



#### About

- Hartwick College is a private liberal arts and sciences college of 1,500 students, located in Oneonta, NY, in the northern foothills of the Catskill Mountains

#### People

- **Kevin Schultz**  
Assistant Professor of Physics,  
Hartwick College

#### Goals

- Provide an easier way for students to write in LaTeX without running into installation or versioning issues
- Create an efficient, facile way for a teacher to mentor students with their scientific writing
- Create a more efficient mechanism for coursework and assignment submission
- Create an easy way for a teaching professor to write research papers and make them ready for submission to pre-print servers and journals

#### Approach

- Investment in a team license for Overleaf which offers LaTeX-based scientific writing with collaborative editing functionality, from any web browser

#### Results

- 80 assignments per month produced through Overleaf
- Elimination of traditional technical problems associated with local installations of LaTeX



Kevin Schultz

## Smoother, higher quality assignment writing

### Physics teaching professor Kevin Schultz uses Overleaf to manage the writing and reviewing process around his students' assignments and lab reports

Kevin Schultz, Ph.D., is Assistant Professor of Physics, Hartwick College. His interests include atomic physics, ultrafast lasers, semi-classical physics quantum chaos and microcontrollers. He uses Overleaf to manage the scientific writing and review of his classes' lab projects and assignments, and for the writing and publication of his research papers.

#### Balancing teaching with research

Kevin faces the challenge of trying to do high quality teaching in physics at a small liberal arts college, while at the same time producing some research with his students. Kevin tries to get an article out at least once every two years. His field of research is quantum chaos and his latest publication is based on the use of the open source Arduino microcontroller as a teaching tool. Arduino is a tool for making computers that can sense and control more of the physical world than your desktop computer. It's an open-source physical computing platform based on a simple microcontroller board, and a development environment for writing software for the board.

Kevin used Overleaf to write his paper on Arduino. He then submitted the paper to arXiv and the American Journal of Physics. "I downloaded the tex documents from Overleaf and uploaded them to the American Journal of Physics server."

Kevin first encountered Overleaf when doing a web search on LaTeX tools. Kevin comments: "It looked intriguing, so I e-mailed founder John Hammersley, and decided to try it out for my class. Overleaf merges the worlds of cloud document management and LaTeX. This got me really excited."

Kevin and his class of 10 students use Overleaf. From a teaching standpoint, when Kevin teaches his lab course, he requires his students to write their lab reports in LaTeX. The students are also using Overleaf for other lab projects beyond their Physics class. Every lab report is done through Overleaf. In each semester, over 80 assignments are submitted by the students through Overleaf. Kevin is also working through Overleaf to help the students improve their writing.

#### Timely delivery

Kevin points out a less obvious benefit of Overleaf. "More assignments are coming on time as the students are no longer fighting with the program LaTeX itself." Getting LaTeX installed on the students' computers proved problematic. Now Kevin and the students can bypass this technical inconvenience by using the cloud-based Overleaf to manage the writing of assignment and lab reports. "I don't have to worry about the students installing LaTeX on their own, what distributions they are using and so on. I don't have to do troubleshooting on the installation part anymore." **cont.**

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### Real time processing

The students like real time, web-based processing of their documents that Overleaf offers. Kevin also likes the fact that student assignments can be more efficiently written, submitted and processed. He comments: "We now have a way of being able to manage the assignments. In the past the students would upload their tex files to D2L, Moodle or Blackboard or some other system, then I would have to open up the files and fix all sorts of issues. Now I can look in on the assignments as they are being written, help the students with the writing as they are writing, and add helpful comments to their work. It is the ability to collaborate very easily that drew me to Overleaf."

"It's getting the students not to wait to the last minute to start their assignments. They can send a message to my office in real time, and I can review their documents. I can also make the technical evaluations around the LaTeX code more easily than I could have done in the past."

### Reasonable cost

For Kevin, the pricing for Overleaf is just right to cover the class. He comments "It's a very reasonable cost for the department to manage and I will be subscribing again next year to the tool."

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