

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE  
UNIVERSITY OF SOUTHERN DENMARK, ODENSE

## Mathematics seminar

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### Multi-hadron states in lattice QCD simulations

Wednesday 7 October 2015, 13:15-14:00  
IMADA seminar room

#### Abstract

Markov Chain Monte Carlo lattice QCD simulations of the strong force have been successful in quantitatively describing many experimental phenomena. However, lattice QCD calculations of systems with multiple strongly interacting particles (hadrons) have historically met with less success. I will describe algorithmic advancements which have led to substantial recent progress in the treatment of these multi-hadron states and show some first benchmark results involving two pions, which are the lightest hadrons. The prospects for applying these algorithms to strongly-interacting extensions of the Standard Model of particle physics will also be briefly discussed.

Host: Wojciech Szymanski