

Could Matthew McConaughey Be Younger Than His Biological Daughter?

Don Salisbury

Emeritus Professor of Physics

McKinney ISD 7th grade GT Boys conference at AC
October 24, 2019

TIME



BEYOND THE STARS

Director **Christopher Nolan** enlists science to explore the soul in *Interstellar*

BY JEFFREY KLUGER

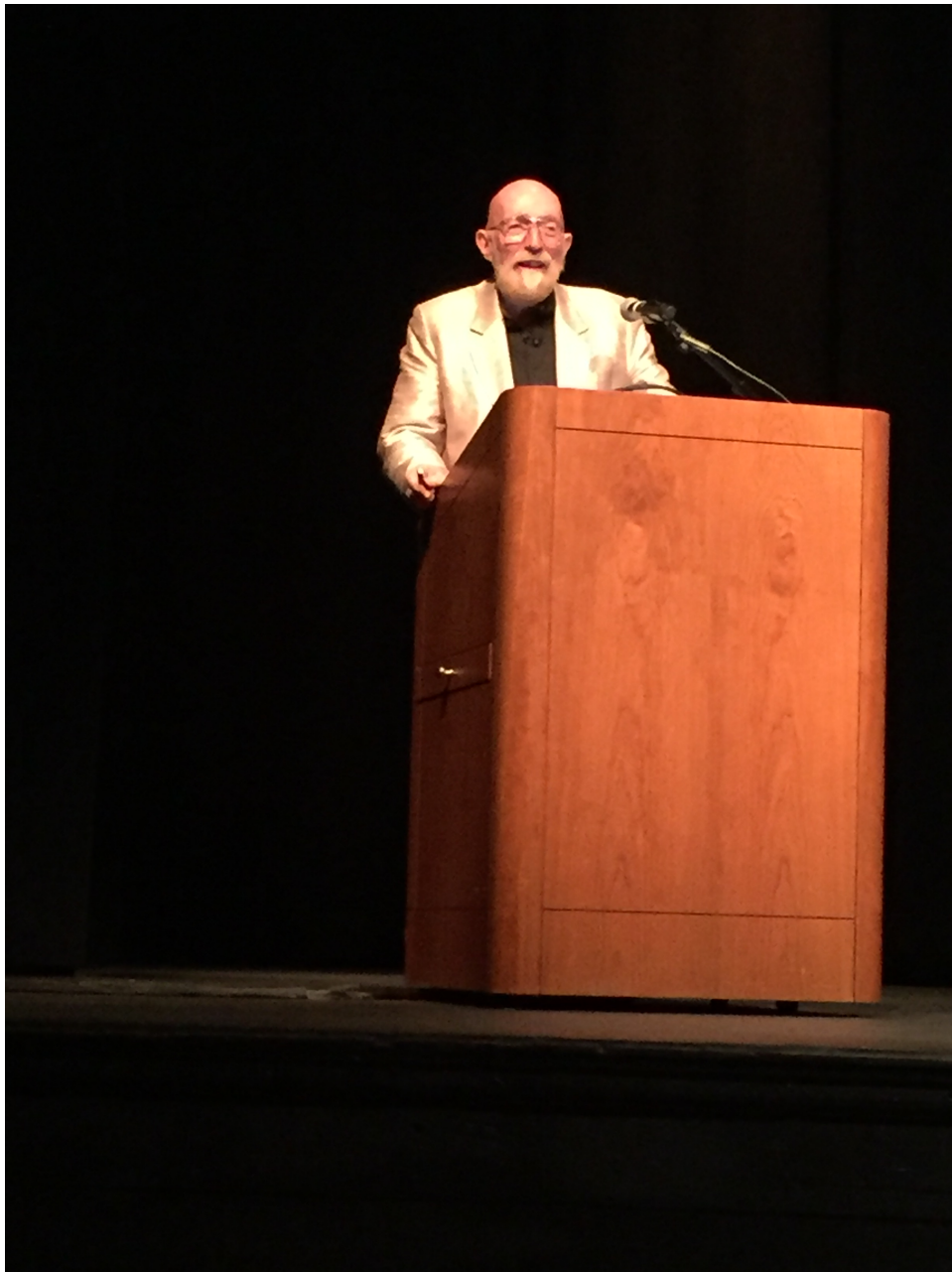
Anne Hathaway, Matthew McConaughey, Nolan and Jessica Chastain



Clara (Mackenzie Foy) and father (Matthew McConaughey)



Daughter and father at end of film!



