I Tune, You Tube, We Rule

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Summary

The website *YouTube* was created in 2005 and has rapidly become one of the most popular entertainment websites on the internet. It is riding the online video wave today like few other online companies and is currently more popular than the video sections of either *Yahoo* or *Google*. *iTunes*, a digital media application created by Apple in 2001, where one can download and play music and videos, has had a similar success. There is little doubt that they both represent important communication channels in a world heavily influenced by online media, especially among teenagers and young adults. As science communicators we can use this direct route to a younger audience to our advantage. This article aims to give a taste of these applications with a few selected examples demonstrating that both *YouTube* and *iTunes* are excellent tools to teach and inspire the general public.

YouTube

There are typically three types of astronomy videos seen in *YouTube*: short clips, most of them recorded by amateurs and distributed free to the world; longer ones, in some cases professionally produced by big companies or organizations, and lastly videos uploaded on the web (often without permission) from previously published productions such as Carl Sagan's beautiful *Cosmos* series. The first are low-cost and can be just as interesting as long productions full of special effects. In this category, the "how to" videos may be among the most appealing ones. These videos have often allowed individual amateurs to share a huge amount of knowledge and information with a large audience. Topics may include the workings of telescopes in general, specific functions, such as how to use a *GOTO* telescope system as well as generic astronomy tutorials. YouTube allows this much sought after information to be quickly disseminated and is becoming an essential tool for the beginner astronomer.

Webcam mod for Telescope is an example of a popular video for beginners in amateur astronomy. It describes how to adapt a cheap webcam and make it work as an astronomical camera to be attached to a telescope in a concise and practical way. With over 20,000 views it is easy to see how popular such tutorial-based astronomy videos are.

Figure 1. Webcam mod for Telescope, (Credit YouTube user: jorowi)from http://www.youtube.com/watch?v=9khTIkwNmW8.

One can also imagine that videos on how to observe the Sun, eclipses, or comets could be produced, and these would probably go a long way towards enthusing and educating a public that might not otherwise engage in astronomical activities. Similarly, short movies without any narration but with the right visuals can also do the job. One example is *Aurora*, a clip of some time-lapse footage that shows impressive views of the aurorae australis and the sky over Antarctica. Without any spoken information, it is capable of both inspiring and intriguing the public. The user can always find a video which might tell them more about a particular phenomenon by following *YouTube*'s "related" box to the right of the video.

Other videos such as the 3D animation *Orion Nebula 3D* also give an excellent insight into the physics of space. A lay viewer is more likely to absorb the information contained in the video with the aid of an explanatory narration, atmospheric music and excellent visuals. So long as sufficient quality is maintained, this will ultimately result in users watching astronomy

Figure 2. Aurora, (Credit YouTube user: Antzarctica)from http://www.youtube.com/watch?v=icugqEEOgkg.

Figure 3. Orion Nebula 3D takes us on a journey into one of the most famous nebulae in the sky. From http://www.youtube.com/watch?v=PyxOF_8T5hg (Credit YouTube user: Indriq; Animation credit: VisLab SDSC).

content that they might not usually be drawn to. Today, even the big public outreach offices of space agencies and observatories worldwide are using *YouTube* to reach a wider audience. An excellent example of a professionally produced video from a public outreach office is *Black Holes: Tall, Grande, Venti* from NASA's Chandra X-ray Observatory. Users who enjoy these videos can usually also subscribe to the outreach office's *YouTube* channel — as is the case with the Chandra video. But the beauty of *YouTube* is the ease with which such videos can be produced, uploaded and shared. Huge budgets are not always required as even seemingly low-cost productions can have a profound and influential impact. Take the superb video *Ant: Light Pollution* whose anti-light pollution message is as simple as it is eloquent and powerful.

Figure 4. Black Holes: Tall, Grande, Venti is a video produced by NASA's Chandra X-Ray Observatory public information office and is about one of the most intriguing subjects in popular astronomy. (Credit YouTube user: cxcpub) from http://www.youtube.com/watch?v=yPj641uN9Gc

iTunes

iTunes is an application that can be downloaded for free (see references for the link). In the *iTunes Store*, under the "Podcast" and "Science and Medicine" sections, several astronomy video podcasts may be found. Downloads and uploads are free. Submitting videos to *iTunes* rather that *YouTube* may require a bit more time, but the experience is worthwhile. As with *YouTube*, *iTunes* has been used to great effect by many of the world's big science and astronomy public affairs offices and there is no

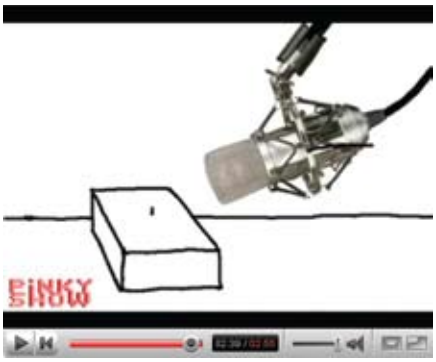

Figure 5. Ant: Light Pollution (Credit YouTube user: pinkyshow) from http://www.youtube.com/watch?v=skKpivApW7E.

Figure 6. Hidden Universe HD is also a great video podcast series with stunning graphical and audio content. (Credit NASA/Spitzer Science Center/Robert Hurt.)

reason why we, as science communicators, should not do the same.

Using These New Technologies to Our Advantage and Avoiding Misconceptions

These media can be used in a fairly broad manner by science communicators either by using the videos in both formal and informal educational situations, during talks to the public, or as an alternative distribution channel for releases and news with a large user base for new or existing video material.

Internet video is the medium of choice today for many people looking for news and information. People watch what they want, and a key step to induce lots of mouse clicks on your video is an interesting title and an eye-catching icon. It is equally important that the content be visually appealing, not too long and factually correct. Bad science and misconceptions in astronomy can be easily disseminated through this medium, so we, as astronomy communicators, are in charge of providing good content for the public.

Figure 7. Hubblecast HD is a video podcast series that showcases the latest news and images from the Hubble Space Telescope. Read more about the production details in Christensen & Shida (2007). (Credit ESA/Hubble.)

Bios

Raquel Yumi Shida is a web developer and Assistant Public Information Officer for the International Astronomical Union, the European Space Agency's Hubble group and the International Year of Astronomy 2009 secretariat in Garching, Germany.

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