

## MONDAY, JULY 25

### **Mon-01:00-P-01, Chemistry Building, Room 2271 .....Presentation**

Mon 1:00-1:45 PM

#### ***Gel Electrophoresis for Project-Based Learning in Chemistry***

Ann Fournier, [afournier@springside.org](mailto:afournier@springside.org)

Agarose gel electrophoresis is a culminating project for a unit on molecular structure and bonding. This is an activity suitable for project-based learning. Participants in the workshop will run a sample gel. A student handout, tips for organization and a demonstration of computer analysis of results will be provided.

### **Mon-01:00-P-02, Wood Hall, Room 1001 .....Presentation**

Mon 1:00-1:45 PM

#### ***Tricks of the Trade***

Amy Zitzelberger, [amy.zitzelberger@hazelpark.k12.mi.us](mailto:amy.zitzelberger@hazelpark.k12.mi.us), and Emily Burkett

We've packed our best stuff and brought it to share: high school activities ranging from basic to AP level. Classroom tested labs, lessons and demos including: Gas Laws Lab Stations, Conductivity, Exam Review Lab Stations, "Seeing" CO<sub>2</sub>, Naming Compounds Look Book, Easy K<sub>sp</sub> and Titration Curve Calculations and more.

### **Mon-01:00-P-03, Wood Hall, Room 1710 .....Presentation**

Mon 1:00-1:45 PM

#### ***Competence of First year College Chemistry Students in Some Basic Problem Solving Strategies***

Mailoo Selvaratnam, [mailoo.selvaratnam@nwu.ac.za](mailto:mailoo.selvaratnam@nwu.ac.za)

Using carefully designed questions, competence of first year college chemistry students were tested for problem solving strategies. These included clear representation of problems, focusing on the goal, identification and use of principles, use of equations for calculations, deductions, and step wise procedures. Results will be discussed in presentation.

### **Mon-01:00-P-04, Wood Hall, Room 1718 .....Presentation**

Mon 1:00 -1:45 PM

#### ***Formative Assessment strategies***

Alice Putti, [aputti31@yahoo.com](mailto:aputti31@yahoo.com), and Sarah Toman

Want to know if your students understand what are you teaching them? Learn formative assessment strategies to assess what your students' are learning. Participants will learn easy strategies they can immediately use in their classroom.

**Mon-01:00-P-05, Wood Hall, Room 1728..... Exhibitor Presentation**

Mon 1:00-1:45 PM

***Teacher Friendly Chemistry Labs and Activities***

Deanna York, [dbyork@sbcglobal.net](mailto:dbyork@sbcglobal.net), and Carey Munoz

Want to provide bell to bell instruction using labs and activities? Want to provide a hands-on learning environment but have few resources and little preparation time? Teacher Friendly Chemistry allows the busy chemistry teacher the opportunity to do many labs without sacrificing valuable teacher time.

**Mon-01:00-P-06, Wood Hall, Room 2722.....Presentation**

Mon 1:00-1:45 PM

***Chemical Bonding***

Madhu Dwivedi, [madhudwivedi@hotmail.com](mailto:madhudwivedi@hotmail.com)

Experience the treasure of visual, interactive and very interesting skill for presenting the concept of bonding before our students. The Buzz word is -" No teacher talk!" Reaching the highest level of learning pyramid. Yes! it involves technology, use of smart board and flip charts packed all in one CD.

**Mon-01:00-W-01, Chemistry Building, Room 1220..... Exhibitor Workshop**

Mon 1:00-2:30 PM

***Flinn Scientific Presents Best Practices of Teaching Chemistry Experiments and Demonstrations***

Irene Cesa, [ktheesfeld@flinnsci.com](mailto:ktheesfeld@flinnsci.com)

Join us as we present exciting and interactive demonstrations, show video clips, and demonstrate the features and benefits of our new comprehensive Teaching Chemistry professional development program. Imagine the opportunity to learn best practices from 20 award-winning master teachers as they carry out their favorite experiments, demonstrations, and chemistry lab activities.