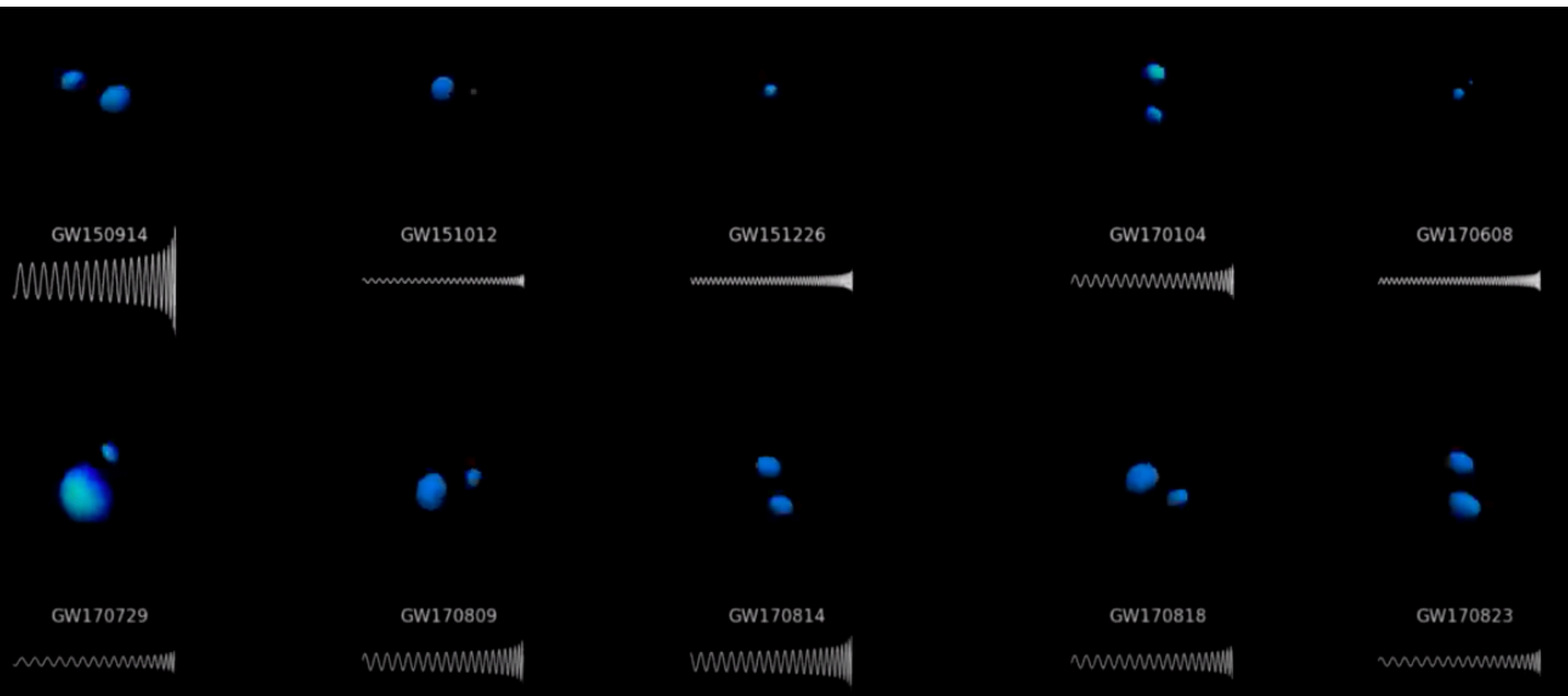
Kip Thorne – Nobel
Prize in Physics – 2017
(Popular lecture in
Austin, April 25, 2018)

