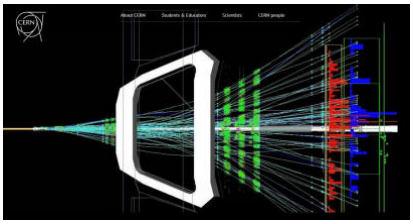
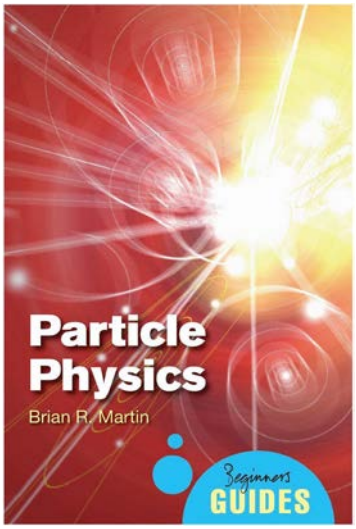
Credits and Research

Here's the list of sources I used to put together the "How small is it" video book. These books, videos, and websites also represent resources you can use to do additional research into areas touched on in this video book.

> **[Music:** *Igor Stravinsky – "The Firebird" – Written in 1910, the ballet is based on Russian folk tales of the magical glowing bird that can be both a blessing and a curse to its owner.***]**

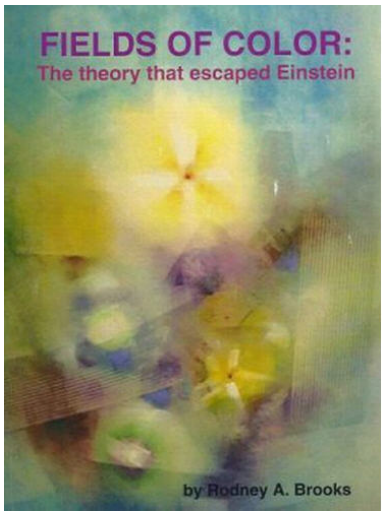
First is the CERN website itself. It has a wealth of information on Higgs and other areas of research I think you'll find very interesting. It also has great content for students and teachers.





There are two books I used extensively. One is "FIELDS OF COLOR: The theory that escaped Einstein" by Rodney Brooks. It's a really good book on Quantum Field Theory explained without any math.

The other is Particle Physics by Brian Martin. It is jam packed with info on particles and particle accelerators.



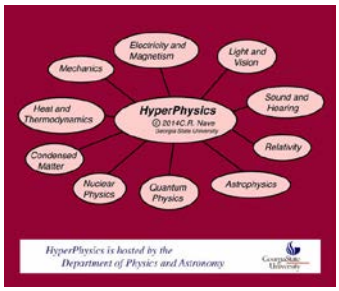
There is a great video series on YouTube from Stanford University presented by Leonard Susskind. I used it extensively and I think you'd find it fascinating –especially the finally on Demystifying the Higgs Boson.

STANFORD
UNIVERSITY

http://www.youtube.com/watch?v=JqNg819PiZY

HyperPhysics

HyperPhysics is the physics department website for Georgia State University. It is a very good site with clear explanations for quarks, gluons, color charge, Feynman diagrams and more.



http://hyperphysics.phy-astr.gsu.edu

Of Particular Significance

This is Professor Matt Strassler's website. I's an excellent site with a wealth of information on particle physics from a particle physicist. I used it extensively in the Higgs Boson segment.

http://profmattstrassler.com/

The following identifies all my sources.

Thanks for watching.

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A bubble chamber track. (Courtesy of Fermilab Visual Media Services)
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Welcome to the Higgs site at the University of Edinburgh http://www.ph.ed.ac.uk/higgs/

Young double slit experiment http://physics.about.com/od/lightoptics/a/doubleslit.htm

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Understanding Bubble Chambers (very good) https://teachers.web.cern.ch/teachers/archiv/HST2005/bubble_chambers/BCwebsite/

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Brian Koberlein's blog: A Puff of Logic http://briankoberlein.com/2014/06/25/puff-logic/#more-3391

Drum Vibrations - Oleg Alexandrov - self-made with MATLAB, http://en.wikipedia.org/wiki/Atomic_orbital

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http://www.spacetelescope.org/images/heic1411a/

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International Master Class – Hands on Particle Physics
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Quantum Diaries – great place for QED and Feynman diagrams
http://www.quantumdiaries.org/tag/qed/

Excellent particle physics site with pages for teachers
http://www.particleadventure.org/index.html

The CERN website with pages for teachers in multiple languages
http://home.web.cern.ch/

The Standard Model of Electroweak Physics, Christopher T. Hill, Head of Theoretical Physics Fermilab
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http://www.youtube.com/watch?v=2eFvVzNF24g&list=PL4E35E60B6EF36216

Demystifying the Higgs Boson with Leonard Susskind
http://www.youtube.com/watch?v=JqNg819PiZY

Origin of Mass - Search for the Higgs
http://www.youtube.com/watch?v=JBhAjTpx_Os&list=TLwgSidC27rok_afyjxPUmBi6ecfbx8zl8

Jets of Particles http://www.youtube.com/watch?v=8H8HdaMAVhY

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John Williams - Schindler's List _ Theme

Handel - Water Music Suite No 1

Dvorak - Symphony No 9 The New World II

Chopin - Piano Concerto No 1 II Romance

The Atom

Haydn - Cello Concerto No 2 II Adagio

Mozart - Violin Concerto No 3

Albinoni - Adagio in G Minor

Dave Porter - Breaking Bad Theme

Bizet - L'Arlesienne Suite No 1, Op 23

Mahler - Symphony No 5 III IV

Elementary Particles

Stravinsky - The Firebird

Beethoven - Symphony No 6 (Shepherds Hymn)

Mozart - Divertimento No 10

Dvorak - Cello Concerto, op 104

Rossini - William Tell Overture

Haydn - Piano Concerto No 4

The Higgs Boson

Albinoni - Concerto for Oboe and Strings No 2 II

Rachmaninoff - Symphony No. 2 Adagio

Brahms - Violin Concerto, Op 77 II Adagio

Ravel – Boléro

Vaughan Williams - The Lark Ascending