

Universität
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Colloquium Wilhelm Killing

A free boundary problem of cell polarization

Prof. Dr. Juan J. L. Velázquez (Universität Bonn)
30 November 2023 | 2:15 pm | M5

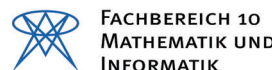
In this talk I will discuss the properties of a model of cell polarization that describes the distribution of active receptors on the surface of a cell. The model is a reaction diffusion system whose solutions approach in a suitable scaling limit the solutions of a free boundary problem. This limiting problem has many similarities with the classical obstacle problem, but it has, as a distinctive feature, a mass conservation property. As a result of this, the solutions of the problem exhibit interesting pattern formation properties which do not appear in the classical obstacle problem, and that will be discussed in detail. Further, the behavior of the interfaces separating the polarized region from the unpolarized region will be described.

This talk takes place in the context of the Workshop on Cell Dynamics and Mathematical Modeling (27 Nov - 1 Dec 2023, <https://uni.ms/CellDynMathModel>)

Zoom Meeting ID: 913 7047 4263

Tea time starts at 3:15 pm in the lounge (2nd floor) of the SRZ-building (Orléans-Ring 12).

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