

A Little Bit About Me



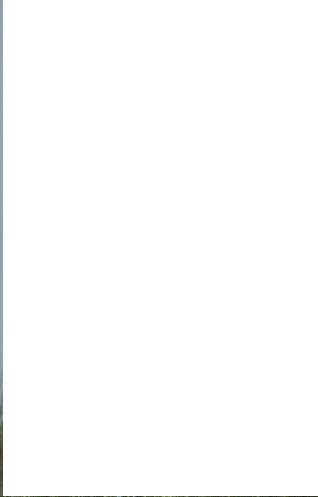
SCOTLAND



Chris



Dinah



Ben



Paul



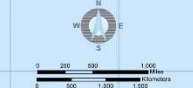
Some Places I've Lived

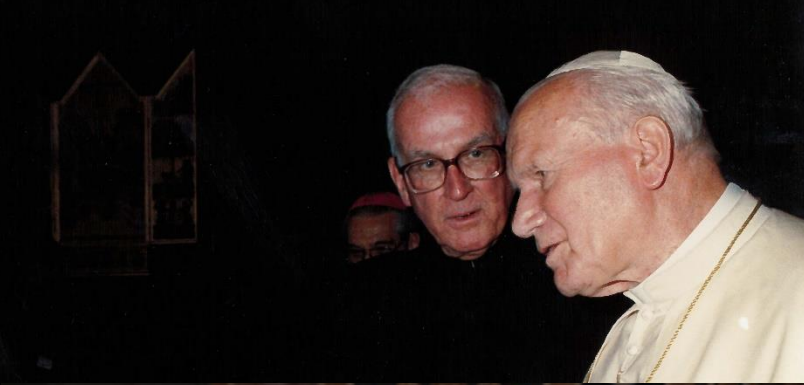


Some Places I've Visited

THE WORLD

- ★ Capital City
- Major City
- ▭ International Boundary
- ▭ State & Provincial Boundary





Me and 3 Popes:

