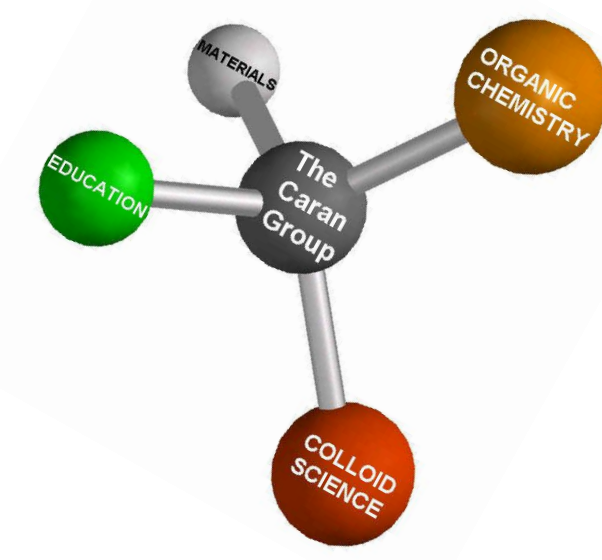


# Chemical Demonstrations – Developing an Infrastructure for Outreach



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## Abstract

This project, which has been ongoing for close to two years, aims to aid and provide resources to people interested in using chemistry demonstrations in a variety of venues. Specifically, we are targeting college professors, college students and K-12 teachers, largely within the state of Virginia. We have made significant progress over the last year. A new website was developed (Summer 2011), with improved functionality and appearance compared to the original site (Summer 2010). This website includes over 50 demonstrations with instructions on how to perform them, including downloadable and editable Word formats. In addition the website contains lesson plans and problem sets corresponding to selected demos for ease of use in the classroom. Chemistry Demonstration Workshops for High School Teachers were held in the summers of 2010 and 2011. The workshops included hands-on demonstration instruction, a presentation on the importance of demos, and opportunities to discuss demos with other high school teachers. Videos for demos using liquid nitrogen and dry ice were recorded and produced in collaboration with JMU's Center for Instructional Technology. These videos were incorporated into the website, and DVD copies were given to participants of the 2011 Workshop.



## Chemistry Demonstration Workshops

Demonstration Workshops were held for high school teachers in the summers of 2010 and 2011. Participants received hands-on demonstration instruction at JMU and got to discuss variations and presentation styles with each other. The first workshop (2010) was two hours long; this year we expanded to a full day workshop.

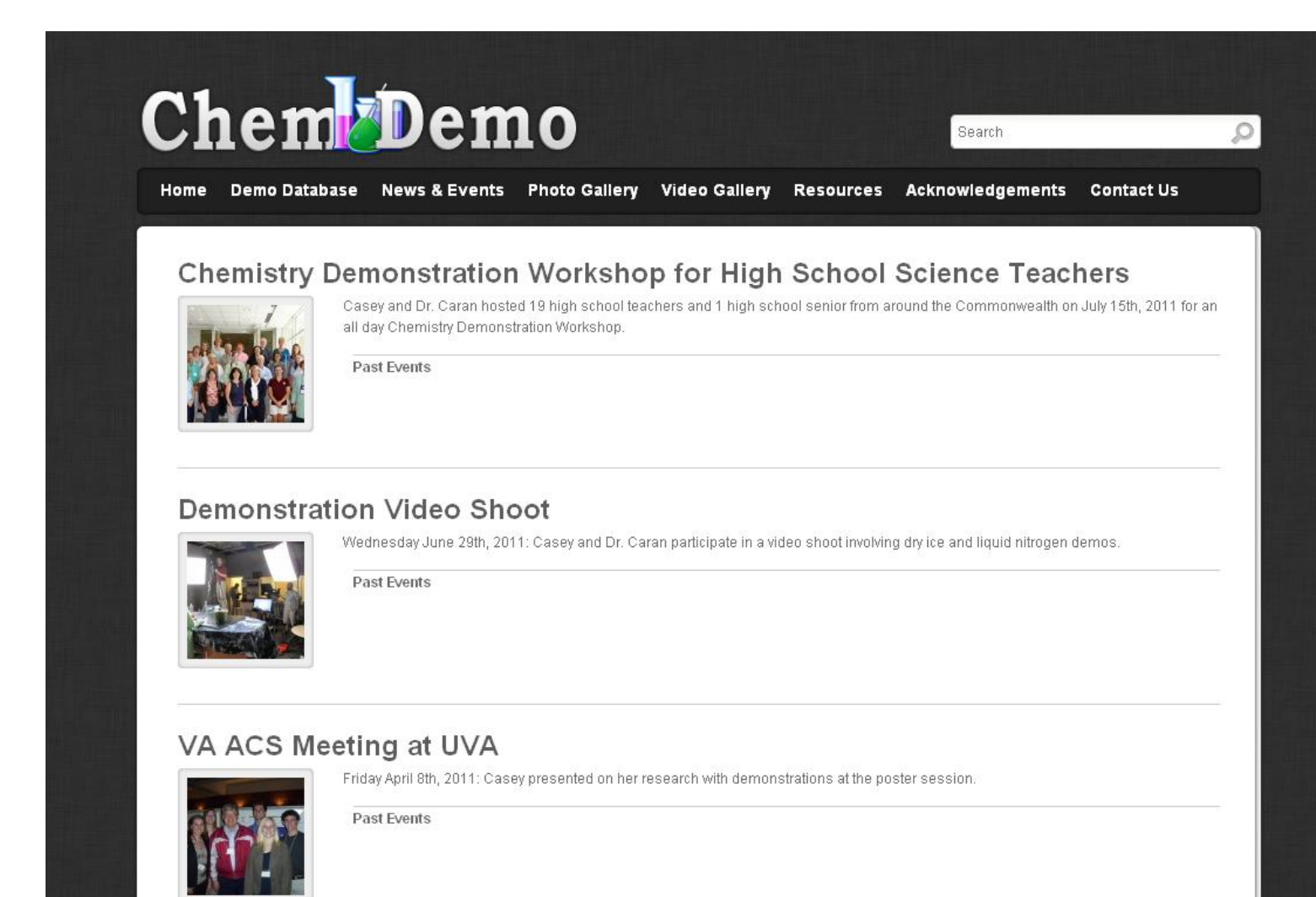


## Demonstration Videos

After requests from high school teachers for videos to use in class, we filmed chemistry demonstration videos. Videos were filmed in a professional studio on JMU's campus, in cooperation with JMU's Center for Instructional Technology. The first set included demos using liquid nitrogen and dry ice. The next set included demos requiring a fume hood.

## Website

A website was developed for use within and beyond the Department. The website contains a "Demo Database" which provides information on how to do over 50 demonstrations including which Virginia Standards of Learning (SOL) that correspond with each demo to aide high school teachers. Some demos have lesson plans and/or problem sets associated with them as well.



<http://sites.jmu.edu/chemdemo>

## Future Work

- presentation at the Virginia Association of Science Teachers' Professional Development Academy
- develop additional **lesson plans** and **problem sets** for the demonstrations
- strengthen relationships with K-12 teachers
- **strengthen safety information**
- expand the number of **demo kits**
- continue to improve and expand the **website**

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Summer 2010  
• 12 participants  
• 11 different schools



Summer 2011  
• 20 participants  
• 15 different schools



Map of Virginia showing the location of schools who have had a teacher attend one of our workshops.