## **Optimal Control of a Chemotaxis System**

## H. Feldhordt<sup>1</sup>, A. Rösch<sup>2</sup>, and M. Winkler<sup>3</sup>

**Abstract:** Chemotaxis describes a biological phenomenon of self organization and pattern forming of cell populations caused by chemical substances. It can be modelled by a two component reaction diffusion system in which the equations are coupled by a quasilinear cross-diffusion term. In this talk, we consider an optimal control problem with Neumann boundary control for the chemoattractant.

<sup>&</sup>lt;sup>1,2</sup> Faculty of Mathematics, University of Duisburg-Essen Thea-Leymann-Str. 9, 45127 Essen, Germany hendrik.feldhordt@uni-due.de, arnd.roesch@uni-due.de

<sup>&</sup>lt;sup>3</sup> Faculty of Computer Science, Electrical Engineering and Mathematics, University of Paderborn Warburger Str. 100, 33098 Paderborn, Germany michael.winkler@math.upb.de