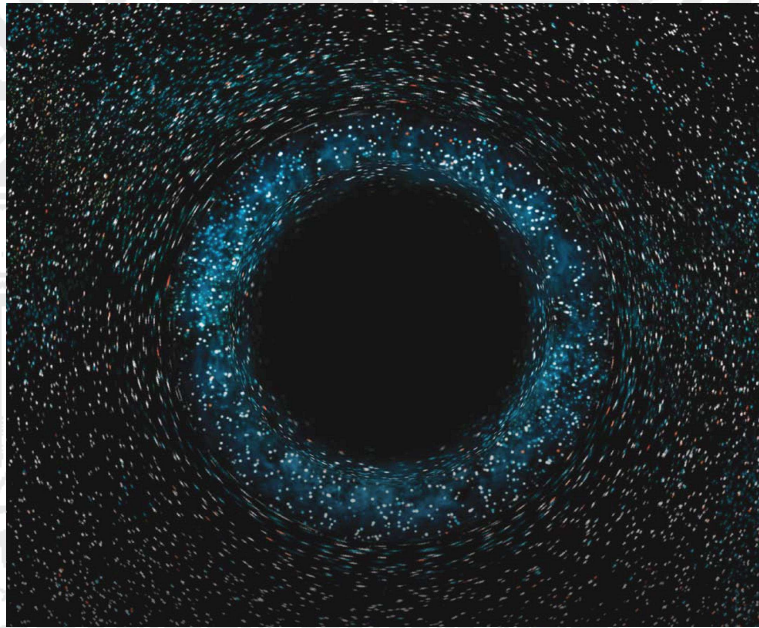


# PHYSIKALISCHES KOLLOQUIUM

## ANTRITTSVORLESUNG

AM 10. FEBRUAR 2014 UM 17 UHR C.T.  
IM GROßEN HÖRSAAL



Bildquelle: Scientific American

## BLACK STARS IN THE UNIVERSE

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Black holes are objects whose existence follow from general relativity. The gravity of a black hole keeps everything caught that once passed the event horizon. An approximate application of quantum mechanics yield that black holes slowly vaporize, but with paradox consequences. A complete quantum theory on gravitation would be needed, in order to describe black holes self-consistently. Some researchers follow the idea, that the quantum effect of vacuum polarisation is sufficient to prevent the formation of a black hole and forming a "black star" instead. This concept of a black star and other dark stellar objects are the topic of this lecture.