**Mon-01:00-W-02, Chemistry Building, Room 1831..... Exhibitor Workshop**

Mon 1:00-2:30 PM

***Visible Spectroscopy: The science behind the technique, the instruments to teach it, and two experiments your students can do in your classroom***

Gordon Bain, [gordon.bain@thermofisher.com](mailto:gordon.bain@thermofisher.com), and Sally Mitchell

Spectroscopy is the first instrumental technique your students will meet in college, and the most common analytical tool in commercial science laboratories. Learn how to teach spectroscopic measurements to your students. Get hands-on experience and try out two experiments you can take home and teach with confidence.

**Mon-01:00-W-03, Chemistry Building, Room 1871 ..... Workshop**

Mon 1:00-2:45 PM

***Advanced Placement Inquiry Problem Based Laboratory Experiments***

Jesse D Bernstein, [bernsteinj@miamicountryday.org](mailto:bernsteinj@miamicountryday.org), Jeffrey Bracken and Paul Price

Here is an AP lab workshop that will satisfy virtually all of your desires. Inquiry and Forensic based lab activities that parallel those suggested by the College Board; over thirty five labs expecting students to think before experimenting. The manual (available for purchase) contains detailed teacher notes, pictures of setups and sample data. Please bring goggles and a lab coat/apron if possible.

**Mon-01:00-W-04, Chemistry Building, Room 2211 ..... Workshop**

Mon 1:00-2:30 PM

\$20

***Tie-dye to Dye For***

John Mauch, [mauch1312@aol.com](mailto:mauch1312@aol.com), and Linda Weber

In this workshops participants will make two types of tie-dye t-shirts. One using a wet technique and one using a dry technique with waxed sinew holding the shirt together.

**Mon-01:00-W-05, Chemistry Building, Room 2260 ..... Exhibitor Workshop**

Mon 1:00-2:30 PM

***Electrochemical Cells and Batteries***

Debbie Carlisle, [dcarlisle@crocker.com](mailto:dcarlisle@crocker.com), and John Allen

Teachers will be engaged in activities that teach the relationship between electrons, electricity, and chemistry.

**Mon-01:00-W-06, Chemistry Building, Room 3851 ..... Exhibitor Workshop**

Mon 1:00-2:30 PM

***Energize your Chemistry Labs with Carolina's New Inquiries in Science(TM) Chemistry Series***

Bruce Wilson, [brucewilson@carolina.com](mailto:brucewilson@carolina.com)

Learn how our new hands-on kit series improves student performance and makes teaching challenging topics effortless. Experience our five-step learning cycle and guided-inquiry approach as you perform activities from our "Exploring Voltaic and Electrolytic Cells" Kit. Free teacher materials and door prizes.

**Mon-01:00-W-07, Chemistry Building, Room 2851 ..... Exhibitor Workshop**

Mon 1:00-2:30 PM

***Investigations and Modeling in Chemistry in the Community 6th Edition***

Michael Mury, m\_mury@acs.org, Angela Powers, and CeCe Shwennsen

The newest edition of Chemistry in the Community includes many changes including reorganization of the lab investigations. In this session we will work through the investigation that starts the first unit and discuss the new features of the investigations.

**Mon-01:00-W-08, Chemistry Building, Room 1720 ..... Exhibitor Workshop**

Mon 1:00-2:30 PM

\$20

***Using the New ChemSource for Inquiry, Assessment, and Addressing Standards***

Mary Virginia Orna, mvorna@gmail.com, and Patricia J. Smith

The ChemSource Workshop will be entirely interactive emphasizing immediately useable assessment strategies, using videos for self-assessment, using skills inventories for evaluation, integrating state standards into inquiry and assessment practices. Outcome: Teachers will have a permanent, comprehensive resource on teaching chemistry (CD and 3 DVDs), and the skills to use it effectively.

