

Culture media

Chris Condayan explains how self-created audio and video content might enable more microbiologists to share knowledge and news online.

According to the 2006 [Pew Internet: The Internet and Science](#) survey, 87% of Americans use the internet for science-related research and 67% of internet users stumble across science news and information when they are online for an unrelated reason. As the science audiences for newspapers, radio and television decline, the future for audio and video podcasts, blogs and social networking looks bright. On the horizon we are starting to see the emergence of science-related social networks and a movement towards 'open science' that allows scientists and researchers to collaborate on projects, communicate results, share data and publish papers with the same recognition that is afforded to colleagues who publish in print journals. Specific details of how open science will work are still murky, and concerns over citation, peer review, accuracy, scooping and accountability resound even among its strongest supporters. But this has not stopped microbiologists from engaging with one another on wikis, such as [EcoliWiki](#), [TOPSAN](#) or [Proteopedia](#), or prevented thousands of scientists from sharing their poster presentations, lectures or laboratory methods through [iTunes](#) or video destination sites, such as [YouTube](#), [SciVee](#) and [JoVE](#).

Podcasting for audio or video is generally defined as episodic content that listeners or viewers can subscribe to for free and which they can consume at any time and on any device, whether it be a computer, iPod, mobile telephone or television set. Audio podcasts are easy and affordable to create, and can be used to make a radio-style show or to make lectures available to a wider audience. Uploading and sharing videos on websites such as YouTube, or creating a video podcast show, is more time consuming and requires more equipment and a video-editing software program.

The demand for audio and video content is exploding. For example, the number of professional and user-generated 'video views' is expected to increase by 43.4% in 2008, following a 57.6% increase in 2007, according to [Accustream](#). Podcast audiences are predicted to increase by 251% to 65 million by 2012, and of these listeners, 25 million are predicted to tune in at least once per week, according to [eMarketer](#). And the listenership to audio podcasts is not as young as one might expect. For example, a survey by [The Scientist](#) magazine in 2006, found that the average science podcast listener is 42.5 years old and a 2007 [comScore](#) report found that 18–24 year old

iTunes podcast subscribers represent 29% of the audience, whereas 35–54 year old subscribers represent half of the audience. With the popular rise of user-generated content, a new paradigm is emerging. Niche-focused science associations and societies, research groups, universities and individuals have fewer opportunities to promote science through the more traditional means of press releases to news organizations, but instead have far greater opportunities to create, promote and distribute their own science news. There are now many examples of microbiologists who produce online resources to educate and promote microbiological research. The American Society for Microbiology produces audio and video content for the web under the auspices of [MicrobeWorld](#). To date, [MicrobeWorld Radio](#), a daily microbiology news service, has had more than 3.5 million 'listens' in just over 3 years. The monthly [MicrobeWorld Video](#), which profiles an event, subject or scientist, launched in April 2007, and has had almost 800,000 'views'.

Although 'hard data' on the listeners and viewers of MicrobeWorld are unavailable, more than 30 professors and educators at various school districts, community colleges and universities have built MicrobeWorld into their curriculum. Individual educators are also using new media. Since the autumn of 2005, Rita Alisauskas from the County College of Morris, New Jersey, USA, has been publishing audio podcasts of lectures from her general microbiology class, entitled Microbiology Lectures, on the iTunes music store. Alisauskas claims that 65% of students in her class listen to the podcasts and as a result have improved their grades by 3–6 points on average. iTunes also has free audio, video and enhanced podcasts on microbiology from more than 20 sources. What is interesting is that most of the microbiology podcasts are posted by individuals rather than organizations, institutions and businesses. The popular quote from American science-fiction author William Gibson, "The future has already arrived. It's just not evenly distributed yet," still holds water, but the dam is starting to crack for online science communication and information distribution. As long as the internet remains free from regulation, every microbiologist has just as much access to online distribution as the BBC and CNN do. And in this day and age, if you don't start sharing knowledge and news online, you may run the risk of becoming irrelevant in the near future.

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