

Prof. Marc Henneaux (Université Libre de Bruxelles and International Solvay Institutes Brussels)
"Infinite-Dimensional Symmetries: The Key to Understanding Gravity?"

ZEIT:

11.3.2009, 14:00 Uhr - 15:00 Uhr

ORT:

AEI, Am Mühlenberg 1, 14476 Potsdam-Golm, Central Building, Lecture Hall

(Living Reviews in Relativity Anniversary Lecture)

It is well known that the description of the non-gravitational interactions (electromagnetism, weak and strong nuclear forces) relies on finite-dimensional Lie groups and algebras (e.g., $SU(3) \times SU(2) \times U(1)$). Recently, it has been argued by many research teams that the description of the gravitational interaction should involve infinite-dimensional Lie algebras of hyperbolic Kac-Moody type, such as $E(10)$. The talk will provide a brief, pedagogical introduction to these mathematical structures and present some of the evidence for their relevance to gravity.

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