

May 16, 2017

Dear Colleagues,

Thank you for writing about the chemistry computer simulations and animations that were posted on the Iowa State University web site. It is good to know you continue to find the simulations useful for your students. It is also good to know there are over 2,000 chemistry instructors who are using one or more of the computer simulations. We appreciate you writing to us and telling us how you use the computer simulations with your students. Teachers have told us the simulations are versatile and are used in a variety of settings. We are encouraged that teachers have coupled the computer simulations with guided-inquiry tutorials and group work and have reported this combination to be a highly effective form of instruction. It is gratifying to know something we did is helping chemistry instructors and helping chemistry students.

The computer simulations were developed by the chemical education group at ISU as part of a research project funded, in part, by two grants from the USA National Science Foundation (NSF DUE), assessing the effectiveness of instructional computer simulations. We did not intend for the simulations to be used as is in the classroom. When we started to post the simulations on one of the ISU web sites, we did not anticipate anyone outside of Ames, Iowa would use the simulations let alone that there would be a worldwide use of the simulations by chemistry teachers. We did not start a company and we did not charge teachers for using the simulations.

The simulations are now 10-12 years old and coded in a Flash program that does not exist any longer. We do not have the funding to fix bugs in the software and to pay for the server space to host the computer simulations at Iowa State University. With the advent of ransom ware cyber attacks, universities and college need to protect their servers from unwanted intrusions. The computer simulations and animations are indeed no longer available on the Iowa State University web site.

However, the University of Oregon is willing to host a web site for the computer simulations and animations, if the download process can be made to be secure. It is taking time and effort to get all of the security issues in place. The recent ransom ware attacks have imposed new security restrictions and up-dates and is going to delay the unveiling of this new and improved web site. A link will be posted on my University of Oregon web page when the server is ready.

In the meantime, my colleague, Professor John Gelder, has some of the computer simulations and animations plus the simulations developed in conjunction with Michael Abraham, University of Oklahoma, hosted on a secured server at Oklahoma State University. GOTO <http://intro.chem.okstate.edu/>

Good news. John Gelder and Mike Abraham and Tom Greenbowe are working on the GAG project (Gelder, Abraham, Greenbowe). We are slowly developing the next generation of chemistry Computer Simulations and Animations. These are coded in html5, work on computers and work on smart devices. We have several Beta Versions we can share with you. Please note these are BETA versions, meaning the software used to program the simulation have some flaws we need to fix. Each simulation had a fixed budget of funding and time. We have lots of ideas of what we want the simulations to be able to do, however, for now we have

restrictions. These simulations are not yet ready to be released as a product. We have used the simulations in a pilot study with our students and have found the simulations to be useful and effective when coupled with a POGIL like tutorial and having students work in small groups.

HTML5 Beta Versions

Electrolysis

http://media.pearsoncmg.com/bc/bc_0media_chem/chem_sim/html5/Electro/Electro.php

Calorimetry

<http://dbpoc.com/pearson/chemsims/gold/calorgold5/Calor.php>

Stoichiometry

<http://dbpoc.com/pearson/chemsims/alpha/stoichupdate6/Stoich.php>

Gas Laws and Kinetic Molecular Theory

<http://dbpoc.com/pearson/chemsims/gold/kmtgold/KMT.php>

It would help us if you and your students would work through these simulations and keep track of any errors and send us a description of the errors with screen shots. If you want your students to do something with the simulations but currently the simulations are not programmed to do it, please write to us. It would also help to know if you believe the new simulations are on the right track and you would be willing to use more of these simulations in your classroom.

Sincerely,

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