Interview with Moshe Pritsker

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The ScienceOnline09 meeting last weekend not only had a number of interesting presentations and discussions, but even more importantly, was a great opportunity to personally interact with a great number of people that share your ideas and interests. It was the first time I personally met Moshe Pritsker, the CEO, Editor-in-Chief and co-founder of the Journal of Visualized Experiments (JoVE), a peer-reviewed, free access, online journal devoted to the publication of biological research in a video format (taken from About JoVE). As I like to write about new technologies that help scientists publish their research, I asked Moshe a few questions after the meeting.

1. Can you describe what JoVE is and does?

JoVE is the first video journal for biological and biomedical research. We publish articles that include step-by-step video demonstrations of experimental techniques and procedures. For example, A Behavioral Assay to Measure Responsiveness of Zebrafish to Changes in Light Intensities by the group of John Dowling at Harvard or Calcium Imaging of Cortical Neurons using Fura-2 AM by the group of Ricardo Dolmetsch at Stanford. We call these articles video-articles or video-protocols. They also include a text part which is similar to traditional scientific articles (abstract, introduction, experiment, materials and references).

This novel video-based approach to scientific publishing is applied to increase reproducibility and transparency of experimental studies, which is the bottle-neck problem in the life sciences today. As every bench scientist knows, it is very difficult to repeat biological experiments based on their text description in traditional scientific journals. This is because the text format presents a requirement for scientists to understand the complex reality and numerous small details of the experiment from reading. It is very difficult. Visualization through video provides a solution to this problem by clear unambiguous demonstration of experimental techniques and procedures. Using this new approach will enable increase efficiency and productivity across all the areas of biological research and drug discovery.

Being a scientific journal, JoVE is indexed in PubMed and MEDLINE, and has an editorial board of 22 distinguished professors from Harvard, Princeton, NIH

and other leading institutions in US, Europe and Japan. After two years, since its foundation in October 2006, JoVE has published nearly 300 articles across all the areas of experimental biology including neuroscience, cell biology, developmental biology, stem cell research, immunology, bioengineering and plant biology. Most of the articles are produced at the laboratories in the leading academic research institutions including Harvard, MIT, Berkeley, Stanford, UCSF, Yale and others.

2. What kind of research is well-suited to be published in JOVE? And what kind of research doesn't work well?

The JoVE video-based format of publication is very effective for description of experimental techniques in all the areas of biological and clinical research. We have accumulated a lot of experience in production and publication of video-articles in these areas. This format can be also applied for experiments in chemistry and physics. For example, we have recently published a video-article on a creation of chemical libraries using Ugi reaction by Jean-Claude Bradley group at Drexel University.

We have less experience with video-publication on theoretical and computational research, e.g. bioinformatics. We currently explore developing different formats for these non-experimental areas of science.

3. How do you help authors with video production?

We know that most scientists do not have experience in video-production, and therefore cannot make good quality videos on their own experiments. Therefore, we take complete responsibility for this part. Specifically, we send video-professionals to film at the laboratories that want to publish their experiments in JoVE.

The entire JoVE publication process works as following:

- authors submits a text description (protocol) of their experiment to JoVE
- JoVE sends one of its video-professionals to film the experiment in the authorsâ€™ laboratory
- JoVE editors edit the video
- the video is submitted to the approval by authors and reviewers

To facilitate integration of video into scientific publishing, JoVE has developed a network of video-professionals to conduct production of scientific videos in research labs across 30 cities in USA, Canada, UK, Germany and Japan including such centers of academic research as Boston, San Diego, San Francisco, New York, Chicago, Seattle, Toronto, Vancouver, London, Berlin and others. These video-professionals are selected, interviewed and trained by JoVE before they are sent to film in the laboratories. This infrastructure enables production and publication of video-articles from university laboratories around the world.

4. Can you talk a little bit about the peer review process?

The video-articles are sent to reviewers in a regular fashion: 2-3 anonymous reviewers at different universities. The reviewers provide their comments according to the timeline in videos, e.g. "introduce changes at 2 minutes 35 seconds". They also provide comments on the text part, e.g. "introduce changes in paragraph 4".

We are more interested in the applicability and technical clarity rather than novelty of the methods published. To achieve our goal, to increase transparency and efficiency in biological research, we need to visualize all the experimental techniques applied today. It is less important whether they are old or new. For example, purification and transplantation of hematopoetic stem cells are used for more than 40 years. Yet, it is very difficult, even impossible, to learn these techniques based on text descriptions. So, it should be published on video.

5. What are your responsibilities within JoVE?

As every CEO of a start-up, I wear multiple hats. I oversee and coordinate the work of different parts of JoVE including editorial, publishing, IT, video-production, business development, marketing and sales. My personal responsibilities as Editor-in-Chief include management of the editorial and publishing processes, marketing in academia and publishing industry, and PR.

I consider myself EXTREMELY lucky to meet very smart and hard-working people working with me on JoVE, including my two partners and JoVE co-founders, Nikita Bernstein and Klaus Korak (M.D.). Among others are Aaron Kolski-Andreaco (Ph.D.), Nandita Singh (Ph.D.), Mark Shalinsky (Ph.D.), Alvin Liang and Lori Chesla. A large fraction of doctorate-holders in the team enables us to adapt our innovative product to the high demands of the scientific community.

6. What did you do before starting to work for JoVE?

I was doing my Ph.D. in Molecular Biology at Princeton, working on embryonic stem cells and bioinformatics. This is where the JoVE idea was born since I, like any other scientists around, was suffering from low reproducibility of experiments. Then I was working as a post-doc at Harvard Medical School, Massachusetts General Hospital, for one year. Then I met my partners, Nikita Bernstein and Klaus Korak, and JoVE was started.

7. Do you want to talk about future plans for JoVE?

My dream is to build a large comprehensive online video-library that will include a video-protocol for every possible experimental technique in biological and medical research. This will tremendously increase productivity of research in academia and biotech industry, accelerating development of new technologies and drug discovery. This will also have a strong impact on scientific education and science policy at all levels.

Being initially focused on basic biological research, we received numerous requests to expand our approach into clinical medicine, psychology and other fields. We are doing our first steps in these directions too.

Further Reading

- Official JoVE blog with posts from Anna Kushnir (Blogging Can Help You Get a Job, Continued) and Graham Steel.
- Visualize This! Interview with Moshe Pritsker (A Blog around the Clock)
- Science Online 09: moving beyond text (Nobel Intent)
- Out in the open: Some scientists sharing results (The Boston Globe)
- From ONS to Peer Review: our JoVE Article is Published (Useful Chemistry)
- JOURNAL CLUB: A Behavioral Assay to Measure Responsiveness of Zebrafish to Changes in Light Intensities (Good Paper Journal Club)