**Mon-01:00-W-09, Kohrman Hall, Room 2308 ..... Workshop**

Mon 1:00-2:30 PM

***Chemistry Moodle Mastery***

Jeff Finnan, JeffFinnan@aol.com

Moodle is not just for document management anymore! Make it dynamic as it was intended to be. Add another implement to your mastery learning toolbox. You can achieve this through not-too-hot-to-handle Hotpotatoes quizzes controlled through the QuizPort module in Moodle. Subscripts? Superscripts? You and your kids can do that too.

**Mon-01:00-W-10, Sangren Hall, Room 1107 ..... Exhibitor Workshop**

Mon 1:00-2:30 PM

***ChemEd DL: Online resources for chemistry education***

Linda Fanis, [lfanis@wisc.edu](mailto:lfanis@wisc.edu), and Lynn Diener

The Chemical Education Digital Library (ChemEd DL) is a reliable source for exemplary, free digital resources for the chemistry teacher and learner at all levels. In this hands-on guide workshop, participants will discover the ChemEd DL's innovative collection including Models 360, ChemTeacher, the award-winning Periodic Table Live!, and much more.

**Mon-01:00-W-11, Wood Hall, Room 1107 ..... Exhibitor Workshop**

Mon 1:00-2:30 PM

***Chemistry for Beginning Vernier Users***

Melissa Hill, mhill@vernier.com

This workshop offers hands-on experience collecting and analyzing chemistry data using Vernier data-collection solutions. Learn how to use our exciting LabQuest Mini computer interface with our Logger Pro 3 software and our popular LabQuest as a stand-alone device with its vivid color touch screen.

**Mon-01:00-W-12, Wood Hall, Room 1127 ..... Workshop**

Mon 1:00-2:30 PM

***Problem-Based Learning and Technology Brings Molecular Bonding to Life***

Aruna Kailasa, akailasa@yahoo.com, and Alexander Poplawsky

Showcasing how problem-based learning assists students to develop responsibility for their learning and to discover working in a scientifically realistic and inquiry-based fashion through self and group effort.

**Mon-02:00-P-01, Chemistry Building, Room 1260 ..... Workshop**

Mon 2:00-2:45 PM

***Reworking the Oldies but Goodies to Promote Learning***

Michelle Tindall, mt01bps@birmingham.k12.mi.us

Participants will learn how to modify traditional labs and demonstrations in order to provide inquiry experiences, promote student exploration of concepts and assess student understanding. Participants will develop several activities to be used in their classroom.

**Mon-02:00-P-02, Rood Hall, Room 1104 ..... Presentation**

Mon 2:00-2:45 PM

***Gemstones***

Fazlur Rahman, John Eix, jeix@sympatico.ca, Irwin Talesnick, Bette Bridges, Harvey Gendrau, and Andy Cherkas

Gemstones is a potpourri of indispensable chemistry demonstrations. Each presenter will have 15-20 minutes to share with you 2 or 3 demonstrations that they consider essential to teaching Chemistry. Each presenter will also explain where in the Chemistry curriculum they would use the experience and why they feel it is indispensable.

**Mon-02:00-P-03, Wood Hall, Room 1710 ..... Presentation**

Mon 2:00-2:45 PM

***Junk Food Chemistry***

Lynn Hensley, hensleyl@slcs.us

Students love food...so why not use it to teach and reinforce chemistry concepts. Come see activities using candy and other junk food to keep your students engaged.

**Mon-02:00-P-04, Wood Hall, Room 1718.....Presentation**

Mon 2:00-2:45 PM

***Using Mini Labs to Teach Solutions and Acids/Bases***

Kathy Kitzmann, kakitzmann@mhsmi.org, and Lisa Schrimmscher

We use lab stations or "mini labs" to teach a variety of topics in Chemistry and AP Chemistry. In this session we will share the activities we use in our "Solutions" and "Acids and Bases" chapters.

**Mon-02:00-P-05, Wood Hall, Room 1728..... Exhibitor Presentation**

Mon 2:00-2:45 PM

***Teacher Friendly Chemistry Labs and Activities***

Deanna York, dbyork@sbcglobal.net, and Carey Munoz

Want to provide bell to bell instruction using labs and activities? Want to provide a hands-on learning environment but have few resources and little preparation time? Teacher Friendly Chemistry allows the busy chemistry teacher the opportunity to do many labs without sacrificing valuable teacher time.

