SIMON WALL 'Probing and Manipulating the Properties of Solids on their Elementary Timescales'

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January 16, 2012

Seminar, January 16, 2012, 15:00. Seminar Room

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Ultrafast processes are becoming increasingly important for manipulating the properties of materials. Recently switching of magnetic ordering, generation of transient crystal structures, and control over the conductive states of materials on a femtosecond timescale have been achieved, suggesting new ways in which materials can be manipulated.

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In my talk I will introduce the basic physics of correlated materials, where the strong coupling between electronic, structural, magnetic and orbital degrees of freedom make them particularly susceptible to photo-excitation. I will then focus on the dynamics that are induced in such materials when they are excited on a timescales much shorter than the elementary processes (phonons, magnons etc.) that dictate how the material can respond, where quantum interference and coherent dynamics play important roles.

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Hosted by Prof. Niek van Hulst