John Paul



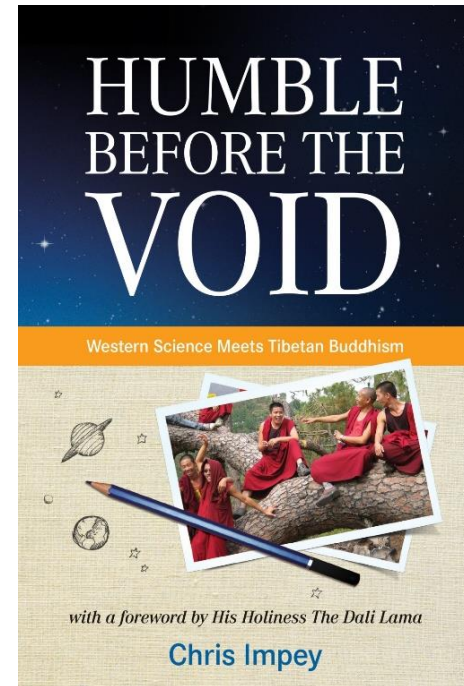
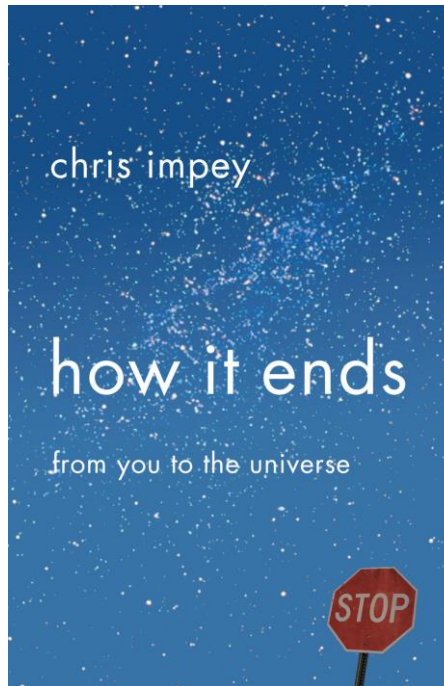
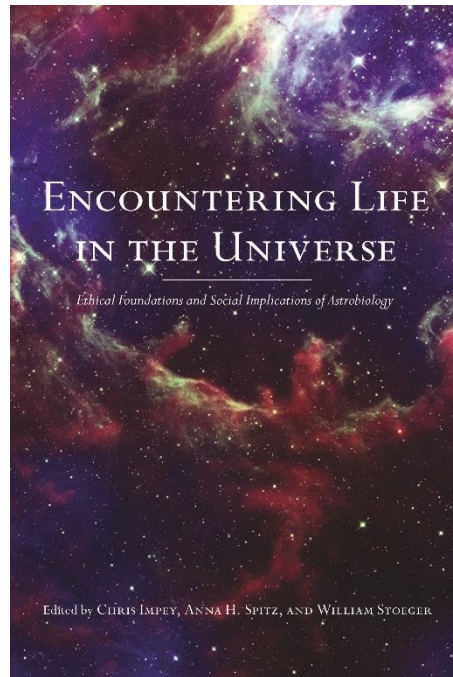
