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ARNOLD SOMMERFELD
CENTER FOR THEORETICAL PHYSICS



Arnold Sommerfeld Lecture Series

Professor Nigel Goldenfeld
**University of Illinois at Urbana-
Champaign, USA**

Public Lecture:

**What can Theoretical Physics tell us about the
Origin and Evolution of Early Life?**

Life on Earth is wonderfully diverse, with a multitude of life forms, structures and evolutionary mechanisms. However, there are two aspects of life that are universal --- shared by all known organisms. These are the genetic code, which governs how DNA is converted into the proteins making up your body, and the unexpected left-handedness of the amino acids in your body. One would expect that your amino acids were a mixture of left and right-handed molecules, but none are right handed! In this talk, I describe how these universal aspects of biology can be understood as arising from evolution, but generalised to an era where genes, species and individuality had not yet emerged. I will also discuss to what extent one can find general principles of biology that can apply to all life in the universe, and what this would mean for the nascent field of astrobiology.

Tuesday, July 3, 2018, 14:00 h, Room B052, Theresienstr. 39, LMU