Sélection d'articles en didactique de la chimie

à ajouter :


Liens rapides :

- [http://pubs.acs.org/toc/jceda8/current](http://pubs.acs.org/toc/jceda8/current) : numéro courant de *Journal of Chemical Education* où vous avez la possibilité de consulter les résumés. Si vous souhaitez recevoir la table des matières à chaque nouveau numéro, il vous suffit de prendre l'option “register” ([https://account.acs.org/ssoamweb/account/signUp](https://account.acs.org/ssoamweb/account/signUp)), et ensuite de demander les “E-Mail Alerts” pour les journaux choisis. Pour les étudiants et le personnel UMONS, vous pouvez accéder aux textes complets sur le réseau de l’UMONS ou en activant le **VPN**, ou via le **bureau à distance**.

  - Fil RSS des derniers articles parus dans *Journal of Chemical Education*

- [Chemistry Education Research and Practice](https://doi.org/10.1021/ed2001957) : *journal de la Royal Society of Chemistry*, accessible sur inscription. Vous pouvez obtenir des alertes via la page [http://www.rsc.org/Publishing/Journals/forms/V5profile.asp](http://www.rsc.org/Publishing/Journals/forms/V5profile.asp), ainsi que pour *Education in chemistry*.

  - Fil RSS des derniers articles parus dans *Chemistry Education Research and Practice*

- The Chemical Educator - table of contents
- Publications intéressantes (résumés) (sélections d'articles discutés lors de séminaires internes, sur ce wiki)
- Publications intéressantes de chimie-physique, pour travaux personnels d'étudiants,…

Dans les listes qui suivent, certains articles concernent l'enseignement supérieur et présentent donc un intérêt relatif par rapport au secondaire.

**Articles de Journal of Chemical Education**

**ASAP and/or ACS Editors Choice articles**

- ...

**Virtual Issues**

- Journal of Chemical Education - Resources for Teaching Your Chemistry Class Online: A Free to Read Collection from the American Chemical Society & the ACS Division of Chemical Education
- Laboratory Learning

*Cf.* aussi le lien virtual collections.

**2021**

- Journal of Chemical Education - Vol 98, No 6
Mimicking Students’ Behavior during a Titration Experiment: Designing a Digital Student-Centered Experimental Environment | Journal of Chemical Education
Designing and 3D Printing an Improved Method of Measuring Contact Angle in the Middle School Classroom | Journal of Chemical Education
Polysketch Pen: Drawing from Materials Chemistry to Create Interactive Art and Sensors Using a Polyaniline Ink | Journal of Chemical Education
Exploring Chemical Kinetics at Home in Times of Pandemic: Following the Bleaching of Food Dye Allura Red Using a Smartphone | Journal of Chemical Education
Advantages and Disadvantages of Using the Answer-Until-Correct Multiple-Choice Test Format for a Class of Non-STEM Majors | Journal of Chemical Education

Journal of Chemical Education - Vol 98, No 5
Combining Jigsaws, Rule-Based Learning, and Retrieval Practice Improves IUPAC Nomenclature Competence | Journal of Chemical Education
Using Classical Test Theory and Rasch Modeling to Improve General Chemistry Exams on a Per Instructor Basis | Journal of Chemical Education
Sample Plan for Easy, Inexpensive, Safe, and Relevant Hands-On, At-Home Wet Organic Chemistry Laboratory Activities | Journal of Chemical Education
"Ethics against Chemistry": Solving a Crime Using Chemistry Concepts and Storytelling in a History of Science-Based Interactive Game for Middle School Students | Journal of Chemical Education
Formation of a Water Ball in a Water Bottle to Learn the Chemistry of Surfactants | Journal of Chemical Education
Using Classic Movie Chemistry Scenes to Introduce Classroom Activities | Journal of Chemical Education

Journal of Chemical Education - Vol 98, No 4
Design, Implementation, and Evaluation of a Scientific Modeling Course on Concentration Cells | Journal of Chemical Education
Utilizing Unexpected Results in Water Electrolysis to Engage Students in Scientific Inquiry | Journal of Chemical Education
Tactile Models for the Visualization, Conceptualization, and Review of Intermolecular Forces in the College Chemistry Classroom | Journal of Chemical Education
Computational Chemistry Activities with Avogadro and ORCA | Journal of Chemical Education
Facile Method for Constructing Lewis (Electron Dot) Structures | Journal of Chemical Education

Journal of Chemical Education - Vol 98, No 3
From Ideas to Items: A Primer on the Development of Ordered Multiple-Choice Items for Investigating the Progression of Learning in Higher Education STEM | Journal of Chemical Education
Use of Simulations and Screencasts to Increase Student Understanding of Energy Concepts in Bonding | Journal of Chemical Education
Let Students Choose: Examining the Impact of Open Educational Resources on Performance in General Chemistry | Journal of Chemical Education
Introducing High School Students to the Avogadro Number and the Mole Concept Using Discovery with Calculations Based on Physical Properties of Elements, Crystal Structures, and 28Si Spheres | Journal of Chemical Education
Connecting Chemistry to Mathematics by Establishing the Relationship between Conductivity and Concentration in an Interdisciplinary, Computer-Based Project for High School Chemistry Students | Journal of Chemical Education
From Passive Observers to Active Participants: Using Interactive Remote Demonstrations to Increase Student Involvement in Online Chemistry Instruction | Journal of Chemical Education
Education

- Using Pop-Culture to Engage Students in the Classroom | Journal of Chemical Education
- Chemical Battleship: Discovering and Learning the Periodic Table Playing a Didactic and Strategic Board Game | Journal of Chemical Education
- A Choose-Your-Own-Adventure-Style Virtual Lab Activity | Journal of Chemical Education
- Turmeric and RGB Analysis: A Low-Cost Experiment for Teaching Acid–Base Equilibria at Home | Journal of Chemical Education
- MILAGE LEARN+: A Mobile Learning App to Aid the Students in the Study of Organic Chemistry | Journal of Chemical Education
- At-Home Real-Life Sample Preparation and Colorimetric-Based Analysis: A Practical Experience outside the Laboratory | Journal of Chemical Education
- Titrate over the Internet: An Open-Source Remote-Control Titration Unit for All Students | Journal of Chemical Education

- Journal of Chemical Education - Vol 98, No 2
  - Dimensions of Variation in Chemistry Instructors’ Approaches to the Evaluation and Grading of Student Responses
  - Epistemological Profile of Chemical Bonding: Evaluation of Knowledge Construction in High School
  - Using Games to Build and Improve 10th Grade Students’ Understanding of the Concept of Chemical Bonding and the Representation of Molecules
  - What Is in a Prerequisite? An Observational Study on the Effect of General Chemistry on Organic Chemistry Performance
  - Teaching Cheminformatics through a Collaborative Intercollegiate Online Chemistry Course (OLCC)
  - Determining University Students’ Familiarity and Understanding of Laboratory Safety Knowledge—A Case Study
  - Modular Science Kit as a support platform for STEM learning in primary and secondary school
  - Exploring Chemistry with Wireless, PC-Less Portable Virtual Reality Laboratories
  - CheMakers: Playing a Collaborative Board Game to Understand Organic Chemistry
  - ChemistDice: A Game for Organic Functional Groups
  - Introducing Students to the Periodic Table Using a Descriptive Approach of Superheroes, Meats, and Fruits and Nuts
  - Discovering the Chemical Mechanism of Common Heating Agents: A Stepwise Inquiry with Student-Designed Experiments in a High School Laboratory Course
  - Building a Raspberry Pi Spectrophotometer for Undergraduate Chemistry Classes
  - From Abstract to Manipulatable: The Hybridization Explorer, A Digital Interactive for Studying Orbitals
  - 360° Virtual Laboratory Tour with Embedded Skills Videos
  - Clarity on Cronbach’s Alpha Use
  - A Creative Commons Textbook for Teaching Scientific Computing to Chemistry Students with Python and Jupyter Notebooks
  - Resuscitating the Mercury Beating Heart: An Improvement on the Classic Demo

- Journal of Chemical Education | Vol 98, No 1 - Special Issue on Chemical Safety Education: Methods, Culture, and Green Chemistry
  - Safety Moments in Chemical Safety Education | Journal of Chemical Education
  - RAMP: A Safety Tool for Chemists and Chemistry Students | Journal of Chemical Education
  - Building Strong Cultures with Chemical Safety Education | Journal of Chemical Education
  - An Engaging and Fun Breakout Activity for Educators and Students about Laboratory Safety | Journal of Chemical Education
  - Reinterpreting Popular Demonstrations for Use in a Laboratory Safety Session That
Engages Students in Observation, Prediction, Record Keeping, and Problem Solving | Journal of Chemical Education
- Open Digital Educational Resources for Self-Training Chemistry Lab Safety Rules | Journal of Chemical Education
- Using Virtual Reality to Demonstrate Glove Hygiene in Introductory Chemistry Laboratories | Journal of Chemical Education
- Developing Risk Assessment Competencies in Preservice K–12 Teachers | Journal of Chemical Education
- Safe Handling of Gas Generating Experiments Using Disposable Plastic Syringes | Journal of Chemical Education