10.24.19

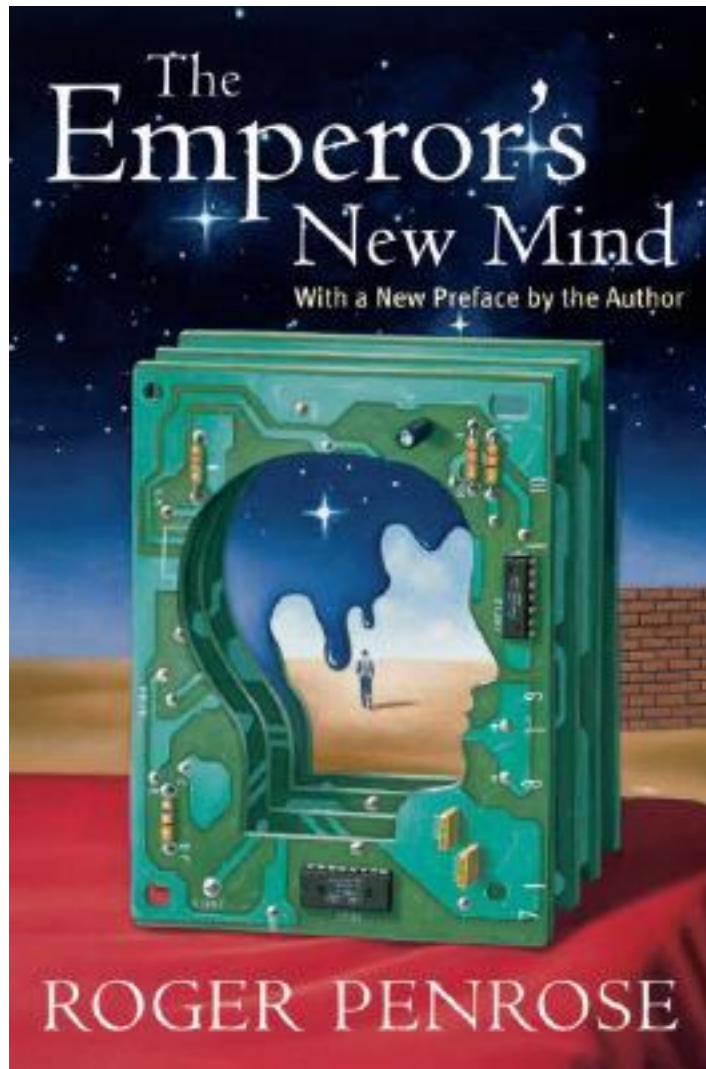


Black hole merger simulation

10.24.19



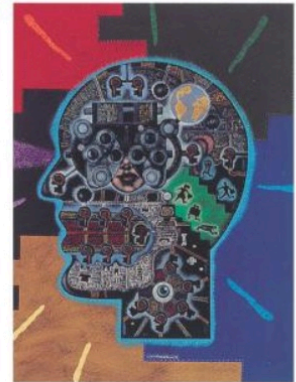
New black hole merger observations



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ROGER PENROSE

**SHADOWS
OF THE
MIND**

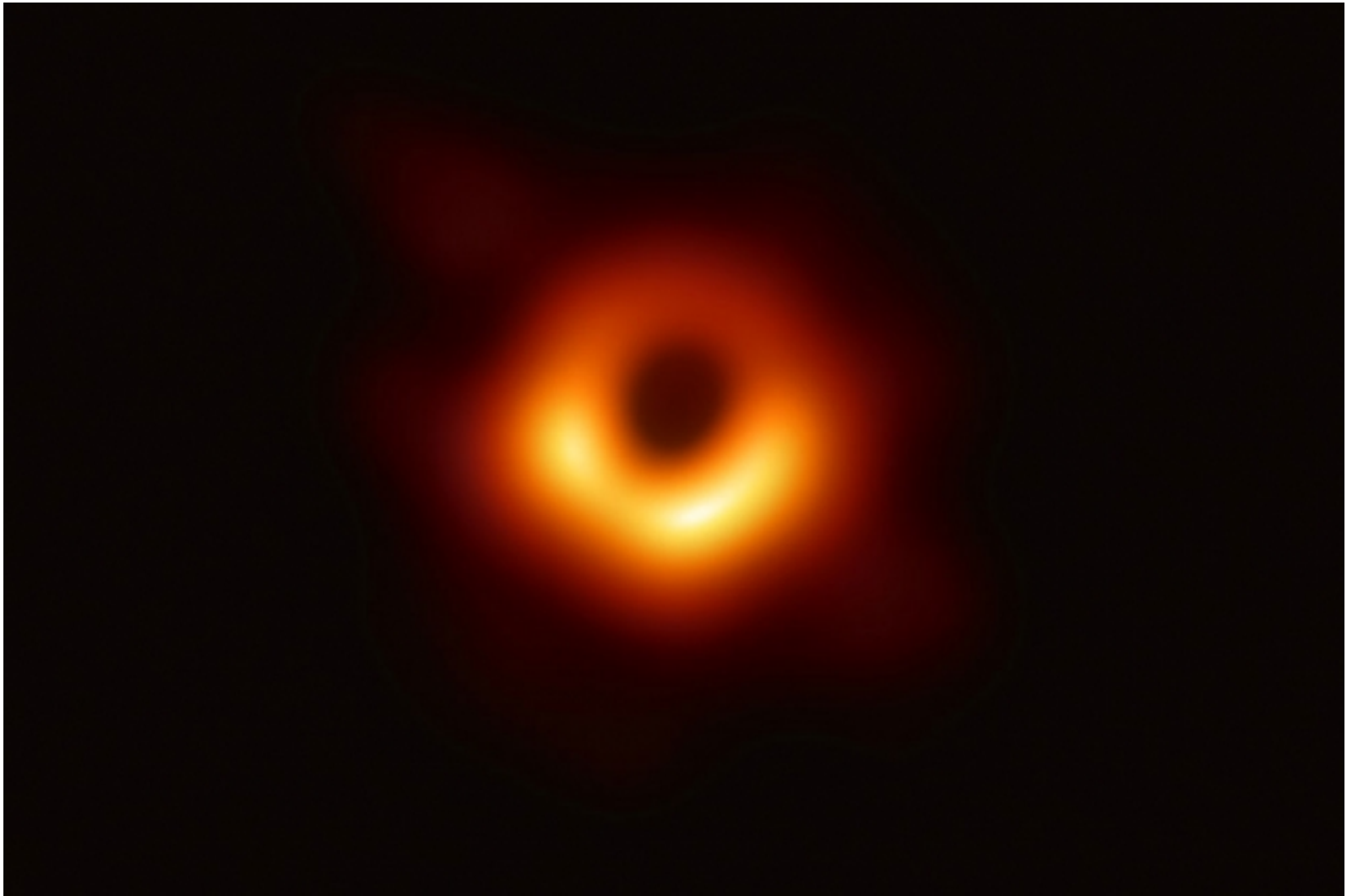


**A SEARCH FOR THE MISSING
SCIENCE OF CONSCIOUSNESS**

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Oxford University – October 10, 2018!



Real Image of a Black Hole by the Event Horizon Telescope
Published April 10, 2019



Schrödinger's cat is
both alive and dead –
before we look!





Physics Colloquium: Testing Einstein with numerical relativity: theories beyond general relativity, and the precision frontier

Wednesday, Oct. 23

4 p.m. - 5 p.m.

Location: SLC 1.102

Leo Stein (University of Mississippi)

Advanced LIGO and Virgo have already detected black holes crashing into each other at least ten times. With their upgrades we anticipate a rate of about 1 gravitational-wave detection per week. More signals and higher precision will take the dream of testing Einstein's theory of gravity, general relativity, and make it a reality. But would we know a correction to Einstein's theory if we saw it? How do we make predictions from theories beyond GR? And do current numerical relativity simulations have enough precision that we could be confident in any potential discrepancy between observations and predictions? I will discuss (i) how to perform simulations in beyond-GR theories of gravity, and (ii) how numerical relativity simulations need to improve to be ready for the precision frontier of gravitational wave astrophysics.