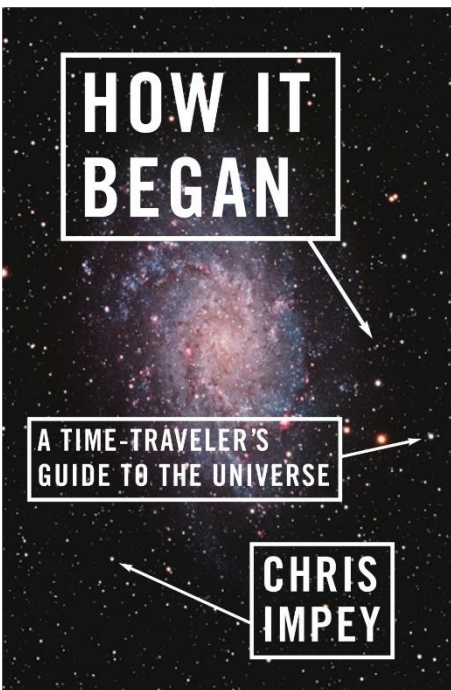
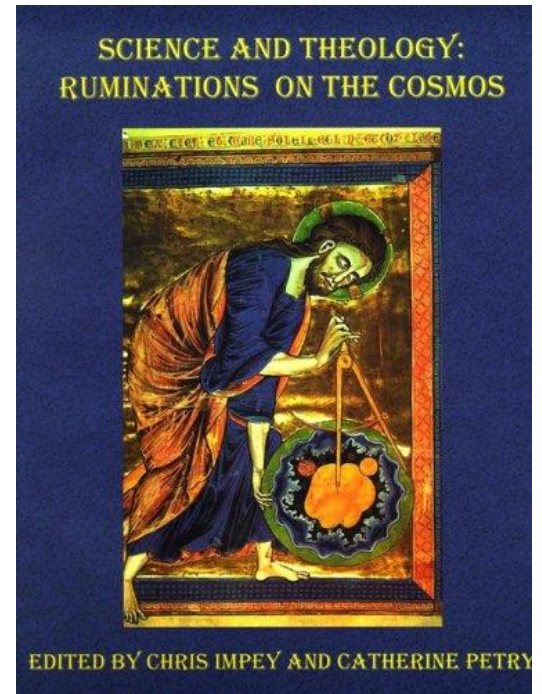
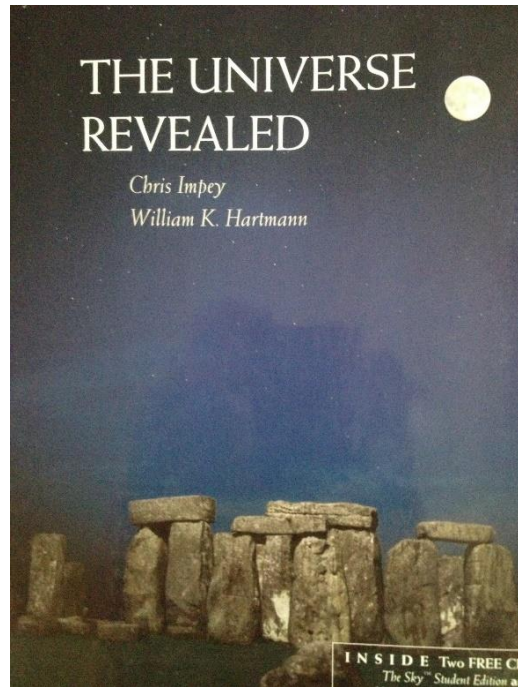
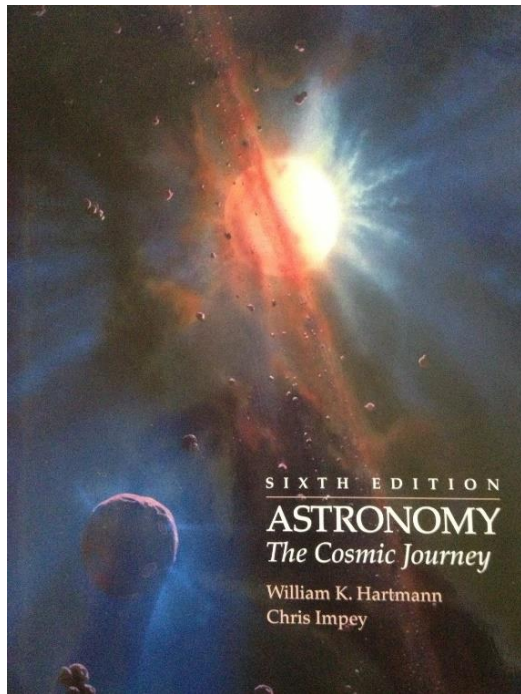
Benedict

