

Zveme Vás na první setkání semináře o vysokoškolské výuce v technických a přírodovědných oborech (DejVíceUčení)

**Dr. Cynthia E. Heiner:**

## **Evaluating Science Teaching like Scientists**

6. února 2020

od 16:00 do 17:30

Ballingův sál

Národní technická knihovna

### **Anotace přednášky (přednáška bude v angličtině)**

We, as scientists, search for empirical evidence in our research. Yet we, as instructors of science, often teach based on our own student experiences. Why do we not apply the same rigorous objective standards to our science teaching? Indeed, there is growing data from research in physics education and cognitive science showing that students learn more when using active learning techniques than when passively listening to lectures; nevertheless, lectures are still the predominant teaching method for sciences at universities. Active learning techniques require students to do things and to reflect about what they are doing, e.g., taking class time for peer discussions or eliciting predictions and class votes before experimental demonstrations. This challenges instructors to structure their teaching differently, but offers rewards for both students and instructors alike.

In the first part of the seminar, I will describe some examples of active learning techniques and present some research findings. Then in the second part of the seminar, similar to how students learn through discussion, I invite you to join in peer-to-peer discussions about your own teaching.

- What are my goals for my students in terms of their learning? What do I do to support them achieving these goals? How would active learning techniques contribute to this?
- What are the benefits/drawbacks to using active learning techniques in my discipline or in my class/lecture/lab that I teach?
- How can I use active learning techniques within my general teaching conditions, e.g., physical space and time constraints?
- What data could I use (or gather) to influence my science teaching?
- How would I motivate my students to actively participate?

### **O přednášející**

Dr. Cynthia Heiner is a physicist who worked on physics education research under Nobel prize winner Carl Wieman at the University of British Columbia's Science Education Initiative and is now working at both the Freie University Berlin and Imperial College London to help implement research-based pedagogies in science (STEM) courses.



### **O semináři DejVíceUčení**

Pravidelné setkání (jednou za měsíc) vysokoškolských učitelů v technických a přírodovědných oborech. Setkání se bude uskutečňovat především v dejvickém vysokoškolském kampusu, ale vítáni jsou účastníci odkudkoliv. Některé přednášky budou probíhat v angličtině. Více informací na <http://dejviceuceni.cz>.

Organizují: Doc. Ing. Zdeněk Hurák, Ph.D.(ČVUT FEL)  
a Prof. RNDr. Petr Slavíček, Ph.D. (VŠCHT FCHI)  
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