



Physics

Wider Reading

- **Forces of Nature** – Brian Cox & Andrew Cohen
- **Angels and Demons** – Dan Brown
- **How to Teach Quantum Physics to Your Dog** – Chad Orzel
- **A Brief History of Time** – Stephen Hawking
- **Just Six Numbers** - *Martin Rees*
- **Quantum Theory Cannot Hurt You** - *Marcus Chown*
- **Why does $E=mc^2$?** - *Brian Cox and Jeff Forshaw*
- **Fizz: Nothing is as it seems** - *Zvi Schreiber*
- **Great Physicists** - *William H. Cropper*

Physics Articles

Below are some interesting articles about cutting edge physics research, organised into different areas of physics.

Gravitational Waves and General Relativity

- Einstein's gravity theory passes toughest test yet: Bizarre binary star system pushes study of relativity to new limits:

<http://phys.org/news/2013-04-einstein-gravity-theory-toughest-bizarre.html>

- First Direct Evidence of Cosmic Inflation: <https://www.cfa.harvard.edu/news/2014-05>
- This was one of the first articles announcing the discovery of gravitational waves from cosmic inflation in the early universe. However, their experiment was later shown to be flawed – you can read about this in the article below.

- Gravitational Waves from Early Universe Remain Elusive:

<http://www.jpl.nasa.gov/news/news.php?release=2015-46>

- Crashing Black Holes <http://calteches.library.caltech.edu/4298/1/BlackHoles.pdf>
- CERN's new Einstein Observatory to explore black holes, Big Bang:
<http://phys.org/news/2011-05-cerneinstein-observatory-explore-black.html>

String Theory

- New website dedicated to discussion of string theory:
<http://phys.org/news/2012-10-website-dedicatdiscussion-theory.html>
- Scientists find a practical test for string theory:
<http://phys.org/news/2014-01-scientists-theory.html>
- What is string theory?
<http://www.physics.org/article-questions.asp?id=47>
- String theory: it's not dead yet:
<http://www.newscientist.com/article/dn11882-string-theory-its-not-deadyet.html#.VQa6AqzLcjU>
- Finally, a MAGIC test for string theory?:
<http://www.newscientist.com/article/dn12609-finally-a-magic-testfor-string-theory.html>

Quantum Computers

- How Quantum Computers Work:
<http://computer.howstuffworks.com/quantum-computer.htm>
- The Father of Quantum Computing:
<http://archive.wired.com/science/discoveries/news/2007/02/72734>
- The Revolutionary Quantum Computer That May Not Be Quantum at All:
<http://www.wired.com/2014/05/quantum-computing/>

Materials Science

- Scientists fabricate defect-free graphene, set record reversible capacity for Co₃O₄ anode in Li-ion batteries:
<http://phys.org/news/2014-08-scientists-fabricate-defect-free-graphene-reversible.html>
- Theoretical physicists design 'holy grail' of materials science: <http://phys.org/news/2015-03-theoreticalphysicists-holy-grail-materials.html>
- Novel crumpling method takes flat graphene from 2D to 3D: <http://phys.org/news/2015-02-crumplingmethod-flat-graphene-2d.html>
- Stanene is '100% efficient', could finally replace copper wires in silicon chips:
<http://www.extremetech.com/extreme/171551-stanene-is-100-efficient-could-finally-replace-copper-wiresin-silicon-chips>
- What is Aerogel? Theory, Properties and Applications:
<http://www.azom.com/article.aspx?ArticleID=6499>

Particle Physics

- Why particle physics matters:

<http://www.symmetrymagazine.org/article/october-2013/why-particlephysics-matters>

- It's a boson! But we need to know if it's the Higgs:

<http://www.newscientist.com/article/dn22029-its-aboson-but-we-need-to-know-if-its-the-higgs.html?page=1#.VQfooqzLdVw>

- Particle chameleon caught in the act of changing

<http://press.web.cern.ch/press-releases/2010/05/particlechameleon-caught-act-changing>

- The search for dark matter at the LHC: <http://www.symmetrymagazine.org/article/the-search-for-darkmatter-at-the-lhc>

- Could the Higgs Nobel Be the End of Particle Physics?:

<http://www.scientificamerican.com/article/could-thehiggs-nobel-be-the-end-of-particle-physics/>

Astrophysics

- How do we know dark matter exists?:

<http://phys.org/news/2015-03-dark.html>

- The corrugated galaxy: Milky Way may be much larger than previously estimated:

<http://phys.org/news/2015-03-corrugated-galaxy-milky-larger-previously.html>

- Solving the riddle of neutron stars:

<http://www.sciencedaily.com/releases/2015/03/150310074105.htm>

- Cosmology: First stars were born much later than thought:

<http://www.sciencedaily.com/releases/2015/02/150205131233.htm>

Enrichment Activities

- Museum – The Faraday Museum at the Royal Institute
- TV Series – The Wonders of the Universe - BBC