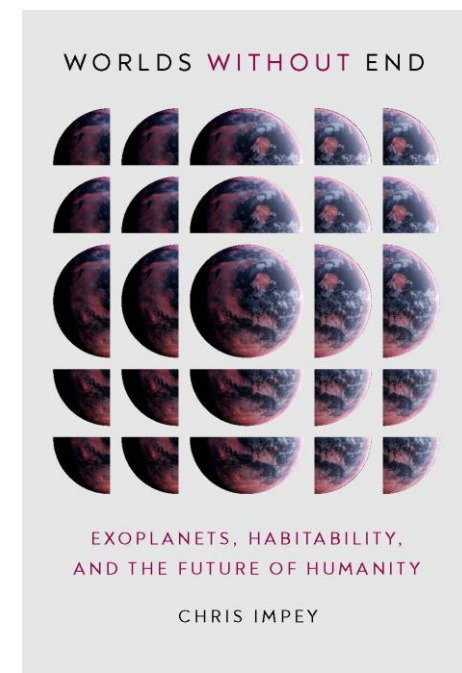
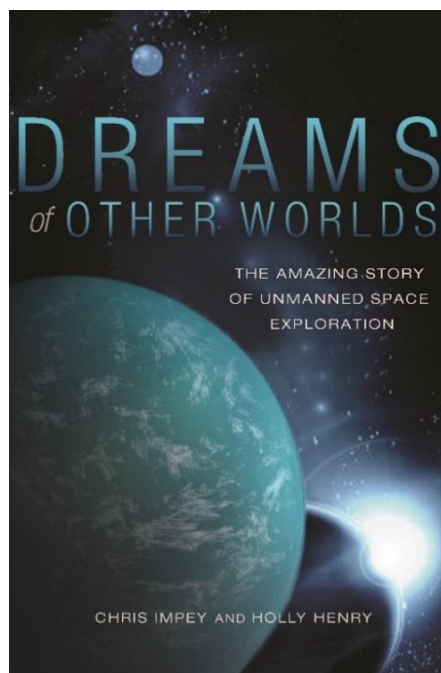
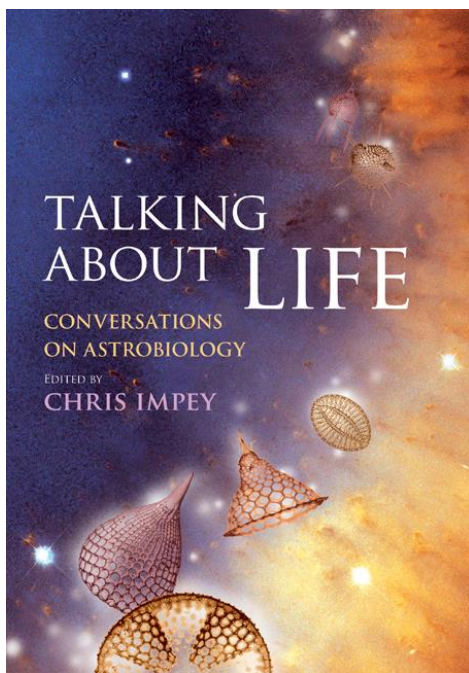
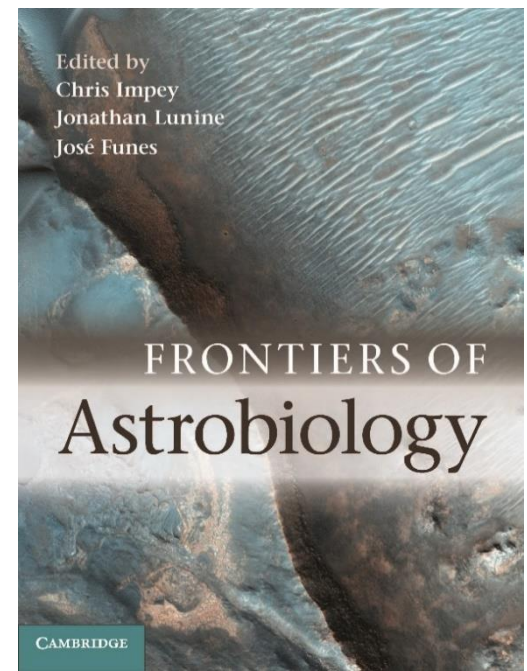
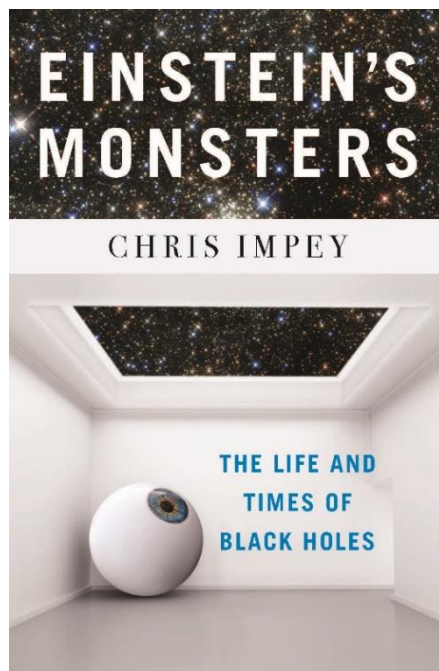
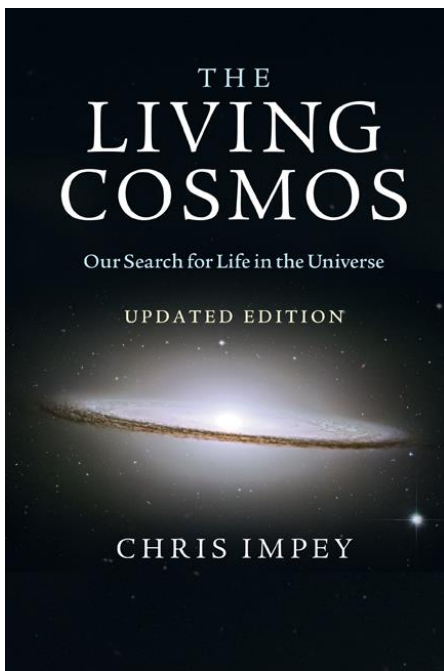
Francis