**Mon-02:00-P-06, Wood Hall, Room 2908.....Presentation**

Mon 2:00-2:45 PM

***What Holds it All Together***

Dan Kohler, kohlerdr@haslett.k12.mi.us

A complete instructional unit will be presented on the different types of intramolecular and intermolecular forces that hold different substances together. Multiple resources including webquests, labs, animations and an end-of-unit authentic assessment.

**Mon-03:00-P-01, Chemistry Building, Room 2271 ..... Exhibitor Presentation**

Mon 3:00-3:45 PM

***Paint it RED! Using Technology to Teach Chemistry***

Paul Schneeberger, laurie\_enos@vwreducation.com

See how easy it is for your student to quickly collect data with the RED Data Collectors. Using the Ph probe and temperature probe, you will easily collect data while performing common lab activities.

**Mon-03:00-P-02, Rood Hall, Room 1104 .....Presentation**

Mon 3:00-3:45 PM

***Chemistry Outreach & Service Learning***

Kenneth Lyle, kenneth.lyle@duke.edu

CHEM 109 is the Department of Chemistry's chemistry outreach service learning course designed to prepare students interested in and enthusiastic for doing chemistry to share their interest and enthusiasm with the surrounding community. This presentation describes the course and the findings of a study investigating the effect participation in the course has on the attitudes of the students.

**Mon-03:00-P-03, Rood Hall, Room 1110 .....Presentation**

Mon 3:00-3:45 PM

***Chemistry Animations Using AutoDesk and Adobe Flash***

Larry Kolopajlo, lkolopajl@emich.edu

Autodesk and Adobe Flash can be used to create sophisticated 3D chemical animations that can be saved in various formats such as wmv or mp4. Teachers can create animations that fit their teaching styles.

**Mon-03:00-P-04, Rood Hall, Room 1118 .....Presentation**

Mon 3:00-3:45 PM

***Research in High School***

Fazlur Rahman, frahman@ossm.edu

In collaboration with the neighboring universities we have established a sustainable chemistry research at the high school level.

**Mon-03:00-P-05, Wood, Hall Room 1001 .....Presentation**

Mon 3:00-3:45 PM

***Histories To Mysteries: Incorporating Literature Into Your Science Curriculum***

Candace Sykes, candysykes@comcast.net

Histories to Mysteries: Not an old-fashioned book report. Adapt a successful "novel" project to build literacy in the science classroom. Handouts and examples included.

**Mon-03:00-P-06, Wood Hall, Room 1127 .....Presentation**

Mon 3:00-3:45 PM

***"For Every" Speak: A Cognitive Approach to Teaching, Dimensional Analysis, Unit Conversions, and Stoichiometry***

Gary G. Abud, Jr., gary.abud@gpschools.org

Eliminate meaningless algorithms from your instruction, and allow students a reliable means to think through the physical meanings of dimensional analysis calculations. This method hones proportional reasoning and will serve as a foundation for better understanding of stoichiometry.

**Mon-03:00-P-07, Wood Hall, Room 2908 .....Presentation**

Mon 3:00-3:45 PM

***What Holds it All Together***

Dan Kohler, kohlerdr@haslett.k12.mi.us

A complete instructional unit will be presented on the different types of intramolecular and intermolecular forces that hold different substances together. Multiple resources including webquests, labs, animations and an end-of-unit authentic assessment.

**Mon-03:00-W-01, Chemistry Building, Room 1220 ..... Exhibitor Workshop**

Mon 3:00-4:30 PM

***Promote Inquiry Using Chemistry Demonstrations***

Irene Cesa/Flinn Scientific, Inc., ktheesfeld@flinnsci.com

Looking for new ways to incorporate more inquiry-based experiments in your chemistry classroom? Join us as we present classic demonstrations and describe a series of inquiry-based activities that were developed based on these demonstrations. All participants will receive a free book.