2020

- Journal of Chemical Education | Vol 97, No 12
  - Will 2020 Be an Inflection Point in the Trajectory of Chemistry Teaching and Learning? | Journal of Chemical Education
  - Examining the Psychometric Properties of the Redox Concept Inventory: A Rasch Approach | Journal of Chemical Education
    - cf. Are you making the most of formative assessment? David Read, education in chemistry, RSC, 2021
  - Teaching an Introductory Organic Chemistry Class for High School Students | Journal of Chemical Education
  - Derivation of the Theoretical Minimum Energy of Separation of Desalination Processes | Journal of Chemical Education
  - Fun with Flags and Chemistry | Journal of Chemical Education
  - Race to the Reactor and Other Chemistry Games: Game-Based and Experiential Learning Experiences in Materials and Polymer Chemistry | Journal of Chemical Education
  - A Photographic Process Using Easily Available Reagents | Journal of Chemical Education
  - How Should Apples Be Prepared for a Fruit Salad? A Guided Inquiry Physical Chemistry Experiment | Journal of Chemical Education
  - Structural Chemistry 2.0: Combining Augmented Reality and 3D Online Models | Journal of Chemical Education
  - Social Distancing During the COVID-19 Pandemic: An Analogy to Explain Collision Cross-Sections in Chemical Kinetics | Journal of Chemical Education

- Journal of Chemical Education - Vol 97, No 11
  - Analyzing Students’ Construction of Graphical Models: How Does Reaction Rate Change Over Time?
  - “The Chemistry of Poisons”: An Interdisciplinary Approach to Integrating Chemical, Toxicological, and Medicinal Principles
  - Interactions 500: Design, Implementation, and Evaluation of a Hybrid Board Game for Aiding Students in the Review of Intermolecular Forces During the COVID-19 Pandemic
  - ChemEscape, Polymer Chemistry: Solving Interactive Puzzles Featuring Scaffolded Learning to Promote Student Understanding of Polymers and Structure–Property Relationships
  - Using Magnet-Embedded Silicone Balls to Construct Stable Models for Close-Packed Crystal Structures
  - All Roads Lead to Rome: Triple Stoichiometry with a Lithium Battery
  - Project-Based Experiment in a Physical Chemistry Teaching Laboratory: Ion Effects on
Caffeine Partitioning Thermodynamics

- Octobre - Journal of Chemical Education - Vol 97, No 10
  - Commentary on the Models of Electronegativity
  - Teachers’ Noticing, Interpreting, and Acting on Students’ Chemical Ideas in Written Work
  - Review to Analyze and Compare Virtual Chemistry Laboratories for Their Use in Education
  - Are Heating and Stirring Required to Dissolve Salt in Water? Answers from Quantitative Experimental Evidence
  - Creation of a Phenol/Water Phase Diagram Using a Low-Cost Automated System and Remote Transmission
  - A Hybrid Board Game to Engage Students in Reviewing Organic Acids and Bases Concepts
  - Determining the Energy of Activation of a Salt, Water, and Alcohol Emulsion

- Septembre - Journal of Chemical Education - Vol 97, No 9
  - Introduction to the Journal of Chemical Education Special Issue on Insights Gained While Teaching Chemistry in the Time of COVID-19
  - Remote Interview Methods in Chemical Education Research
  - Attempts, Successes, and Failures of Distance Learning in the Time of COVID-19
  - Modeling Meaningful Chemistry Teacher Education Online: Reflections from Chemistry Preservice Teacher Educators in Australia
  - Experience-Based Learning Approach to Chemical Kinetics: Learning from the COVID-19 Pandemic
  - Reflections on Three Different High School Chemistry Lab Formats during COVID-19 Remote Learning
  - Using Hands-On Chemistry Experiments While Teaching Online
  - Building an Interactive Immersive Virtual Reality Crime Scene for Future Chemists to Learn Forensic Science Chemistry
  - Development and Use of Kitchen Chemistry Home Practical Activities during Unanticipated Campus Closures
  - Determination of a Kinetic Law of Phosphorescence Decay Using a Conventional Photo Camera and Free Image Processing Software
  - Use of 3D Printing to Manufacture Document Camera Mounts in Support of Online Education Shifts during the COVID-19 Pandemic
  - Benefits of Simulations as Remote Exercises During the COVID-19 Pandemic: An Enzyme Kinetics Case Study
  - Re-flipping in the Remote Classroom: The Surprising Uptake of Video-Recorded Worked Examples
  - Escape the (Remote) Classroom: An Online Escape Room for Remote Learning
  - Physical and Digital Educational Escape Room for Teaching Chemical Bonding
  - Online Data Generation in Quantitative Analysis: Excel Spreadsheets and an Online HPLC Simulator Using a jupyter Notebook on the Chem Compute Web site
  - At-Home Colorimetric and Absorbance-Based Analyses: An Opportunity for Inquiry-Based, Laboratory-Style Learning
  - A Community Springs to Action to Enable Virtual Laboratory Instruction
  - Plans vs Reality: Reflections on Chemical Crystallography Online Teaching During COVID-19
  - Chemistry in the Kitchen Laboratories at Home
  - Developing Engaging Remote Laboratory Activities for a Nonmajors Chemistry Course During COVID-19
  - Setting Up an Educational Column Chromatography Experiment from Home
- Choose Your Own “Labventure”: A Click-Through Story Approach to Online Laboratories during a Global Pandemic
- Stay at Home Laboratories for Chemistry Courses
- When the Kitchen Turns into a Physical Chemistry Lab
- The Sudden Switch to Online Teaching of an Upper-Level Experimental Physical Chemistry Course: Challenges and Solutions
- Using Student Insights for Ideas on Video Creation for Chemistry Classes
- Insights Gained During COVID-19: Refocusing Laboratory Assessments Online
- Assessing Student Learning in a Rapidly Changing Environment: Laboratories and Exams
- Designing a Hybrid Biopharmaceutical Laboratory Course to Enhance Content Flexibility and Access
- Remote Teaching and Learning in a Pandemic: Reflections from Chemistry Instructors at a Pharmacy School in Jordan
- Implications for the Use of PowerPoint, Classroom Response Systems, Teams, and Whiteboard to Enhance Online Teaching of Chemistry Subjects in Community College
- Remote Teaching of General Chemistry for Non-science Majors during COVID-19
- Asynchronous Online Assessment of Physical Chemistry Concepts in the Time of COVID-19
- Using Familiar and New Assessment Tools in Physical Chemistry Courses During COVID-19
- An Applied Research-Based Approach to Support Chemistry Teachers during the COVID-19 Pandemic
- Online Experimentation during COVID-19 Secondary School Closures: Teaching Methods and Student Perceptions
- Gamification of ChemDraw during the COVID-19 Pandemic: Investigating How a Serious, Educational-Game Tournament (Molecule Madness) Impacts Student Wellness and Organic Chemistry Skills while Distance Learning
- Going Remote: How Teaching During a Crisis is Unique to Other Distance Learning Experiences
- Challenges in General Chemistry: The Effect of Moving Online in the Middle of the Semester
- Minimize Online Cheating for Online Assessments During COVID-19 Pandemic
- Strategies for Effective Assessments while Ensuring Academic Integrity in General Chemistry Courses during COVID-19
- Revisiting Distance Learning Resources for Undergraduate Research and Lab Activities during COVID-19 Pandemic

- août
  - A Review of Biochemistry Education Research
  - Factors Influencing Student Learning in Semi-Flipped General Chemistry Courses
  - Short Course on Sustainable Polymers for High School Students
  - Demonstrating Basic Properties and Application of Polarimetry Using a Self-Constructed Polarimeter
  - Go Fischer: An Introductory Organic Chemistry Card Game
  - Rapid Formation of Copper Patinas: A Simple Chemical Demonstration of Why the Statue of Liberty Is Green
  - Construction of a Room-Temperature Eutectic Binary Phase Diagram by Use of Differential Scanning Calorimetry
  - Organic Fanatic: A Quiz-Based Mobile Application Game to Support Learning the Structure and Reactivity of Organic Compounds
  - CHIMACTIV: An Open-Access Website for Student-Centered Learning in Analytical Chemistry
  - Practical Decomposition of Irreducible Representations: Applications to Molecular Vibrations and Molecular Orbitals
SeparateDuino: Design and Fabrication of a Low-Cost Arduino-Based Microcentrifuge Using the Recycled Parts of a Computer DVD Drive

Clickers versus Plickers: Comparing Two Audience Response Systems in a Smartphone-Free Teaching Environment

Preliminary Evidence on the Effect of an Open-Source Textbook in Second-Year Undergraduate Analytical Chemistry Courses

Matching Five White Solids to Common Chemicals: A Dissolution Calorimetry and Acid–Base Titration Experiment