Me and the:
Dalai Lama

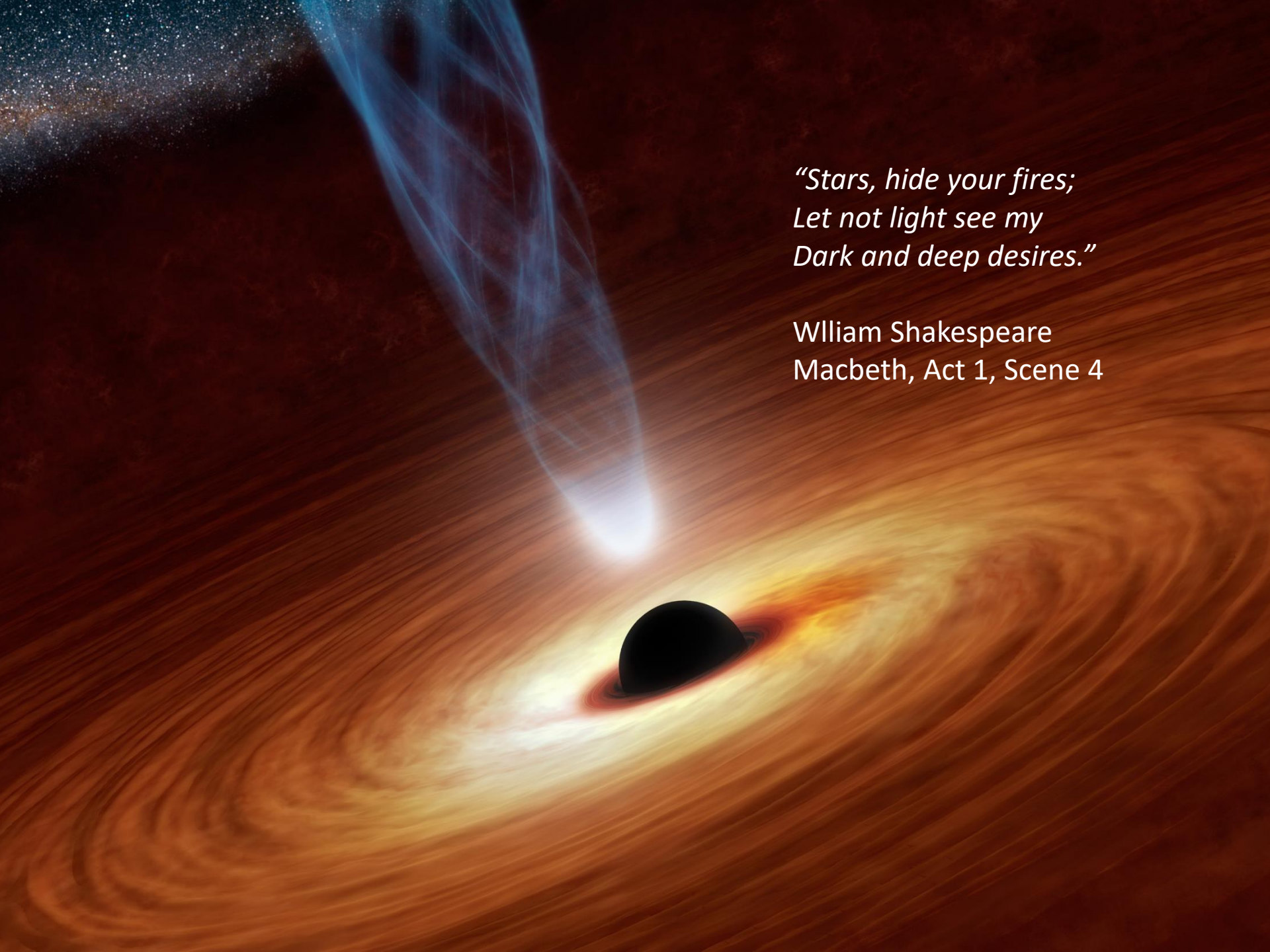






SHADOW WORLD

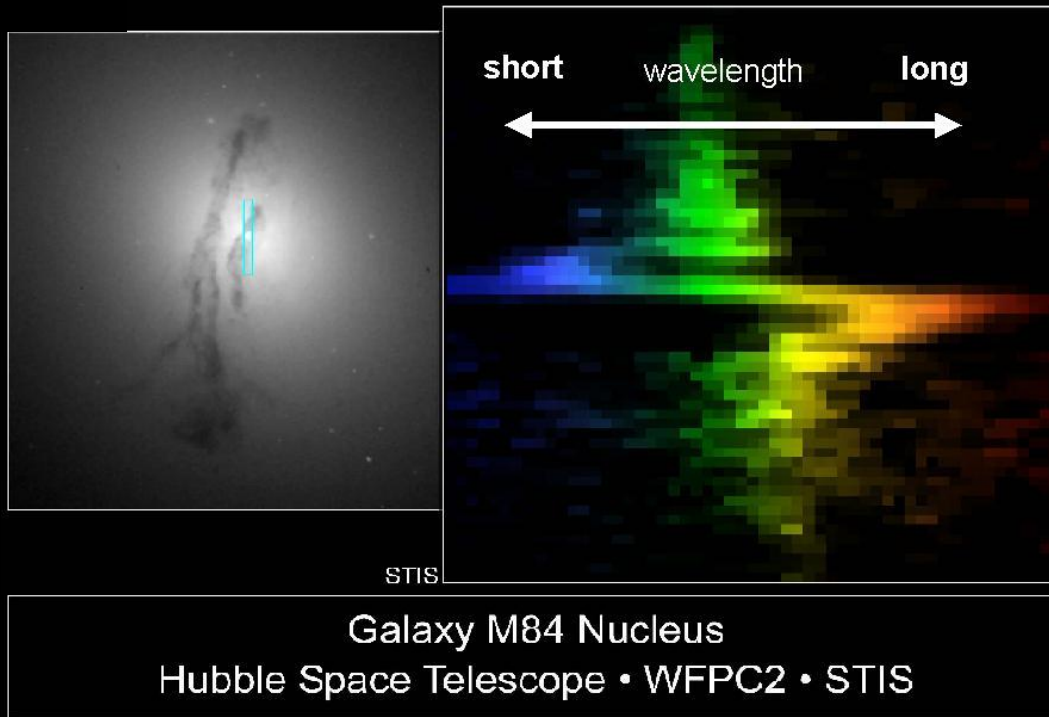
a novel by
Chris Impey

A black hole is depicted with a glowing accretion disk of orange and yellow light. A bright blue energy beam or jet extends upwards from the black hole. The background is a dark, starry space.

