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Weekend in Washington

The University's Dr Bill Chaplin, Reader in Solar and Stellar Physics was invited to Washington to deliver a speech at the **American Association for the Advancement of Science (http://www.aaas.org/)** (AAAS) 177th annual conference. The AAAS is an international non-profit organisation dedicated to the advancement of science globally. AAAS is also responsible for the publication of the internationally renowned and respected journal **Science (http://www.sciencemag.org/)** .

Saturday 19 February 2010

I was in Washington to speak at the 177th annual meeting of the American Association for the Advancement of Science, giving a talk as part of the session 'Kepler: Looking for Other Earths.' The Nasa Kepler satellite is monitoring the brightness of around 150,000 stars, looking for earth sized planets in the 'Goldilocks' (habitable) zones of their host stars. The data is being used to detect minuscule changes in the brightness of the stars, due to oscillations from trapped sound waves. This 'music in the stars' is where I come in. I'm working with more than one hundred colleagues around the world to study the music of stars like our own sun (a field called asteroseismology).

Held in downtown Washington at the impressive DC Convention Centre, the session was opened by the Kepler science lead, Bill Borucki, a prominent Space Scientist who discussed the one thousand planetary candidates that Kepler has discovered in its first few months of operation. Just under seventy candidates are earth-sized and around fifty of the one thousand candidates appear to lie in the Goldilocks zones of the host stars.

Matt Holman, Smithsonian Astrophysicist and Lecturer at Harvard University and Sara Seager, Ellen Swallow Richard Professor of Planetary Science and Professor of Physics at the Massachusetts Institute of Technology, next informed us of the stars that have multiple planets and rocky 'Kepler 10-b' planet which circles so close to its star that surface temperatures are hot enough to melt iron!

My presentation focused on how Kepler is literally revolutionising our ability to study stars like the sun, thanks to the wonderful asteroseismology data it is giving us. Asteroseismology colleague Conny Aerts also gave us an informative talk about the fantastic results coming out of Kepler on other types of stars. Finally, Martin Still (who is responsible for the Kepler 'Guest Observer' programme) told professional astronomers in the audience how they can get involved.

In the following press conference, we discussed our results with representatives of the international media. The room was packed (I'd guess more than 100 journalists), after we gave a short summary of what was presented, starting with Bill Borucki, we fielded questions for the next forty five minutes or so. After the press conference it's was off to do some follow-up interviews, including Pallab Ghosh, the BBC Science Correspondent and Alok Jha, the Guardian's Science Correspondent who interviewed me for his **Science Weekly podcast (http://www.guardian.co.uk/science/audio/2011/feb/28/science-weekly-podcast-aaas-david-nutt)** .

Before the day ends I took the chance to chat to my fellow presenters. After looking over some of the latest data and discussing ideas for new analysis and projects, we chat over recently worked on research papers that are about to appear.

Find out more about Bill's work by visiting the **asteroseismology website (http://octave.ph.bham.ac.uk/astero.php)** .

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