**Mon-03:00-W-02, Chemistry Building, Room 1831 ..... Workshop**

Mon 3:00-4:30 PM

***Visible Spectroscopy - the Next Level. Learning About Electrons and Following Reactions***

Gordon Bain, gordon.bain@thermofisher.com, and Sally Mitchell

AP isn't just college prep. It's college credit. Come and learn the material your students need in order to understand spectroscopic measurements. Try out two simple experiments that your students can do to understand analytical spectroscopy in action. Includes complete notes and lab materials.

**Mon-03:00-W-03, Chemistry Building, Room 1871 ..... Workshop**

Mon 3:00-4:45 PM

***Advanced Placement Inquiry Problem Based Laboratory Experiments***

Jesse D Bernstein, bernsteinj@miamicountryday.org, Jeffrey Bracken and Paul Price

Here is an AP lab workshop that will satisfy virtually all of your desires. Inquiry and Forensic based lab activities that parallel those suggested by the College Board; over thirty five labs expecting students to think before experimenting. The available manual contains detailed teacher notes, pictures of setups and sample data. The manual (available for purchase) contains detailed teacher notes, pictures of setups and sample data. Please bring goggles and a lab coat/apron if possible.

**Mon-03:00-W-04, Chemistry Building, Room 2211 ..... Workshop**

Mon 3:00 4:30 PM

\$40

***Make your own Rainbow Tie-dye Coat***

John Mauch, mauch1312@aol.com, and Linda Weber

Learn how to make a beautiful tie-dye rainbow coat (or other design) John has hand-made over 2000 of these wonderful lab coats. Written instructions will be provided as well as individual help to make a great looking coat. Please specify size on registration as small, medium, large, extra-large, or double extra large.

**Mon-03:00-W-05, Chemistry Building, Room 2260 ..... Exhibitor Workshop**  
Mon 3:00-4:30 PM

***Understanding One Part per Million***

Debbie Carlisle, dcarlisle@crocker.com, and John Allen

Teachers, through an investigative approach, will be able to identify what one part per million actually is.

**Mon-03:00-W-06, Chemistry Building, Room 3851 ..... Exhibitor Workshop**  
Mon 3:00-4:30 PM

***Energize your Chemistry Labs with Carolina's New Inquiries in Science(TM) Chemistry Series***

Bruce Wilson, brucewilson@carolina.com

Learn how our new hands-on kit series improves student performance and makes teaching challenging topics effortless. Experience our five-step learning cycle and guided-inquiry approach as you perform activities from our "Exploring Voltaic and Electrolytic Cells" Kit. Free teacher materials and door prizes.

**Mon-03:00-W-07, Sangren Hall, Room 1107 ..... Exhibitor Workshop**  
Mon 3:00-4:30 PM

***Teaching Chemistry with Moodle: Create Your Own Course and Resources***

Linda Fanis, lfanis@wisc.edu, and Lynn Diener

Learn how to create online homework assignments and interactive web pages with integrated Jmol molecules and video/images in your own Moodle course with content and resources from the ChemEd DL.

**Mon-03:00-W-08, Wood Hall, Room 1107 ..... Exhibitor Workshop**  
Mon 3:00-4:30 PM

***Chemistry for Beginning Vernier Users***

Melissa Hill, mhill@vernier.com

This workshop offers hands-on experience collecting and analyzing chemistry data using Vernier data-collection solutions. Learn how to use our exciting LabQuest Mini computer interface with our Logger Pro 3 software and our popular LabQuest as a stand-alone device with its vivid color touch screen.

**Mon-03:00-W-09, Wood Hall, Room 1718 ..... Workshop**  
Mon 3:00-4:30 PM

***The Chem-Math Project***

Cary Kilner, wkilner@unh.edu

We shall collectively probe and clarify some of the mathematical difficulties that students have in learning chemistry. These are contained in 26 Chem-Math Units that evolve during a first-year chemistry course. I will present them for group discussion, and you can share your own observations from your students.