Modified Method for Extraction of Photosynthetic Plant Pigments for Microcolumn Chromatography

- juillet
  - A Walk in the Clouds: Cautionary Tales from a Century of Chemical Agent Work
  - Ricin and Saxitoxin: Two Natural Products That Became Chemical Weapons
  - Security of Chemical Laboratories in Schools and Universities in Slovakia
  - A Proposed Integrated Framework for Chemical Safety and Chemical Security
  - Experimenting with At-Home General Chemistry Laboratories During the COVID-19 Pandemic
  - Chemistry and Mathematics of the Belousov–Zhabotinsky Reaction in a School Laboratory
  - Illustrating the Concepts of Entropy, Free Energy, and Thermodynamic Equilibrium with a Lattice Model
  - Establishing a Connection for Students between the Reacting System and the Particle Model with Games and Stochastic Simulations of the Arrhenius Equation
  - Mock Urinalysis Demonstration: Making Connections among Acid–Base Chemistry, Redox Reactions, and Healthcare in an Undergraduate Nursing Course
  - Fabricating a Low-Cost, Simple, Screen Printed Paper Towel-Based Experimental Device to Demonstrate the Factors Affecting Chemical Equilibrium and Chemical Equilibrium Constant, Kc
  - Interactive Unit Cell Visualization Tool for Crystal Lattice Structures

- juin
  - Establishing the Laboratory as the Place to Learn How to Do Chemistry
  - Johnstone’s Triangle as a Pedagogical Framework for Flipped-Class Instructional Videos in Introductory Chemistry
  - Introduction to Medicinal Chemistry: A Five-Day Course for High School Students
  - Comprehensive Training of Undergraduates Majoring in Chemical Education by Designing and Implementing a Simple Thread-Based Microfluidic Experiment
  - Simulating the Effects of Excluded-Volume Interactions in Polymer Solutions
  - Sizzle and Fizzle of Bath Bombs: An Inexpensive and Accessible Kinetics Experiment
  - Teaching Principal Component Analysis Using a Free and Open Source Software Program and Exercises Applying PCA to Real-World Examples
  - An Arduino-Based Talking Calorimeter for Inclusive Lab Activities
  - A Closer Examination of the Mechanism of the Hydrogen Peroxide Iodine-Clock Reaction with Respect to the Role of Hypoiodite Species

- mai
  - Design of Culinary Transformations: A Chemistry Course for Nonscience Majors | Journal of Chemical Education
  - Introducing Nonscience Majors to Science Literacy via a Laboratory and Lecture Beer Brewing Course
  - Property Information in Substance Records in Major Web-Based Chemical Information and Data Retrieval Tools: Understanding Content, Search Opportunities, and Application to Teaching
  - Using Augmented Reality to Stimulate Students and Diffuse Escape Game Activities to
Larger Audiences
- Playing a Board Game to Learn Bioenergy and Biofuels Topics in an Interactive, Engaging Context
- Relating $\Delta H_{\text{vap}}$ of Organic Liquids to Intermolecular Forces: Simple Modifications of a Classic General Chemistry Experiment
- Visualizing 3D Molecular Structures Using an Augmented Reality App
- Monte Carlo Uncertainty Propagation with the NIST Uncertainty Machine

 AVRIL
- Exploring Students’ Understanding of Resonance and Its Relationship to Instruction
- Didaktik Models in Chemistry Education
- Probing the Mechanism of Bubble Nucleation in and the Effect of Atmospheric Pressure on the Candy-Cola Soda Geyser
- Designing and Using an Atomic Model Kit with H, C, N, and O Model Atoms Having a Mass Ratio of 1:12:14:16 to Teach the Concept of Mole and Associated Stoichiometric Relationships
- Interactive 3D Visualization of Chemical Structure Diagrams Embedded in Text to Aid Spatial Learning Process of Students
- Platonic Solids and Their Programming: A Geometrical Approach
- Constructing, Troubleshooting, and Using Absorption Colorimeters to Integrate Chemistry and Engineering
- Curve Fitting, Linear Algebra, and Solver in an Analytical Chemistry Course: A Facile and Safe Activity Suitable for the Classroom Setting
- Elephant’s Toothpaste Used as a Qualitative Demonstration of Rate versus Temperature
- Phosphate in Soils: An Undergraduate Exploration of Soil Texture, Chemistry, and Amendment
- Lab Cooked MOF for CO2 Capture: A Sustainable Solution to Waste Management
- Low-Cost 3D-Printed Polarimeter
- Data Functionalization for Gas Chromatography in Python
- Leavening Agents: The Chemistry of Baking Discovered with a Computer-Based Learning
- Changes of CO2 Concentration and Heat Illustrate Why the Flame Is Extinguished in the Candle-and-Cylinder Experiment
- The Blue Bottle Experiment Revisited: How Much Oxygen?
- Comment on “Should Organic Chemistry Be Taught as Science?”

 MARS
- The Emerging Role of Prepublication in Chemistry Education
- Analysis of Two Definitions of the Mole That Are in Simultaneous Use, and Their Surprising Consequences
- Impact of Representations in Assessments on Student Performance and Equity
- Restructuring a General College Chemistry Sequence Using the ACS Anchoring Concepts Content Map
- Innovative Food Laboratory for a Chemistry of Food and Cooking Course
- Team-Based Learning for Scientific Computing and Automated Experimentation: Visualization of Colored Reactions
- Using Image Recognition and Processing Technology to Measure the Gas Volume in a Miniature Water Electrolysis Device Constructed with Simple Materials
- Invisibility Cloaks and Hot Reactions: Applying Infrared Thermography in the Chemistry Education Laboratory
- That’s Pretty Cool. Using Work to Freeze Water. The Vapor-Compression Refrigerator and How It Works
- That’s So Cool. Using a Flame to Freeze Water. The Vapor-Absorption Refrigerator and How It Works
- Teaching Thermodynamics with the Quantum Volume
- Using Elementary Calculus and Dimensional Analysis to Prepare Students for Physical Chemistry
- Reactions: An Innovative and Fun Hybrid Game to Engage the Students Reviewing Organic Reactions in the Classroom
- Rolling the Dice: Modeling First- and Second-Order Reactions via Collision Theory Simulations in an Undergraduate Laboratory
- Airduino: On-Demand Atmospheric Secondary Organic Aerosol Measurements with a Mobile Arduino Multisensor
- Simple Visual-Aided Automated Titration Using the Python Programming Language

- février
- Green Chemistry Coverage in Organic Chemistry Textbooks | Journal of Chemical Education
- Evaluating Feedstocks, Processes, and Products in the Teaching Laboratory: A Framework for Students To Use Metrics to Design Greener Chemistry Experiments | Journal of Chemical Education
- Teaching Kinetics and Equilibrium Topics Using Interlocking Building Bricks in Hands-on Activities | Journal of Chemical Education
- A Homemade Smart Phone Microscope for Single-Particle Fluorescence Microscopy | Journal of Chemical Education
- Making Acids and Bases MORE Basic: Supporting Students' Conceptualization of Acid–Base Chemistry through a Laboratory Exercise That Connects Molecular-Level Representations to Symbolic Representations and Experimentally Derived Evidence | Journal of Chemical Education
- Manipulating Dendritic Growth: An Undergraduate Laboratory Experience with the Interplay between Mass Transport, Supersaturated Solutions, and Dendrite Structure | Journal of Chemical Education
- Exploring Chemical Equilibrium for Alcohol-Based Cobalt Complexation through Visualization of Color Change and UV–vis Spectroscopy | Journal of Chemical Education
- Determination of Zinc Oxide in Pharmaceutical Preparations by EDTA Titration: A Practical Class for a Quantitative Analysis Course | Journal of Chemical Education
- Fast, Easy, Reproducible Method for Planting Fingerprints for Ninhydrin, Iodine Development | Journal of Chemical Education

- janvier
- Problem-Solving Behaviors of Different Achievement Groups on Multiple-Choice Questions in General Chemistry Melonie A. Teichert, Maria J. Schroeder, Shirley Lin, Debra K. Dillner, Regis Komperda, Diane M. Bunce, J. Chem. Educ. 2020, 97, 1, 3-15 DOI: 10.1021/acs.jchemed.9b00774
- Dissecting the Flipped Classroom: Using a Randomized Controlled Trial Experiment to Determine When Student Learning Occurs Matthew D. Casselman, Kinnari Atit, Grace Henbest, Cybill Guregyan, Kiana Mortezaei, Jack F. Eichler, J. Chem. Educ. 2020, 97, 1, 27-35 DOI: 10.1021/acs.jchemed.9b00767
- A Study To Reduce Chemical Waste Generated in Chemistry Teaching Laboratories Hui Yi Goh, Wei Wen, Clarence Wong, Yue Ying Ong, J. Chem. Educ. 2020, 97, 1, 87-96 DOI: 10.1021/acs.jchemed.9b00632
ChemEscape: Educational Battle Box Puzzle Activities for Engaging Outreach and Active Learning in General Chemistry Marissa L. Clapson, Brian Gilbert, Vivian J. Mozol, Shauna Schechtel, Judy Tran, Stephen White, J. Chem. Educ. 2020, 97, 1, 125-131 DOI: 10.1021/acs.jchemed.9b00612


