

**Seminar on Physics and Chemistry
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Next Generation Climate Models

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Abstract

In this talk I will provide a brief overview of the historical development of climate models, culminating in the status quo, but also presaging research underway to develop a qualitatively new and more fundamental representation of the climate system. I will explain how this next generation of models poses new challenges, both conceptual and computational, and why these challenges may be more stimulating than many of the old familiar problems of climate modelling (which I hope to sketch for those for whom they are not familiar). My presentation will endeavor to identify the new opportunities associated with this next generation of models, particularly through their ability to connect with data, and Germany's leading role in their development. The presentation will be given in a colloquial manner that should be accessible for non experts. I would be happy if it stimulates a broad and critical discussion of the role of models and their meaning in climate science.