



KONINKLIJKE NEDERLANDSE
AKADEMIE VAN WETENSCHAPPEN

Views on Space-time

*Symposium in celebration of the presentation
of the Lorentz Medal to Juan Martín Maldacena*

Date: 19 November 2018, 3:30 – 5.30 pm
Venue: OBA, the Amsterdam Public Library, Oosterdokskade 143,
1011 DL Amsterdam



Programme

3:30 p.m. *Opening*
Wim van Saarloos, President of the Royal Netherlands Academy of Arts and Sciences

3:35 p.m. *Lecture*
Gerard 't Hooft, Professor of Theoretical Physics, Utrecht University

Math, Myth and Mystery

The world of matter particles does not stop with the subnuclear particles that can be observed today, but is expected to continue over many orders of magnitude towards much tinier scales. Experiences from the past 100 years taught us to search for the proper mathematical principles and equations that explain their dynamics, but this is leading to numerous discussions; there are important, competing approaches, while direct experimental checks are difficult to come by. Progress is made by urging on precision and closing any logical gaps.

4:05 p.m. *Lecture*
Erik Verlinde, Professor of Theoretical Physics, University of Amsterdam

Emergent Gravity in an Entangled Universe

Recent developments in theoretical physics indicate that spacetime and gravity can be viewed as being emergent the quantum entanglement of the vacuum. This relationship is best understood in spacetimes with a negative cosmological constant, known as anti-de Sitter space. In this short lecture I will discuss possible generalisations of these ideas to de Sitter space, which like our own universe has a positive cosmological constant.



- 4.35 p.m. *Award ceremony*
Renate Loll, Professor of Theoretical Physics, Radboud University, Chair of the jury
of the Lorentz Medal 2018 and Wim van Saarloos
- 4.50 p.m. *Interview*
Robbert Dijkgraaf, Director Institute for Advanced Study Princeton and Juan Martín
Maldacena. Moderated by science journalist Margriet van der Heijden
- 5:30 p.m. Drinks