Microplastics Outreach Program: A Systems-Thinking Approach To Teach High School Students about the Chemistry and Impacts of Plastics Jamie M. Schiffer, Johnnie Lyman, Debra Byrd, Hercules Silverstein, Mathew D. Halls, J. Chem. Educ. 2020, 97, 1, 137-142 DOI: 10.1021/acs.jchemed.9b00249


Teaching Electrochemistry with Common Objects: Electrocatalytic Hydrogenation of Acetol with U.S. Coins Chun Ho Lam, James E. Jackson, J. Chem. Educ. 2020, 97, 1, 172-177 DOI: 10.1021/acs.jchemed.9b00620


Quick and Easy Electroless Deposition and Alkanethiol Treatment To Form a Superhydrophobic Surface Fabian Dauzvardis, Alexander Knapp, Kaung Nan Dar Shein, George Lisensky, J. Chem. Educ. 2020, 97, 1, 184-189 DOI: 10.1021/acs.jchemed.9b00639


2019

- décembre

- novembre
  - Design and Evaluation of Integrated Instructions in Secondary-Level Chemistry Practical

- It’s All Relative! Engaging Nursing and Exercise Science Students in Chemical Education Using Medical Case Studies Angela L. Mahaffey, J. Chem. Educ. 2019, 96(10), 2253-2260 DOI: 10.1021/acs.jchemed.9b00329
- Design and Construction of a Low-Cost Arduino-Based pH Sensor for the Visually Impaired

- octobre

- A Complementary Laboratory Exercise: Introducing Molecular Structure–Function Topics to Undergraduate Nursing Health Professions Students Angela L. Mahaffey, J. Chem. Educ. 2019, 96(10), 2188-2193 DOI: 10.1021/acs.jchemed.9b00388

- **septembre**
  - Drawing for Assessing Learning Outcomes in Chemistry Stephanie A. C. Ryan, Mike Stieff, J. Chem. Educ. 2019, 96(9), 1813-1820 DOI: 10.1021/acs.jchemed.9b00361

- **Août**
  - Metacognitive Training in Chemistry Tutor Sessions Increases First Year Students’ Self-Efficacy Kate J. Graham, Catherine M. Bohn-Gettler, Annette F. Raigoza, J. Chem. Educ. 2019, 96(8), 1539-1547 DOI: 10.1021/acs.jchemed.9b00170
  - Bringing Nuance to Automated Exam and Classroom Response System Grading: A Tool for Rapid, Flexible, and Scalable Partial-Credit Scoring Tom P. Carberry, Philip S. Lukeman,

- Simple and Economical Procedure To Assemble pH Glass Membrane Electrodes Used in Chemical Education Fang Yong, Qiuhong Zhu, Guohao Zhang, Guohong Tao, Song Qin, J. Chem. Educ. 2019, 96(8), 1773-1777 DOI: 10.1021/acs.jchemed.9b00254

juillet

- A 3D-Printable Dual Beam Spectrophotometer with Multiplatform Smartphone Adaptor Ryan Bogucki, Mary Greggila, Paul Mallory, Jiansheng Feng, Kelly Siman, Banafsheh

- juin

- mai

- avril
  - Clock Reaction Revisited: Catalyzed Redox Substrate-Depletive Reactions Taweetham
Sélection d’articles en didactique de la chimie


- mars
  - Supporting the Growth and Impact of the Chemistry-Education-Research Community

- février

- Multidisciplinary Learning: Redox Chemistry and Pigment History
  Marcie B. Wiggins,

Detecting Microplastics in Soil and Sediment in an Undergraduate Environmental Chemistry Laboratory Experiment That Promotes Skill Building and Encourages Environmental Awareness Laura Rowe, Maria Kubalewski, Robert Clark, Emily Statza, Thomas Goyne, Katie Leach, and Julie Peller, J. Chem. Educ., 2019, 96 (2), pp 323–328 DOI: 10.1021/acs.jchemed.8b00392


2018


N.B.: attention de considérer aussi les critiques à propos de Carol Dweck


What Prospective Chemistry Teachers Know about Chemistry: An Analysis of Praxis Chemistry Subject Assessment Category Performance Lisa Shah, Jeremy Schneider,

- **Electronic Laboratory Notebooks Allow for Modifications in a General, Organic, and Biochemistry Chemistry Laboratory To Increase Authenticity of the Student Experience**

- **Investigating NOx Concentrations on an Urban University Campus Using Passive Air Samplers and UV–Vis Spectroscopy**

- **octobre**
  - **Impact of an Atoms-First Approach on Student Outcomes in a Two-Semester General Chemistry Course** George Chitiyo, Darek W. Potter, and Chad E. Rezsnyak, J. Chem. Educ., 2018, 95 (10), pp 1711–1716 DOI: 10.1021/acs.jchemed.8b00195
  - **From Water to H2O: Using the Human Dimension of Science To Teach the Nature of Science** José Luis Aparicio and María P. Elizalde, J. Chem. Educ., 2018, 95 (10), pp 1763–1770 DOI: 10.1021/acs.jchemed.8b00060

- **septembre**
  - **Analysis and Identification of Major Organic Acids in Wine and Fruit Juices by Paper Chromatography** Dulani Samarasekara, Courtney Hill, and Deb Mlsna, J. Chem. Educ., 2018, 95 (9), pp 1621–1625 DOI: 10.1021/acs.jchemed.8b00129
  - **Demonstrating CO2 Sequestration Using Olivine and Carbonated Beverages with...**

- août
  - Pedagogical Content Knowledge of Chemical Kinetics: Experiment Selection Criteria To Address Students’ Intuitive Conceptions Ainoa Marzabal, Virginia Delgado, Patricia Moreira, Lorena Barrientos, and Jeannette Moreno, J. Chem. Educ., 2018, 95 (8), pp 1245–1249 DOI: 10.1021/acs.jchemed.8b00296
  - Sweet, Sweet Science: Addressing the Gender Gap in STEM Disciplines through a One-Day High School Program in Sugar Chemistry Mindy Levine and Dana J. DiScenza, J. Chem. Educ., 2018, 95 (8), pp 1316–1322 DOI: 10.1021/acs.jchemed.7b00900

- juillet

- juin
Prediction! The VSEPR Game: Using Cards and Molecular Model Building To Actively Enhance Students’ Understanding of Molecular Geometry Erlina, Chris Cane, and Dylan P. Williams, J. Chem. Educ., 2018, 95 (6), pp 991–995 DOI: 10.1021/acs.jchemed.7b00687


Mobile Augmented Reality Assisted Chemical Education: Insights from Elements 4D Shuxia Yang, Bing Mei, and Xiaoyu Yue, J. Chem. Educ., 2018, 95 (6), pp 1060–1062 DOI: 10.1021/acs.jchemed.8b00017


Concept Inventories: Predicting the Wrong Answer May Boost Performance Vicente Talanquer, Journal of Chemical Education 2017 94 (12), 1805-1810 DOI: 10.1021/acs.jchemed.7b00427


Reforming a Large Foundational Course: Successes and Challenges Vicente Talanquer and John Pollard, Journal of Chemical Education 2017 94 (12), 1844-1851 DOI:

2017
Practicing What We Preach: Assessing “Critical Thinking” in Organic Chemistry
Ryan L. Stowe and Melanie M. Cooper, Journal of Chemical Education 2017 94 (12), 1852-1859
DOI: 10.1021/acs.jchemed.7b00397

Tailoring Clicker Technology to Problem-Based Learning: What’s the Best Approach?
Russell J. Pearson, Journal of Chemical Education 2017 94 (12), 1866-1872
DOI: 10.1021/acs.jchemed.7b00270

Introduction to Stochastic Simulations for Chemical and Physical Processes: Principles and Applications
Charles J. Weiss, Journal of Chemical Education 2017 94 (12), 1904-1910
DOI: 10.1021/acs.jchemed.7b00395

How Is the Freezing Point of a Binary Mixture of Liquids Related to the Composition? A Guided Inquiry Experiment
DOI: 10.1021/acs.jchemed.7b00409

Determining the Speed of Sound and Heat Capacity Ratios of Gases by Acoustic Interferometry
DOI: 10.1021/acs.jchemed.7b00526

Polymer Day: Outreach Experiments for High School Students
DOI: 10.1021/acs.jchemed.6b00767

Augmenting Primary and Secondary Education with Polymer Science and Engineering
DOI: 10.1021/acs.jchemed.6b00805

Illustrating Plastic Production and End-of-Life Plastic Treatment with Interlocking Building Blocks
DOI: 10.1021/acs.jchemed.6b00888

