

From: [Miller, Carl A. \(Fed\)](#)
To: [Kuo, Paulina S. \(Fed\)](#); [Peralta, Rene C. \(Fed\)](#)
Subject: Re: ACMD SEMINAR SERIES
Date: Monday, September 26, 2016 2:08:16 PM
Attachments: [image001.png](#)
[image002.png](#)

Thanks Paulina. I'm unfortunately giving a talk at QuICS at the same time so I'll miss this. Talk to you later!

-Carl

Carl A. Miller
Mathematician, Computer Security Division
National Institute of Standards and Technology
Gaithersburg, MD

From: "Kuo, Paulina (Fed)" <paulina.kuo@nist.gov>
Date: Monday, September 26, 2016 at 10:58 AM
To: "Miller, Carl A. (Fed)" <carl.miller@nist.gov>, "Peralta, Rene (Fed)" <rene.peralta@nist.gov>
Subject: FW: ACMD SEMINAR SERIES
Hi Rene and Carl,

It seems that Scott Glancy is in town to talk about the Boulder group's work on the Bell test. I wasn't sure if you saw this email. I would encourage you to go (I can't make it unfortunately).

Paulina

From: itl-bounces@nist.gov [mailto:itl-bounces@nist.gov] **On Behalf Of** Graham, Catherine J. (Fed)
Sent: Monday, September 26, 2016 10:26 AM
To: ITL <ITL@nist.gov>
Subject: ACMD SEMINAR SERIES

APPLIED & COMPUTATIONAL MATHEMATICS DIVISION
SEMINAR SERIES

TODAY

A strong loophole-free test of local realism

Scott Glancy

*Applied and Computational Mathematics Division (ACMD), ITL,
NIST*

Monday, September 26, 2016 15:00-16:00 PM

**Building
225, B111
(Gaithersburg)
Boulder 1-
4058
13:00 -
14:00 PM**

ABSTRACT: The principle of local realism says that any physical system has pre-existing values

for all possible measurements of the system, and those values depend only on events in the past lightcone of the system. Although this principle seems natural from the perspective of classical physics, it is violated by quantum theory. In this seminar, I will describe NIST's experiment demonstrating a loophole-free violation of local realism using entangled photon pairs, a goal of fundamental physics for more than 50 years. Successful execution of the experiment required development of a high-fidelity entangled-photon source, high-efficiency single-photon detectors, and new statistical analysis techniques. Using a hypothesis test, we compute p-values as small as 5.910^9 , rejecting the hypothesis that local realism governs our experiment.

For further information, contact Wesley Griffin; (301) 975-8855; wesley.griffin@nist.gov

Note: Visitors from outside NIST **must** contact Cathy Graham; (301) 975-3800; catherine.graham@nist.gov; at least 24 hours in advance.

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