

**Plenarvortrag**

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**Our Dynamic Sun** — ●ERIC PRIEST — St Andrews University, Scotland, UK

Our Sun is special in two respects. It is a wonderful laboratory in which to observe fundamental astrophysical processes at work in exquisite detail compared with other much more distant cosmic objects. Many of these processes involve the subtle nonlinear interactions between plasmas and magnetic fields. The Sun is also the source of the space weather that surrounds the Earth and affects us in many ways.

Furthermore, many of these basic processes are not yet understood, such as: how magnetic fields are generated by dynamo action; how the outer atmosphere is heated to temperatures that are two orders of magnitude higher than the solar surface; how the solar wind is accelerated; and how huge eruptions and solar flares are initiated.

However, major progress has recently been made towards understanding each of these puzzles. The aim of the lecture therefore will be to show how recent space observations and theoretical modelling are contributing to this state of ferment and are producing the lively and vibrant state in which solar physics currently finds itself.