A(n)other Modification of the Ammonia Fountain Demonstration
DOI: 10.1021/acs.jchemed.7b00295

Unpacking “Active Learning”: A Combination of Flipped Classroom and Collaboration Support Is More Effective but Collaboration Support Alone Is Not
DOI: 10.1021/acs.jchemed.7b00240

Differential Use of Study Approaches by Students of Different Achievement Levels
DOI: 10.1021/acs.jchemed.7b00202

Illustrating the Basic Functioning of Mass Analyzers in Mass Spectrometers with Ball-Rolling Mechanisms
DOI: 10.1021/acs.jchemed.7b00297

Bird’s-Eye View of Sampling Sites: Using Unmanned Aerial Vehicles To Make Chemistry Fieldwork Videos
DOI: 10.1021/acs.jchemed.6b00985

Exploring Matter: An Interactive, Inexpensive Chemistry Exhibit for Museums
DOI: 10.1021/acs.jchemed.7b00335
10.1021/acs.jchemed.6b01024

- **septembre**

- **août**
  - Transforming a Traditional Laboratory to an Inquiry-Based Course: Importance of Training TAs when Redesigning a Curriculum Lindsay B. Wheeler, Charles P. Clark, and Charles M. Grisham, J. Chem. Educ., 2017, 94 (8), pp 1019–1026 DOI: 10.1021/acs.jchemed.6b00831
  - Using Beads and Divided Containers To Study Kinetic and Equilibrium Isotope Effects in the Laboratory and in the Classroom Dean J. Campbell, Emily R. Brewer, Keri A. Martinez, and Tamara J. Fitzjarrald, J. Chem. Educ., 2017, 94 (8), pp 1118–1123 DOI: 10.1021/acs.jchemed.6b01004

- **juillet**
• juin

• mai

• avril

• mars
  - Unraveling the Complexities: An Investigation of the Factors That Induce Load in Chemistry Students Constructing Lewis Structures Jessica M. Tiettmeyer, Amelia F.


- **février**

- **janvier**
  - **Simultaneous Introduction of Redox and Coordination Chemistry Concepts in a Single**


2016

- décembre
  - Using Demonstrations Involving Combustion and Acid–Base Chemistry To Show Hydration of Carbon Dioxide, Sulfur Dioxide, and Magnesium Oxide and Their Relevance for Environmental Climate Science, J. Chem. Educ., 2016, 93 (12), pp 2063–2067 DOI: 10.1021/acs.jchemed.6b00310

- novembre

- octobre

- septembre


• août
  • Identifying Misconceptions Related to Chemical Bonding Concepts in the Slovak School System Using the Bonding Representations Inventory as a Diagnostic Tool, Michal Vrabec and Miroslav Prokša, J. Chem. Educ., 2016, 93 (8), pp 1364–1370 DOI: 10.1021/acs.jchemed.5b00953
  • FlashPhotol: Using a Flash Photolysis Apparatus Simulator To Introduce Students to the Kinetics of Transient Species and Fast Reactions Stephen W. Bigger, J. Chem. Educ., 2016, 93 (8), pp 1475–1477 DOI: 10.1021/acs.jchemed.5b00896

• juillet
  • A Game-Based Approach To Learning the Idea of Chemical Elements and Their Periodic Classification Antonio Joaquín Franco-Mariscal, José María Oliva-Martínez, Ángel Blancolópez, and Enrique España-Ramos, J. Chem. Educ., 2016, 93 (7), pp 1173–1190 DOI: 10.1021/acs.jchemed.5b00846
Sélection d'articles en didactique de la chimie

**juin**
- Insights into How Students Learn the Difference between a Weak Acid and a Strong Acid from Cartoon Tutorials Employing Visualizations, Resa M. Kelly and Sevil Akaygun, J. Chem. Educ., 2016, 93 (6), pp 1010–1019 DOI: 10.1021/acs.jchemed.6b00034

**mai**

**avril**

**mars**

**février**
- Using Interactive Psychrometric Charts to Visualize and Explore Psychrometric Processes,

- **janvier**
  - Five Things Chemists (and Other Science Faculty) Should Know about the Education Research Literature S. Seethaler, J. Chem. Educ., 2016, 93 (1), pp 9–12 DOI: 10.1021/acs.jchemed.5b00109 (commentaire)

**2015**

- **décembre**
- Exploring the Structure and Function of the Chemistry Self-Concept Inventory with High School Chemistry Students Sara E. Nielsen and Ellen Yezierski, J. Chem. Edu...
Using a Laboratory Inquiry with High School Students To Determine the Reaction Stoichiometry of Neutralization by a Thermochemical Approach

 Teaching Beginning Chemistry Students Simple Lewis Dot Structures

 Student Understanding of Intermolecular Forces: A Multimodal Study
Melanie M. Cooper, Leah C. Williams, and Sonia M. Underwood, J. Chem. Educ., 2015, 92 (8), pp 1288–1298 DOI: 10.1021/acs.jchemed.5b00169

 Why Ask Why?

 A Comparison of Carbon Dioxide Emissions from Electric Vehicles to Emissions from Internal Combustion Vehicles

 Multiple-Choice Exams and Guessing: Results from a One-Year Study of General Chemistry Tests Designed To Discourage Guessing

 Implementation and Student Testing of a Web-Based, Student-Centered Stereochemistry Tutorial

 Student Fabrication and Use of Simple, Low-Cost, Paper-Based Galvanic Cells To Investigate Electrochemistry

 Understanding Atomic Structure: Is There a More Direct and Compelling Connection between Atomic Line Spectra and the Quantization of an Atom’s Energy?

 Implementing an Equilibrium Law Teaching Sequence for Secondary School Students To Learn Chemical Equilibrium

 Integration of Nanoparticle-Based Paper Sensors into the Classroom: An Example of Application for Rapid Colorimetric Analysis of Antioxidants

 Laboratory Production of Lemon Liqueur (Limoncello) by Conventional Maceration and a Two-Syringe System To Illustrate Rapid Solid–Liquid Dynamic Extraction

 Using Flavor Chemistry To Design and Synthesize Artificial Scents and Flavors

 Making Sense of Students’ Actions in an Open-Ended Virtual Laboratory Environment
- Une explication moléculaire de la manière dont la brume est produite lorsque du dry ice est placé dans l'eau
- L'importance de la métastabilité cinétique : quelques exemples courants

### Mars
- Forensic Chemistry: The Revelation of Latent Fingerprints
- Activities Designed for Fingerprint Dusting and the Chemical Revelation of Latent Fingerprints
- Using Latex Balls and Acrylic Resin Plates To Investigate the Stacking Arrangement and Packing Efficiency of Metal Crystals
- The Oxidation of Iron: Experiment, Simulation, and Analysis in Introductory Chemistry

### Février
- Intuitive Judgments Govern Students’ Answering Patterns in Multiple-Choice Exercises in Organic Chemistry
- Students’ Understandings of Acid Strength: How Meaningful Is Reliability When Measuring Alternative Conceptions?
  Stacey Lowery Bretz, LaKeisha McClary, Journal of Chemical Education 2015, 92, 2, 212-219 DOI: 10.1021/ed5005195
- Students’ Perceptions about the Use of Educational Games as a Tool for Teaching the Periodic Table of Elements at the High School Level

### Janvier
- Electrolysis of Water in the Secondary School Science Laboratory with Inexpensive Microfluidics
- Designing, Constructing, and Using an Inexpensive Electronic Buret
- Low-Cost Magnetic Stirrer from Recycled Computer Parts with Optional Hot Plate
- Using Wikis To Develop Collaborative Communities in an Environmental Chemistry Course

### 2014
- KinChem: A Computational Resource for Teaching and Learning Chemical Kinetics
- From Voltage to Absorbance and Chemical Kinetics Using a Homemade Colorimeter

- **novembre**
  - Fostering Innovation through an Active Learning Activity Inspired by the Baghdad Battery Xu Lu and Franklin Anariba, J. Chem. Educ., 2014, 91 (11), pp 1929–1933 DOI: 10.1021/ed400869c

- **octobre**

- **septembre** - september 2014, special “AP chemistry curriculum framework”

- **aout**
  - The Kimball Free-Cloud Model: A Failed Innovation in Chemical Education? William B.
Sélection d'articles en didactique de la chimie

- **juillet**

- **juin**

- **mai**

- **avril**

- **mars**
  - Quantifying the Soda Geyser Christopher J. Huber and Aaron M. Massari, J. Chem. Educ.,
Unpacking the Meaning of the Mole Concept for Secondary School Teachers and Students
DOI: 10.1021/ed4000128x

The Biology and Chemistry of Brewing: An Interdisciplinary Course
DOI: 10.1021/ed400523m

SQER3: An Instructional Framework for Using Scientific Inquiry To Design Classroom Demonstrations
DOI: 10.1021/ed300689n

Development of the Bonding Representations Inventory To Identify Student Misconceptions about Covalent and Ionic Bonding Representations

