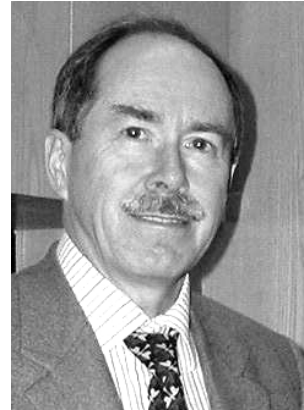


't Hooft Gerard



Gerardus 't Hooft (born July 5, 1946, Den Helder) is a professor in theoretical physics at Utrecht University, the Netherlands. He shared the 1999 Nobel Prize in Physics with Martinus J. G. Veltman "for elucidating the quantum structure of electroweak interactions". Asteroid 9491 Thooft is named in his honor; he has written a constitution for its future inhabitants. He was awarded the Lorentz Medal in 1986 and the Spinozapremie in 1995. Nobel Prize in Physics laureate Frits Zernike was his great-uncle.

The name 't Hooft means "the head" or "the main" ('t is short for "het"). He is married to Albertha Schik (Betteke) and has two daughters, Saskia and Ellen. Saskia is currently translating one of her father's popular Dutch fiction books 'Planetenbiljart' into English. The book's title will be 'Playing with Planets' and is expected to be in stores as of December 31, 2008.

Important works

- A proof that gauge theories are renormalizable
- Other results about gauge theory, confinement, and anomalies
- 't Hooft was the first to realise that gauge theories simplify in the large N limit. He solved the theory in 1+1 dimensions, discovering an equation for the meson masses.^[1] This topological expansion of large N gauge theories has proved important in the AdS/CFT correspondence in string theory
- 't Hooft magnetic loop (related to Wilson loop by S-duality)
- Instanton contributions to interactions of fermions ('t Hooft interaction)
- Holographic principle (with Leonard Susskind) and other proposals about quantum gravity
- Recent attempts to revive hidden variables in quantum mechanics