



**A tutorial on automatic differentiation for scientific design: practical, elegant, and powerful**

Tuesday, March 9<sup>th</sup>  
18:00 Prague

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**Title:** A tutorial on automatic differentiation for scientific design: practical, elegant and powerful

**Speaker:** Nick McGreivy

**When:** 2021-03-09 18:00:00

**Abstract:** Automatic differentiation (AD) is a numerical technique for computing the derivative of a function specified as a computer program. Although AD was invented decades ago, it wasn't until the recent interest in machine learning and the associated development of high-quality automatic differentiation frameworks that the benefits of AD in physics were more widely recognized. In this tutorial, I introduce AD. By the end of the tutorial, you will hopefully understand the fundamentals of how AD works in theory and how it is used in practice. For a short, 5-minute introduction to AD, feel free to read this <https://twitter.com/NMcgreivy/status/1351706692317138945?s=20> and this <https://twitter.com/NMcgreivy/status/1286057985987563525?s=20>.

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