Février
ZnO-Based Sunscreen: The Perfect Example To Introduce Nanoparticles in an Undergraduate or High School Chemistry Lab
DOI: 10.1021/ed300851a

DOI: 10.1021/ed400746e + cette thèse

Alcohol Pharmacology Education Partnership: Using Chemistry and Biology Concepts To Educate High School Students about Alcohol
DOI: 10.1021/ed4000958

Janvier
Chemistry in Past and New Science Frameworks and Standards: Gains, Losses, and Missed Opportunities
DOI: 10.1021/ed400134c

A Teaching Sequence for Learning the Concept of Chemical Equilibrium in Secondary School Education
DOI: 10.1021/ed3002336

Using Paper-Based Diagnostics with High School Students To Model Forensic Investigation and Colorimetric Analysis
DOI: 10.1021/ed300261a

Microfluidics for High School Chemistry Students
DOI: 10.1021/ed4003018

2013

Décembre
How Multimedia-Based Learning and Molecular Visualization Change the Landscape of Chemical Education Research
DOI: 10.1021/ed4001206

Using Ordered Multiple-Choice Items To Assess Students’ Understanding of the Structure and Composition of Matter
Jan C. Hadenfeldt, Sascha Bernholt, Xiufeng Liu, Knut

- Novembre

- Octobre

- Septembre

- Août
Effect of Teaching Metacognitive Learning Strategies on Performance in General Chemistry Courses
Elzbieta Cook, Eugene Kennedy, and Saundra Y. McGuire

Juillet
- The Method of Continuous Variation: A Laboratory Investigation of the Formula of a Precipitate
William R. Furlong, Miles A. Rubinski, and Ramee Indralingam
- Fact or Fiction? General Chemistry Helps Students Determine the Legitimacy of Television Program Situations
Mark A. Milanick and Ruth L. Prewitt
- Incorporating a Soap Industry Case Study To Motivate and Engage Students in the Chemistry of Daily Life
Mohammad A. Chowdhury
- Chemistry Education: Ten Facets To Shape Us
Vicente Talanquer

Juin
- Plant Pigment Identification: A Classroom and Outreach Activity
Kathleen C. A. Garber et al
- Concept Learning versus Problem Solving: Evaluating a Threat to the Validity of a Particulate Gas Law Question
Michael J. Sangern C. Kevin Vaughn, and David A. Binkley
- Chemistry and the Next Generation Science Standards
Melanie M. Cooper

Mai
- Sustainable Mobility, Future Fuels, and the Periodic Table
Timothy J. Wallington et al

Mars
- Opera and Poison: A Secret and Enjoyable Approach To Teaching and Learning Chemistry
João Paulo André
- Chemistry on the Go: Review of Chemistry Apps on Smartphones
Diana Libman and Ling Huang
- What Faculty Interviews Reveal about Meaningful Learning in the Undergraduate Chemistry Laboratory
Stacey Lowery Bretz, Michael Fay, Laura B. Bruck, Marcy H. Towns

février

janvier
- A Comprehensive General Chemistry Demonstration
Ryan D. Sweeder and Kathleen A. Jeffery

Les plus lus en 2013 :

- Cyclic voltammetry
Peter T. Kissinger, William R. Heineman
DOI: 10.1021ed060p702
- A Guide to the Elements
(Stwertka, Albert) Daniel Berger
DOI: 10.1021ed074p627.1
- Opera and Poison: A Secret and Enjoyable Approach To Teaching and Learning Chemistry
João Paulo André
DOI: 10.1021ed300445b
- Chemistry on the Go: Review of Chemistry Apps on Smartphones
Diana Libman, Ling Huang
DOI: 10.1021ed300329e
- Aerobic Alcohol Oxidation Using a Copper(I)/TEMPO Catalyst System: A Green, Catalytic Oxidation Reaction for the Undergraduate Organic Chemistry Laboratory
Nicholas J. Hill, Jessica
Sélection d'articles en didactique de la chimie

M. Hoover, Shannon S. Stahl, DOI: 10.1021/ed300368q

- **Chemistry and the Next Generation Science Standards**, Melanie M. Cooper DOI: 10.1021/ed400284c
- **A Comprehensive General Chemistry Demonstration**, Ryan D. Sweeder, Kathleen A. Jeffery DOI: 10.1021/ed30367y
- **Online Courses in Chemistry: Salvation or Downfall?**, Norbert J. Pienta DOI: 10.1021/ed400097s
- **Beer's law without calculus**, Richard C. Pinkerton DOI: 10.1021/ed041p366
- **Learning Chemistry for an Exciting (and Uncertain) Future**, Catherine H. Middlecamp DOI: 10.1021/ed400078m

2012


2011


2010


2009


2008


2007

- **Mistake of Having Students Be Mendeleev for Just a Day**, Brett Criswell, J. Chem. Educ., 2007, 84 (7), p 1140 DOI: 10.1021/ed084p1140

2006

- **Using a Spreadsheet to Fit Experimental pH Titration Data to a Theoretical Expression**


2005


2002


2000


1999


1998


1997

• Research in Chemical Education - the Third Branch of Our Profession Journal of Chemical Education 1997, 74 (9) , 1076. DOI: 10.1021/ed074p1076
1996


1994


1993


1992

- **A mole of salt crystals—Or how big is the Avogadro number?** William Hoyt, J. Chem. Educ., 1992, 69(6), 496 DOI: 10.1021/ed069p496

1991


1990

- **A proposition about the quantity of which mole is the SI unit** Romeu C. Rocha-Filho, J. Chem. Educ. 1990, 67(2), 139 DOI: 10.1021/ed067p139

1989

- **How to visualize Avogadro's number** Henk van Lubeck, J. Chem. Educ., 1989, 66(9), 762 DOI: 10.1021/ed066p762

1987


1986


1985

1984


1982


1978


1976


1975


1973


1961


1952


1929


Parmis les plus lus entre juillet et septembre 2012

- Articles
  - Orbitals: Some Fiction and Some Facts, Jochen Autschbach (DOI: 10.1021/ed200673w)
  - Put Some Movie Wow! in Your Chemistry Teaching, Christopher A. Frey, Marjorie L.
Parmis les plus lus entre lus entre avril et juin 2012

- **Articles**
  - Beer as a Teaching Aid in the Classroom and Laboratory, Jasminka N. Korolija, Jovica V.
Plavsic, Dragan Marinkovic, Ljuba M. Mandic
- The infrared spectra of four isotopes in HCl: A molecular structure experiment, L. Willard Richards
- The Chemistry of Perfume: A Laboratory Course for Nonscience Majors, Jennifer L. Logan, Craig E. Rumbaugh

- Reports
  - The Environmental Chemistry of Trace Atmospheric Gases, William C. Trogler
  - A Spreadsheet Exercise To Teach the Fourier Transform in FTIR Spectrometry, Brent Shepherd and Michael K. Bellamy
  - QR-Coded Audio Periodic Table of the Elements: A Mobile-Learning Tool, Vasco D. B. Bonifácio

- Letters
  - The Misinterpretation of Entropy as “Disorder”, Frank L. Lambert
  - Retire the Hybrid Atomic Orbital? Not So Fast, Nivaldo J. Tro
    - En réponse à l'article Is It Time To Retire the Hybrid Atomic Orbital? de Alexander Grushow
  - Replace Band Theory in Introductory Chemistry, Stephen J. Hawkes

- Editorials
  - Navigating the Landscape of Assessment, Stacey Lowery Bretz
  - What Do You Do? I Teach Chemistry!, Gregory T. Rushton
  - Improving High School Chemistry Teaching via the “Trickle Up” Effect: A Perspective on the New AP Chemistry Curriculum Framework, Gregory T. Rushton

- Commentaries
  - What Are Elements and Compounds?, Rollie J. Myers
  - Summer 2012 Book and Media Recommendations, Cheryl B. Frech, Brian P. Coppola, Hal Harris, and C. M. Woodbridge

- Laboratory Experiments
  - Isolation and Analysis of Essential Oils from Spices, Stephen K. O'Shea, Daniel D. Von Riesen, and Lauren L. Rossi
  - Synthesis of Two Local Anesthetics from Toluene: An Organic Multistep Synthesis in a Project-Oriented Laboratory Course, Patricia Demare and Ignacio Regla
  - Galvanic Cells and the Determination of Equilibrium Constants, Jonathan L. Brosmer and Dennis G. Peters

"classroom activities" les plus populaires des 15 dernières années (1997-2012)

