

**E0 373**  
**Jan 2010**

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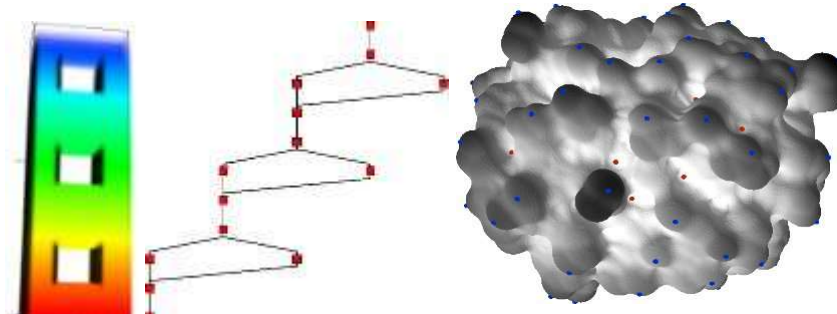
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# Topological Methods for Visualization

This course introduces topology-based techniques for analysis and visualization of scientific data. Students will learn several topological models and efficient algorithms that can be applied to the analysis and visualization of real valued data representing physical phenomena, such as temperature, pressure, electron density distributions and so on. The course material ranges from a brief introduction to essential ideas in Morse theory to practical issues that must be addressed for efficient implementations. At the end of the course, students will be able to pursue independent research directions in this area and/or apply these techniques to the analysis and visualization of data from specific applications of interest.

## Time and Place