Chemistry Demonstrations at JMU

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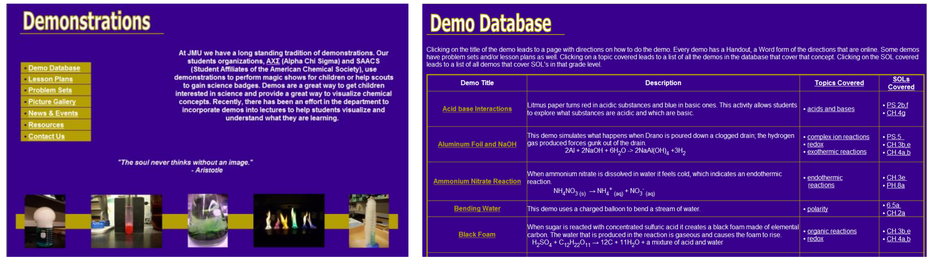
Abstract

All novel and established chemistry demonstrations within the JMU Chemistry Department were organized into handouts, which give instructions on how to do each demonstration. Lesson plans and problem sets were also developed for selected demonstrations to increase the appeal of doing demonstrations in the classroom. The handouts, lesson plans, problem sets, and an appendix were compiled into a handbook. The handbook was formatted into a demonstration website for ease of access in the department as well as externally. Internally, “Demo Kits” were assembled to provide instructors with the ability to easily perform a demonstration in class without the hassle of preparing and gathering the materials. A demonstration workshop was held for 12 high school teachers as a way to positively impact communities beyond JMU.

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 40 demonstrations including which Virginia SOLs that correspond with each demo.



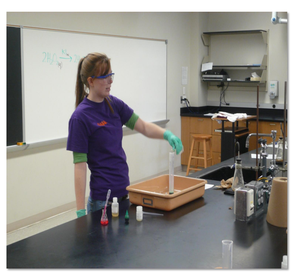
http://csma31.csm.jmu.edu/chemistry/faculty/caran/research/outreach/index.htm

Future Work

- develop additional **lesson plans** and **problem sets** for the demonstrations
- strengthen relationships with K-12 teachers
- **Demonstration Workshops**
  - full day workshop
  - provide more opportunities for teachers to interact with each other
- **strengthen safety information**
- expand the number of **demo kits**
- develop a **demo show** to be performed locally
- continue to improve and expand the **website**
- explore the possibilities of creating a **service learning course** at JMU on demonstrations

Demonstration Workshop

A demonstration workshop for high school science teachers was held in Summer 2010 where they learned hands on how to do 12 demonstrations. The teachers discussed amongst themselves and shared ideas.

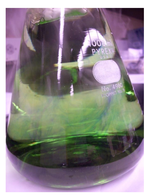


Freshman Outreach

On February 4, 2010 and March 3, 2011 Casey taught the freshman chemistry majors how to do demonstrations in their lab class. This was an attempt to get the freshman more involved with the outreach, more interested in the student organizations, and more involved in department life.

Colored Flames

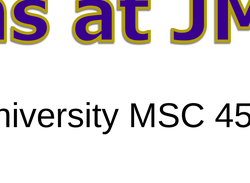
M&M Color Wheel



Dry Ice in Universal Indicator

Elephant’s Toothpaste

Hot-Cold Water



“Demo Kits” were assembled for instructors to take to lecture. The kits include everything needed to perform a demonstration. These have been popular among General Science course instructors, and by student organizations for doing demos in schools.

Acknowledgments

•Tickle Summer Research Scholarship
•Research Corporation for Scientific Advancement, Departmental Development Award 7957
•Dr. James P. Wightman (professor emeritus, VT Chemistry)
•Dr. Bassam Shakhashiri (professor, UW-Madison Chemistry)