

'Sixty Symbols' -- unravelling the secret language of science

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(PhysOrg.com) -- It is the most famous scientific equation in history, framed by Einstein more than a century ago. But what does $e=mc^2$ actually stand for? And how does it explain the relationship between energy, mass and the speed of light?

An innovative new video project is translating the mysteries of equations like this and many other symbols of [science](#) — from Lambda(λ) and the Hubble Constant (H) to the speed of light (c), imaginary numbers (j) and propulsion efficiency (η) — into plain English, harnessing the passion of scientists at The University of Nottingham.

'Sixty Symbols' (www.sixtysymbols.com) is The University of Nottingham's newest project aimed at shedding light on the world of science, explaining the meaning of dozens of symbols and the fundamental part they play in modern life.

Physics and astronomy are full of symbols that can seem daunting to the outsider — a secret language that holds non-scientists at arm's length. 'Sixty Symbols' will help to break down those barriers with sixty short videos, each just a few minutes long and posted on a dedicated website, featuring academics chatting about an aspect of the subject they love.

Professor Richard Bowtell, Head of the School of Physics & Astronomy, said: “Symbols are an essential part of the language of physics — each one forms a window onto an aspect of our subject.

“Working with Brady Haran on the Sixty Symbols project is a great opportunity to explain some fascinating physics and to illustrate some of the exciting work that's going on in the School of Physics and Astronomy.”

The videos are created by filmmaker and former BBC videojournalist Brady Haran. From physics at the scale of the tiniest nano-particle to the structure of entire galaxies, they look at every aspect of a fascinating subject in ways that most viewers will not have seen before.

Find out from Professor Laurence Eaves why 137 is a magical number, and why it could be useful to alien-hunters:

Hear from Professor Michael Merrifield about 'the ultimate constant' in physics — the [speed of light](#):

www.youtube.com/watch?v=w_DenvIA9gQ

Discover why imaginary numbers are so important to physicists, from Professor Philip Moriarty: www.youtube.com/watch?v=EIstpPXKWng

Or see an aerial demonstration, by Dr Steve Pickering, of what a jet engine has in common with a water-filled coke bottle:

www.youtube.com/watch?v=TSxWstqs0Po

The project follows The University of Nottingham's 'Periodic Table of Videos' project (www.periodicvideos.com), featuring an entertaining short film about the properties of every single element in the [Periodic Table](#), from aluminium to xenon, as explained by academics in The University of Nottingham's School of Chemistry.

The Periodic Table project has rapidly become a worldwide phenomenon on the web, amassing almost six million hits since its

launch and an army of more than 12,000 subscribers to its YouTube channel from all over the world. Its sister site — www.test-tube.org.uk — showcases the work of scientists and engineers in Nottingham.

Filmmaker Brady Haran has worked with University of Nottingham scientists to create all three projects. He said: “I guess all those squiggles used by scientists can seem like another language... In fact, many of them are taken from other languages. But each one has a story behind it, and each of those stories is truly fascinating.

“And who better to tell those stories than a group of world-class physicists and astronomers. These men and women spend every day exploring the outer boundaries of the universe and the inner workings of the atom. It's brilliant that we can briefly drag them from those amazing places to tell us a few tales of what they find there.”

New films will be posted on the 'Sixty Symbols' website every week throughout the coming months. Viewers who would like a particular symbol explained can contact Brady at [sixtysymbols\[at\]hotmail.co.uk](mailto:sixtysymbols[at]hotmail.co.uk) .

Provided by University of Nottingham ([news](#) : [web](#))

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