

Talk to NAS Committee on Reproducibility and
Replicability in Science
April 18, 2018

**Perspectives on Scientific Progress and
Irreproducibility**

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A new goal: Aim to do less wrong.

Scientific progress despite irreproducibility: A seeming paradox

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Open Science: Almost Always a Good Idea

Should Reproducibility and Replication be a Central
Goal for Science?
(NO)

Optimal Stopping, Optimal Design, Selection Effects

(Why Replication Should Usually Fail,
When Science is Practiced Correctly)

Should Publication of Irreproducible Results be
Suppressed?
(NO)

Scientific Exploration is Post-hoc
(What We Don't Expect to Find is
What is Important)

Statistical Problems and Statistical Remedies (Statistics Should Be Flexible and Adaptive)

Should Statistics Govern the Practice of Science or
Science Govern the Practice of Statistics?

Focusing on Successes or Problems