

# Seminar of the working group Schöll

## Control of Network Dynamics

Dr. Philipp Hövel, Prof. Dr. Ekehard Schöll, PhD



Winter Term 2013/2014  
EW 731 - Tuesdays 16:00 (Berlin time)

The seminar offers perspectives on current research of the working group Schöll and the junior research group Hövel in the area **Nonlinear Dynamics and Control**. The seminar is particularly suitable for BSc and MSc students looking for a final project. Students, who want to obtain a "Seminarschein", are welcome as well.

Investigating nonlinear dynamics on and of networks is a field of intense research efforts and has manifold applications to, for instance, coupled lasers or complex neural networks. Another exciting area of research is the control of nonlinear dynamics, in particular the stabilization of unstable states. The combination of both fields is the topic of this seminar. Therefore, the seminar will start with the basic foundation of network science and different control methods. Then, various examples of current research projects will be discussed.

### References

- M. E. J. Newman: Networks: an introduction (Oxford University Press, 2010).
- E. Schöll, H. G. Schuster (Hrsg.): Handbook of Chaos Control (Wiley-VCH, 2008).
- K. Lüdge (Hrsg.): Nonlinear Laser Dynamics - From Quantum Dots to Cryptography (WILEY-VCH, 2012).
- Reference of special topics:  
[http://www.itp.tu-berlin.de/schoell/nlds/seminare/seminar\\_dienstag/parameter/en/](http://www.itp.tu-berlin.de/schoell/nlds/seminare/seminar_dienstag/parameter/en/)

### Schedule and Organization

In case of interest on a particular topic, please contact the respective advisor. The final assignment of the topics will be done on October 15, 2013.

### Contact

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