistry education is warmly welcome. Our group has already started a collaborative research project with the Radiochemistry unit, where we study how students experience the relevance of comparing new and old radiochemical research methods.

Finally, I would like to thank the whole department for supporting our courses via expert lectures. They are particularly necessary in inspiring the future chemistry teachers, and introducing them to the possibilities of chemistry. ●

**Johannes Pernaa**  
university lecturer,  
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