- JCE Classroom Activities Virtual Issue: Celebrating 15 Years with the 15 Greatest Hits, 1997–2012, Erica K. Jacobsen
- 106 And the Oscar Goes to...A Chemist!, C. R. Howder, K. D. Groen, T. S. Kuntzleman
- 67 Flame Tests: Which Ion Causes the Color?, M. J. Sanger
- 104 A Novel, Simplified Scheme for Plastics Identification, M. E. Harris, B. Walker
• **109 My Acid Can Beat Up Your Acid!**, A. Putti
• **73 Colors in Liquid Crystals**, G. Lisensky, E. Boatman
• **103 Enjoy a Hot Drink, Thanks to Chemistry!**, G. Pinto, M. T. Oliver-Hoyo, J. A. Llorens-Molina
• **93 Aluminum—Air Battery**, M. Tamez, J. H. Yu
• **100 How Heavy Is a Balloon? Using the Ideal Gas Law**, B. O. Johnson, H. Van Milligan
• **41 Tick Tock, a Vitamin C Clock**, S. W. Wright
• **91 Fluorescent Fun: Using a Homemade Fluorometer**, M. F. Wahab

**Forensic Chemistry Resources from the Journal of Chemical Education**

**Solving a Mystery**

• **Crime Scene Investigation in the Art World: The Case of the Missing Masterpiece**, Katharine J. Harmon, Lisa M. Miller, and Julie T. Millard Journal of Chemical Education 2009 86 (7), 817 DOI: 10.1021/ed086p817

**Forensic Chemistry in the Undergraduate Curriculum**

• **An Interdisciplinary Guided Inquiry Laboratory for First Year Undergraduate Forensic Science Students**, Sarah L. Cresswell and Wendy A. Loughlin, Journal of Chemical Education 2015 92 (10), 1730-1735 DOI: 10.1021/acs.jchemed.5b00183
• **Exploring Perspectives and Identifying Potential Challenges Encountered with Crime Scene Investigations when Developing Chemistry Curricula**, A Bakarr Kanu, Megan Pajski, Machelle Hartman, Irene Kimaru, Susan Marine, and Lawrence J. Kaplan, Journal of Chemical Education 2015 92 (8), 1353-1358 DOI: 10.1021/ed500671x

**Analysis of Evidence: Fingerprints, Arson, Poison, and Illicit Drugs**

• **Inquiry-Based Arson Investigation for General Chemistry Using GC-MS**, Maurer, M.; Bukowski, M.; Menachery, M.; Zatorsky, A., Journal of Chemical Education 2010, 87, 311–313 DOI:
10.1021/ed800083b

- Using Laboratory Chemicals To Imitate Illicit Drugs in a Forensic Chemistry Activity, Shawn Hasan, Deborah Bromfield-Lee, Maria T. Oliver-Hoyo, and Jose A. Cintron-Maldonado, Journal of Chemical Education 2008 85 (6), 813 DOI: 10.1021/ed085p813

**Articles de Chemistry Education Research and Practice**


<table>
<thead>
<tr>
<th>Sujet</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clickers in the classroom</td>
<td>MacArthur and Jones (2008)</td>
</tr>
<tr>
<td>Teaching chemical equilibrium</td>
<td>Raviolo and Garritz (2009)</td>
</tr>
<tr>
<td>Green chemistry</td>
<td>Andaos and Dicks (2012)</td>
</tr>
<tr>
<td>Use of dataloggers</td>
<td>Tortosa (2012)</td>
</tr>
<tr>
<td>Transfer of learning</td>
<td>Dori and Sasson (2013)</td>
</tr>
<tr>
<td>Chemical triplet (Johnstone's triangle)</td>
<td>Taber (2013)</td>
</tr>
<tr>
<td>Learning progressions</td>
<td>Sevian and Talanquer (2014)</td>
</tr>
<tr>
<td>Teaching thermodynamics</td>
<td>Bain et al. (2014)</td>
</tr>
<tr>
<td>Solutions/electrolytes</td>
<td>de Berg (2014)</td>
</tr>
<tr>
<td>Education for sustainable development</td>
<td>Burmeister et al. (2012)</td>
</tr>
<tr>
<td></td>
<td>Juntunen and Aksela (2014)</td>
</tr>
<tr>
<td>Quantum chemistry</td>
<td>Greca and Freire (2014)</td>
</tr>
<tr>
<td>Graphical representations of orbitals</td>
<td>Barradas-Solas and Sánchez Gómez (2014)</td>
</tr>
<tr>
<td></td>
<td>Clauss et al. (2014)</td>
</tr>
<tr>
<td>Chemical bonding</td>
<td>Dhindsa and Treagust (2014)</td>
</tr>
<tr>
<td>Implicit knowledge</td>
<td>Taber (2014)</td>
</tr>
<tr>
<td>Distinguishing abstraction and complexity</td>
<td>Blackie (2014)</td>
</tr>
<tr>
<td>Organic chemistry</td>
<td>Graulich (2015)</td>
</tr>
<tr>
<td>Capturing student reasoning</td>
<td>Sevian et al. (2015)</td>
</tr>
<tr>
<td>Flipped learning</td>
<td>Seery (2015)</td>
</tr>
<tr>
<td>Chemical kinetics</td>
<td>Bain and Towns (2016)</td>
</tr>
<tr>
<td>Learning difficulties leading to misconceptions</td>
<td>Tümay (2016)</td>
</tr>
<tr>
<td>Symbolic expressions in chemistry</td>
<td>Liu and Taber (2016)</td>
</tr>
<tr>
<td>Pre-laboratory activities</td>
<td>Agustian and Seery (2017)</td>
</tr>
<tr>
<td>Reasoning about structure–property relations</td>
<td>Talanquer (2018)</td>
</tr>
</tbody>
</table>

La revue propose aussi un *accès thématique* :

- Learning progressions and teaching sequences in chemistry education, 2018
- Celebrating our 2018 prize and award winners, 2018
- Development of key skills and attributes in chemistry, 2017
- The language and the teaching and learning of chemistry, 2016
- Celebrating the 2016 RSC Prize and Award Winners, 2016
Sélection d'articles en didactique de la chimie

- Teaching And Learning About The Interface Between Chemistry And Biology, 2015
- Physical Chemistry Education, 2014
- The Application of Technology to Enhance Chemistry Education, 2013
- Sustainable Development and Green Chemistry in Chemistry Education, 2012
- Diagnostic Assessment in Chemistry, 2011
- Evidentially-Based Curriculum Development, 2010
- Chemistry Teacher Education - Recent Developments, 2009
- Research and Practice in Chemical Education in Advanced Courses, 2008
- The Laboratory in Science Education: The State of the Art, 2007
- Chemical Education Research in Glasgow in Perspective, 2006
- Chemistry and Environmental Education, 2004
- Teaching Chemistry and Physics, 2003
- Structural Concepts, Part II, 2002

Advance articles

- ...

2021

- Volume 22, 01 July 2021, Issue 3, Page 555 to 801
  - Writing a review article: what to do with my literature review
  - Student success and the high school-university transition: 100 years of chemistry education research
  - The role of visuospatial thinking in students’ predictions of molecular geometry
  - Effects of a context-based approach with prediction-observation-explanation on conceptual understanding of the states of matter, heat and temperature
  - Creating and testing an activity with interdisciplinary connections: entropy to osmosis
  - Chemistry instructors’ intentions toward developing, teaching, and assessing student representational competence skills - Chemistry Education Research and Practice (RSC Publishing)
  - Effects of different ways of using visualizations on high school students’ electrochemistry conceptual understanding and motivation towards chemistry learning - Chemistry Education Research and Practice (RSC Publishing)
- Volume 22, 01 April 2021, Issue 2, Page 227 to 553
  - The topic-specific nature of experienced chemistry teachers’ pedagogical content knowledge in the topics of interactions between chemical species and states of matter - Chemistry Education Research and Practice (RSC Publishing)
  - Student-generated PowerPoint animations: a study of student teachers’ conceptions of molecular motions through their expressed models - Chemistry Education Research and Practice (RSC Publishing)
  - Development of pre-service teachers’ pedagogical content knowledge through a PCK-based school experience course - Chemistry Education Research and Practice (RSC Publishing)
  - South African physical sciences teachers’ use of formulae and proportion when answering reaction-based stoichiometry calculation questions - Chemistry Education Research and Practice (RSC Publishing)
Practice (RSC Publishing)
- Examining the sources of high school chemistry teachers’ practical knowledge of teaching with practical work: from the teachers’ perspective - Chemistry Education Research and Practice (RSC Publishing)
- Students’ understanding of molar concentration - Chemistry Education Research and Practice (RSC Publishing)

- Volume 22, 01 January 2021, Issue 1, Page 1 to 225
  - Implementation of self-regulatory instruction to promote students’ achievement and learning strategies in the high school chemistry classroom - Chemistry Education Research and Practice (RSC Publishing)
  - The role of motivation on secondary school students’ causal attributions to choose or abandon chemistry - Chemistry Education Research and Practice (RSC Publishing)
  - Does the way charges and transferred electrons are depicted in an oxidation-reduction animation affect students’ explanations? - Chemistry Education Research and Practice (RSC Publishing)
  - I realized what I was doing was not working: the influence of explicit teaching of metacognition on students’ study strategies in a general chemistry I course - Chemistry Education Research and Practice (RSC Publishing)
  - The persistence of primary school students’ initial ideas about acids and bases in the mental models of adults - Chemistry Education Research and Practice (RSC Publishing)
  - Improving students’ summative knowledge of introductory chemistry through the forward testing effect: examining the role of retrieval practice quizzing - Chemistry Education Research and Practice (RSC Publishing)
  - Investigating high school chemistry teachers’ assessment item generation processes for a solubility lab - Chemistry Education Research and Practice (RSC Publishing)