**Mon-03:00-W-10, Wood Hall, Room 2722 ..... Workshop**

Mon 3:00-5:00 PM

\$25

***Misconceptions in Chemistry***

Dr. Al Hazari, ahazari@utk.edu, Hans-Dieter Barke, and Sileshi Yitbarek

Students develop their own understanding of how nature really works. These pre-concepts are brought to school and teachers have to reflect on them for better instruction. In addition, there are school-made misconceptions which originate from inappropriate curriculum and instructional materials. This workshop is aimed to help K-16 teachers and professors diagnose and cure the pre-concepts.

**Mon-04:00-P-01, Chemistry Building, Room 1260 ..... Presentation**

Mon 4:00-4:45 PM

***Discrepant Equilibrium***

Andy Cherkas, cherkas@sympatico.ca, and Jeff Hepburn

Ideas to challenge students and help them understand the concepts in equilibrium will be presented.

**Mon-04:00-P-02, Chemistry Building, Room 2851 ..... Exhibitor Presentation**

Mon 4:00-4:45 PM

***Chemistry In-the-Bag Inquiry Activities***

Melissa Jones, mdjchem@yahoo.com, and Shelley Abernathy

Learn how to easily incorporate fun and exciting inquiry activities into your classroom. These easy-to-perform demonstrations are designed to engage your students and then incorporate guided inquiry exercises so they can further explore and understand the concept. Participants will learn how to perform three different In-the-Bag inquiry demonstrations.

**Mon-04:00-P-03, Kohrman Hall, Room 2308 ..... Presentation**

Mon 4:00-4:45 PM

***Discover Online Simulations that Power Inquiry in Math and Science***

Allan Fluharty, allanfluharty@comcast.net

Online simulations can produce the "Oh, now I get it!" response to difficult concepts in science and math. This workshop includes strategies to utilize online simulations in a differentiated setting, create tailored activities, and generate assessments. Participants will leave with an expanded understanding of the value of technology-enhanced instruction.

**Mon-04:00-P-04, Wood Hall, Room 1127 .....Presentation**

Mon 4:00-4:45 PM

***"For Every" Speak: A Cognitive Approach to Teaching, Dimensional Analysis, Unit Conversions, and Stoichiometry***

Gary G. Abud, Jr., gary.abud@gpschools.org

Eliminate meaningless algorithms from your instruction, allow students a reliable means to think through the physical meanings of dimensional analysis calculations. This method hones proportional reasoning and will serve as a foundation for better understanding of stoichiometry.

**Mon-04:00-P-05, Wood Hall, Room 1728 .....Presentation**

Mon 4:00-4:45 PM

***Using Interactive Simulations to Develop Models for Dynamic Inquiry Activities***

Bettyann Howson, chemphun@gmail.com, and Diane Krone

The use of interactive computer simulations that let students experiment and observe chemistry at both the macroscopic and microscopic levels allow teachers to design dynamic inquiry activities. We will use a Heats of Solution activity as a model. We will then actively engage the participants in developing an inquiry activity that uses an Alpha Decay simulation.

**Mon-04:00-MichLect-3, Chemistry Building, Room 1720**

**Presentation**

Mon 4:00 – 5:00 PM

***Analytical Chemistry in Pharmaceutical Quality Control Testing***

David Redding, Perrigo Co.

This presentation will include general information about the quality control testing program at one of the world's leading producers of over-the-counter store-brand pharmaceutical products. Specific topics will include determining limits for assay testing, the types of testing performed in the QC lab and skills that determine success for entry-level analysts. The Perrigo world headquarters is located in Allegan, MI with operations across the US and internationally in China, India, Australia, Mexico, the United Kingdom, and Israel.

**Mon-07:00-W-01, Bernhard Center, Room 208-10 .....Presentation**

Mon 7:00-9:00 PM

***Dazzling Demos and Videotaped Bloopers***

John Fortman, john.fortman@wright.edu

Out-takes and bloopers from Wright State's videotapes and shows will be shown along with videos of Hubert Alyea, Gil Haight, Bassam Shakhashiri. Video clips of many other well known and not so well known demonstrators doing special demonstrations or caught in blooper situations will be shown. Most of those featured have presented at past ChemEd's.