



Institute of Education

Seminar – ‘Thoughtfulness’ in Biology Education

(Funded by: UCL Global Engagement Fund)

30th May 2017 (UCL); 10am – 4pm

UCL-IOE venue: Room 901 (core A), 20 Bedford Way, WC1H 0AL

Contemporary developments in biology in synthetic biology, modern genetics, evolutionary biology, neurobiology, plant ecology and environmental science present challenges in personal and social meanings for students. Such meanings are pertinent in diverse and pluralistic societies where growing knowledge of these fields can be seen in terms of salvation or threat.

The idea for this seminar arose from a collaboration between biology teacher educators and researchers from Germany, Netherlands and U.K. after a symposium in summer 2016 on ‘*thoughtfulness*’ in biology education. Participants had come to the symposium through empirical and theoretical studies which raised many questions about curriculum approaches, pedagogy and research.

By ‘*thoughtfulness*’ in biology teaching and learning we allude to fostering creative and unstructured moments in the learning process in order to leave room for symbolic meaning-making, intuition and spontaneous approaches to the objects of learning.

European countries have different historical perspectives on biology teaching both at school and university level. Germany, for example, is influenced by *Bildung*, a humanistic tradition which has a variety of meanings but focuses on personal growth through harmonising knowledge in the arts, sciences and philosophy. In the U.K. in the curriculum there tends to be a greater instrumental emphasis and a scientific tradition of empiricism. But both

traditions are challenged by ideas of Nature and humanity which perturb the contemporary world.

We successfully applied for funding from UCL's Global Engagement Fund to run a seminar which would help influence curriculum, pedagogy and research through the collaboration and participation of different sectors: school teachers, scientists, university educators, philosophers, writers, research students, representatives of professional organisations. The day will consist of a mixture of presentations, questions and discussions with the emphasis on participation. Our aim is to identify new questions and promote new collaborations to help take this subject forward.

The day will start at **10am** and finish **at 4pm**. There will be refreshments and lunch.

Organisers

Dr. Paul Davies (Queens College/UCL-IOE)

Dr. Ralph Levinson (UCL-IOE)

Professor Stephen Price (UCL)

Main collaborators

Alexander Bergmann (University of Leipzig, Germany)

Professor Dr. Arne Dittner (University of Regensburg, Germany)

Professor Dr. Ulrich Gebhard (University of Hamburg, Germany)

Dr. Marie-Christine Knippels (Freudenthal Institute for Science and Mathematics Education, Utrecht University, The Netherlands)

Ms. Britta Luebke (University of Hamburg, Germany)

Professor Dr. Jorg Zabel (University of Leipzig, Germany)

Programme

- 10.00 a.m. Coffee/tea. Introductions.
- 10.20 a.m. Introduction to the day Dr. Ralph Levinson
- 10.30 a.m. Why do we need thoughtfulness in biology education? Dr. Arne Dittmer
- 10.45 a.m. Commonalities and variants on thoughtfulness Dr. Joerg Zabel
- 11.00 a.m. Participants' perspectives on what thoughtfulness in biology education might look like and why we need it. This will include group discussions and feedback.
- 12.30 p.m. Lunch
- 1.30 p.m. Research vignettes on thoughtfulness in biology education
- Christine Knippels/ Jorg Zabel - *Narratives as a way to foster thoughtfulness in biology education*
- Alexander Bergmann – *'They implant this chip and control everyone'. How German grammar school students think and talk about neuroscience.*
- Britta Luebke/Ulrich Gebhardt - *'Of course we are all against genetic engineering . . .'. Why thoughtfulness needs irritation.*
- Stephen Price - *Analysis of a Masters degree module that trains and assesses critical appraisal of research publications*
- 2.30 p.m. *What can we do?* Group discussions and feedback
- 3.30 p.m. Personal thoughts on the day Dr. Paul Davies
- 3.45 p.m. Coffee/tea. End of day chats/networking.