- Volume 22, 01 October 2020, Issue 4, Page 1015 to 1221
  - Pre-service chemistry teachers’ pedagogical content knowledge for integrated STEM development with LESMeR model - Chemistry Education Research and Practice (RSC Publishing)
  - Linking the submicroscopic and symbolic level in physical chemistry: how voluntary simulation-based learning activities foster first-year university students’ conceptual understanding - Chemistry Education Research and Practice (RSC Publishing)
  - Examining the effect of lab instructions on students’ critical thinking during a chemical inquiry practical - Chemistry Education Research and Practice (RSC Publishing)

- Volume 22, 01 July 2020, Issue 3, Page 687 to 1013
  - Electrolysis: What textbooks don’t tell us - Chemistry Education Research and Practice (RSC Publishing)
  - Pre-university students’ perceptions about the life cycle of bioplastics and fossil-based plastics - Chemistry Education Research and Practice (RSC Publishing)
  - Capturing student conceptions of thermodynamics and kinetics using writing - Chemistry Education Research and Practice (RSC Publishing)
  - Video-based instruction on safety rules in the chemistry laboratory: its effect on student achievement - Chemistry Education Research and Practice (RSC Publishing)
  - The impact of coupling assessments on conceptual understanding and connection-making in chemical equilibrium and acid-base chemistry - Chemistry Education Research and Practice (RSC Publishing)

- Volume 22, 01 April 2020, Issue 2, Page 483 to 685
  - Student-generated video in chemistry education - Chemistry Education Research and Practice (RSC Publishing)
Pratique (RSC Publishing)
- Increasing chemistry students’ knowledge, confidence, and conceptual understanding of pH using a collaborative computer pH simulation - Chemistry Education Research and Practice (RSC Publishing)
- Development of a measurement instrument to assess students’ proficiency levels regarding galvanic cells - Chemistry Education Research and Practice (RSC Publishing)

Volume 21, Issue 1 page 1 to 482
- Revisiting the use of concept maps in a large enrollment general chemistry course: implementation and assessment
- Impact of basic arithmetic skills on success in first-semester general chemistry
- An examination of pre-service chemistry teachers’ meaningful understanding and learning difficulties about aromatic compounds using a systemic assessment questions diagram
- Developing a lesson plan on conventional and green pesticides in chemistry education – a project of participatory action research
- Epistemological problems underlying pre-service chemistry teachers’ aims to use practical work in school science
- Secondary school students’ chemistry self-concepts: gender and culture, and the impact of chemistry self-concept on learning behaviour
- Secondary school students’ acquisition of science capital in the field of chemistry
- A teacher perspective on Scrum methodology in secondary chemistry education
- How to promote chemical literacy? On-line question posing and communicating with scientists
- Students’ competence in translating between different types of chemical representations

Volume 20, Issue 4 page 651 to 936
- What you see is what you learn? The role of visual model comprehension for academic


• Volume 20, Issue 3 page 443 to 649

• Volume 20, Issue 2 page 331 to 442

• Volume 20, Issue 1, page 1 to 329
A phenomenographic study of 10th grade students’ understanding of electrolytes


### 2018

- **Volume 19, Issue 4, page 983 to 1318**

- **Volume 19, Issue 3, page 639 to 982**
  - Avoiding bonding misconceptions - Students’ understanding regresses after teachers introduce the octet rule, Education in Chemistry (RSC), sept. 2018, David Read.

- **Volume 19, Issue 2, page 399 to 637**

- **Volume 19, Issue 1, page 1 to 397**


2017


  ○ discuté ici : Triangulation to tame the Triplet Getting your students to think about how they learn


2016


2015


- …
2014


2013


2010


2009


2008

2006


2005


2003


2002


2000


**International Journal of Science Education**

- **The qualitatively different conceptions of 1 mol** Helge Strømdahl, Aina Tullberg & Leif Lybeck, International Journal of Science Education: Vol 16, No 1, Pages 17-26, 1994 DOI: 10.1080/0950069940160102
- **Students’ conceptions of 1 mol and educators’ conceptions of how they teach ‘the mole’** Aina Tullberg, Helge Strømdahl & Leif Lybeck, International Journal of Science Education: Vol 16, No 2, Pages 145-156, 1994 DOI: 10.1080/0950069940160204
- **Difficulties in teaching the concepts of ‘amount of substance’ and ‘mole’** CarloS. Furió, RafaelL. Azcona, Jenaro Guisasola & Mary Ratcliffe, International Journal of Science Education, 2000, 22:12, 1285-1304, DOI: 10.1080/095006900750036262
  - An investigation into chemical engineering students' understanding of the mole and the use of concrete activities to promote conceptual change Jennifer M. Case & Duncan M. Fraser, International Journal of Science Education, 1999, 21:12, 1237-1249, DOI: 10.1080/095006999290048
- **International Journal of Science Education: Vol 40, No 10** Context-based Learning and Teaching in STEM
Articles parus dans d'autres revues

- Teaching the Mole Werner Dierks, European Journal of Science Education, 1981, 3:2, 145-158, DOI: 10.1080/0140528810030205
- The efficiency of worked examples compared to erroneous examples, tutored problem solving, and problem solving in computer-based learning environments Computers in Human Behavior Volume 55, Part A, February 2016, Pages 87-99 DOI: 10.1016/j.chb.2015.08.038
- Quand l'élève devient auteur : analyse didactique d'un atelier BD-chimie Isabelle Kermen, Cécile De Hosson, Laurence Bordenave - Telling Science, drawing Science - Science en récit,


• **Improving First-Semester General Chemistry Student Success Through Retrieval Practice** Saul R. Trevino, Elizabeth Trevino, and Mary Osterloh - Enhancing Retention in Introductory Chemistry Courses: Teaching Practices and Assessments, Chapter 4, pp 69-75 ACS Symposium Series Vol. 1330 (ACS Publications) DOI: 10.1021/bk-2019-1330.ch004

• **Stacey Lowery Bretz**
  - Faculty Goals, Inquiry, and Meaningful Learning in the Undergraduate Chemistry Laboratory Stacey Lowery Bretz, Kelli Rush Galloway, Joanna OrzeElizabeth Gross, in “Technology and Assessment Strategies for Improving Student Learning in Chemistry”, Chapter 6, 2016, 101-115 ACS Symposium Series, Volume 1235 DOI: 10.1021/bk-2016-1235.ch006

**Thèses de doctorat, PhD Thesis**


• Investigating Students’ Understandings of the Symbolic, Macroscopic, and Particulate Domains of Oxidation-Reduction and the Development of the Redox Concept Inventory Brandriet, Alexandra R, 2014, Miami University


• theses.fr – Sophie Canac , Le langage symbolique de la chimie en tant que méta-niveau entre registre empirique et registre des modèles : une problématique de l’enseignement-apprentissage de chimie (2017)

• Construction d’outils didactiques pour remédier aux difficultés d’apprentissage du concept de concentration en chimie dans le secondaire supérieur - Appui sur les neurosciences cognitives Bénédicte Willame, Institut de Recherches en Didactiques et Education de l'UNamur, thèse 2017
  - ENTRAINEMENT AU CONTRÔLE INHIBITEUR ET APPRENTISSAGE EN CHIMIE DANS LE SECONDAIRE SUPÉRIEUR : FAVORISER UN CHANGEMENT DE PRÉVALENCE CONCEPTUELLE

- L’équation chimique, un sujet d’étude pour diagnostiquer les difficultés d’apprentissage de la langue symbolique des chimistes dans l’enseignement secondaire belge : Développement d’une séquence de leçons en s’appuyant sur un modèle des niveaux de signification Jérémy Dehon, Département de Chimie, Institut de Recherches en Didactiques et Education de l'UNamur, thèse 2018
- Thèse Laureline Van Overmeir, ULB, 2019 “L’enseignement de la chimie organique dans le secondaire belge francophone : des conceptions alternatives à de nouvelles approches pédagogiques“. Promoteur : Prof. Cécile Moucheron. La thèse propose deux séquences d’apprentissage :
- Analyse de l'activité étudiante lors de séances de laboratoire de chimie: vers une compréhension des raisonnements adoptés lors de l'écriture de résultats expérimentaux et de l'acquisition des techniques de dilution et de titrage colorimétrique. Thèse de Céline Picron, UNamur, 10 sept. 2020. Promoteur : Ph. SNAUWAERT lien direct
- ...

From:

Permanent link:

Last update: 2021/07/09 00:28