*“Stars, hide your fires;
Let not light see my
Dark and deep desires.”*

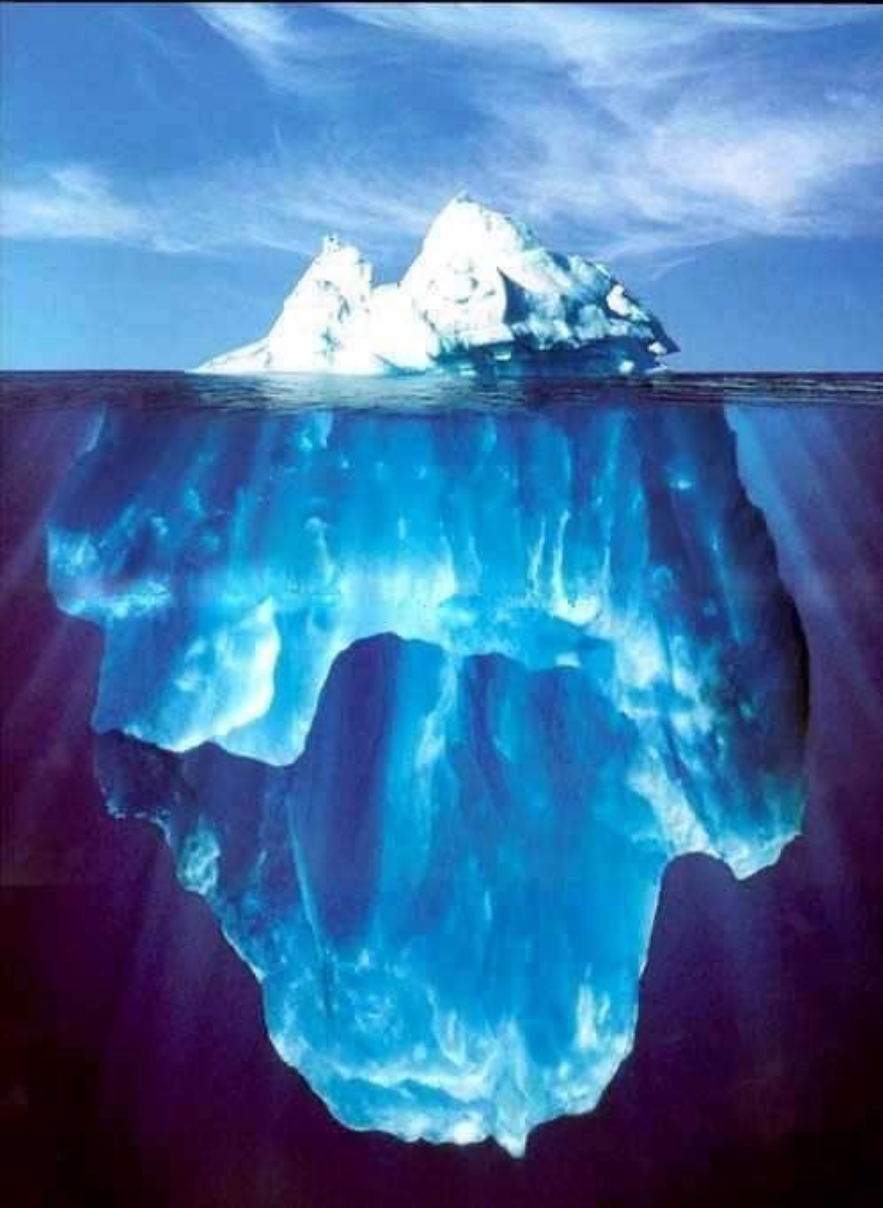
William Shakespeare
Macbeth, Act 1, Scene 4

Supermassive Black Holes



Spectra of nuclei of nearby galaxies show evidence of “dark masses,” or very massive black holes. They range in mass up to 10 billion Suns.

Every galaxy has a central black hole, but most are not accreting mass and spend most of their time inactive.



Astrobiology

Most of the Earth's biosphere is still unexplored

99% of microbes have never been cultured

Modest direct exploration of the Solar System

Few habitable planets have been characterized

SETI parameter space is largely unexplored

Modern Teaching Methods



200 A.D



2021 A.D.

Awareness of learner-centered methods: 80-90%

Adoption of 1 or more of these methods: 40-50%

Experimentation but not yet widespread adoption

Combating Fake Science

Major Climate Report Describes a Strong Risk of Crisis as Early as 2040

By Coral Davenport

Oct. 7, 2018

1468

Real or Fake Science?

Likely legitimate science! 93%

Settings

Rationale

- cites its sources
- uses language like
 - "the atmosphere will warm up"
 - "greenhouse pollution must be reduced by 45 percent"
- draws conclusion in line with its own claim and that of known-good sources

Your thoughts?

• Agree • Disagree

Why?

SCIENCE|SWIPE

Is This Legitimate or Fake Science?

INCHEON, South Korea — A landmark report from the United Nations' scientific panel on climate change paints a far more dire picture of climate change than previously thought and says that avoiding the worst requires transforming the world at a speed and scale that has "no documented historic precedent."

The report, issued on Monday by the Intergovernmental Panel on Climate Change, a group of scientists convened by the United Nations to guide world leaders, describes a world of worsening food shortages and wildfires, an

Swipe Left for Fake, Right for Real

Navigation icons: Refresh, Disagree (Red X), Agree (Green Heart), Favorite (Star)

Public susceptibility to science misinformation high
Machine learning can identify and flag fake science
Planned tools: browser extension, smartphone app

Science Communication



Science communication to a variety of public audiences
Massive open online classes (MOOCs): 350,000 enrolled
Books, popular articles, public lectures, and interviews
Training graduate students with a Sci Comm certificate





