

Who said writing down science was the only way to disseminate it? **videlectures.net** provides a whole new approach to the communication of science. Lectures from researchers in fields as diverse as Arts, Economics, History and Computer Science are all available for free viewing on this revolutionary website. High quality camerawork and sound recording combined with the projected slides of the speaker enable web browsers to show the latest research anywhere in the world. Details of the number of downloads, and feedback from viewers is also provided, motivating speakers to improve their technique and become more popular on the site. Videlectures is breaking boundaries and allowing science from quality conferences to be seen and understood by more people than ever before. Its creators have even more ambitions for it in the future.

Videlectures was born in 2001 as an internally-funded project at the Jozef Stefan Institute, Slovenia. The pilot project involved videoing the weekly *Solomon Lectures* held at the institute – regular lectures open to the public on artificial intelligence and general computer science topics. These were made available online in an attempt to enable students and researchers around the world to become part of a global audience.

These initial experiments were so successful that the team behind videlectures began to collaborate with a series of

European projects. One of the first and main contributors (both financially and in terms of lectures) was PASCAL, helping videlectures to grow rapidly. PASCAL's many workshops and links to major conferences contributed several hundred new lectures for the site (three times more than from any other project) providing a valuable resource for PASCAL researchers.

Soon the use of increasingly advanced video streaming technology made videlectures the collaborator of choice for many. In the words of Sebastjan Mislej, videlectures.net provided a "synergy with the global trends and more formal efforts by the European Union in creating a Knowledge Economy and Information Society."

As videlectures was seen to provide quality recordings for existing projects, the team were increasingly approached to become involved with new projects. Over the next few years, videlectures.net joined forces with a series of Framework 5, 6 and 7 projects. The list of projects is a long one. In addition to the biggest contributor: PASCAL, the list of collaborators also includes projects such as: SEKT (Semantically-Enabled Knowledge Technologies), ECOLEAD (European Collaborative Networked Organisations Leadership Initiative), NEON (Lifecycle Support for Networked Ontologies) and EURODICE (European Inter-Disciplinary Research on Intelligent Cargo for Efficient, Safe and Environment-friendly Logistics), and many others. The team also approached major conferences and events and recorded them in full.

Such extensive involvement with so many projects quickly transformed the online resource into a truly global phenomenon covering an impressive range of topics. According to Mislej, "the portal videlectures.net is being used as an educational platform by EU funded research projects on disciplines such as

Artificial Intelligence, Machine Learning, Semantic Web, Data Mining. These projects are encompassing different organisations, among others Xerox Parc, British Telecom, Max Planck, Fraunhofer Institute, Australian National University and Carnegie Mellon. The range of countries involved and languages used varies from Ukraine, Europe, USA, Taiwan, Australia and Brazil." Amazingly, speakers from more than 1700 leading research institutes, companies, academia, governmental and public bodies have contributed their lectures so far.

Videlectures is now run by the dedicated Center for Transfer in Information Technologies at the Jozef Stefan Institute, led by Mitja Jermol since 2003. With experience in research on training for a major publishing house and interests in cutting edge science and novel forms of dissemination, Jermol is perhaps the ideal head for the group. But despite his experience, the videlectures project has had its own unique challenges for Jermol and his team.

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“One of our biggest problems was that some scientific lectures can be very boring,” Jermol says. “it was necessary to develop technology so that people could look at the slides and keep their interest. Many people would only watch five minutes.” To respond to these issues, the videolectures team developed a series of tools. Enabled by a move to the Django web toolkit in early 2007, PowerPoint slides now appear next to the video, timed to change as the video plays. Talks on similar topics are linked. Viewers can comment on the lectures, leading to online discussions about the material. The number of downloads are listed, and lectures are ranked according to their popularity.

These innovations have created a real change to the style and quality of presentations being made by academics. “People check their ratings and ask themselves why someone less famous than they are is getting more downloads,” says Jermol. “This encourages them to improve their style.”

It seems that videolectures.net is achieving the impossible – helping lecturers to motivate themselves into becoming better at giving presentations. This is helping to drive a cultural change in communication, with younger researchers becoming more used to eye-catching and effective presentation techniques.

As the technology improves and is made increasingly consistent over all operating systems and browsers, the number of visits from people across the world increases (see map). Feedback from viewers is also excellent, with complimentary comments from as far afield as Africa and Australia.

Today videolectures.net is one of the leading web-based educational portals of its kind. It already has links to academic sites that host videoed lectures, and is being approached by others such as MITopencourseware to share content. ACM, Carnegie Mellon University and others have agreed for their events to be recorded by videolectures. There are even tentative plans to host material from countries such as China and create an automatic subtitling service to enable translation for all.

The future of this exciting project looks bright, especially with PASCAL 2 continuing the considerable support begun by PASCAL. Over the coming years the videolectures team hope to build a major consortium of high quality universities to provide live streaming of local and global events. Future material may be hosted across many sites, shared using open-source code, and maybe downloadable to individual desktops. Semantic tools that enable users to visualise similarities between topics, people and lectures may help users find the right lecture for them.

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Sebastian Mislej has more ambitions: “One other major goal is to cover all the major world scientific conferences for general and specific scientific users in different areas and to expand the academic disciplines for every possible viewer to Fine Arts, Humanities, Social studies and Law.”

Mitja Jermol is rightly proud of their achievements.

“We have become established as a reference portal for users around the world.” He also has some ambitions of his own, suggesting that a video-based journal with lectures reviewed by a scientific committee would be a valuable new way to present scientific research. Perhaps one day the exclusive and expensive paper-based, written journal article might become a thing of the past. In the words of Jermol, “In the USA several years ago when they wanted to put everything online for free, the publishing industry stopped it from happening. I believe knowledge is for the whole of society and should not be suppressed.”

Resources:

Videolectures: <http://videolectures.net/>
 Jozef Stefan Institute: <http://www.ijs.si/ijsw/JSI>
 PASCAL: <http://www.pascal-network.org/>

