

## Virtual training course: Advanced numerical methods for earth system modelling



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### Discontinuous higher order discretization methods (2)

*Thursday, 12 March 2020 13:30 (1 hour)*

The aim of this session is to learn about recent developments in discontinuous higher order spatial discretization methods, such as the Discontinuous Galerkin method (DG), and the Spectral Difference method (SD). These methods are of interest because they can be used on unstructured meshes and facilitate optimal parallel efficiency. We will present an overview of higher order grid point methods for discretizing partial differential equations (PDE's) with compact stencil support, and illustrate a practical implementation.

By the end of the session you should be able to:

- tell what are the advantages offered by discontinuous higher order methods
- describe how to solve PDE's with discontinuous methods
- identify the key elements that contribute to a PDE solver

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