# *<G|W>*
# *Guelph-Waterloo Physics Institute*

## *THE <G|W> DISTINGUISHED LECTURER SERIES*

## ***Professor Gerardus 't Hooft***
*1999 Nobel Laureate in Physics*
University of Utrecht
Utrecht, The Netherlands

### Guelph Campus

**Date:** Colloquium, Tuesday, February 27, 2001
**Time:** 4:00 p.m.
**Place:** MacN 113

### From Subatomic Particle Physics to the Gravitational Force -- a Path Through the Desert

Since the early ''70s, a coherent picture has emerged of the elementary particles and forces that explain the properties of matter. Theory and experiment together gave us an answer to the question: How does one reconcile the demands of Quantum Mechanics with those of Einstein's Special Relativity? The result is called "The Standard Model". Nevertheless, there are still mysteries. The most notorious of these is General Relativity, which, contrary to the Special Theory, includes the gravitational force. The domain of Physics where this force dominates is separated from present-day particle physics by huge differences in scale, as will be explained. Most improvements of our understanding of this situation must come from purely theoretical deductions.

***Coffee will be available at 3:30 p.m. in MacN 113 prior to the Colloquium***

***A Wine & Cheese Reception will be held following the Colloquium at the University Club, 5th Floor, University Centre***

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