Sélection d'articles en didactique de la chimie

Liens rapides :

- **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), 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 : 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, 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

- ...

2020

- marsr
  - 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
    - Time Bomb Game: Design, Implementation, and Evaluation of a Fun and Challenging Game Reviewing the Structural Theory of Organic Compounds | Journal of Chemical Education
    - Fast, Easy, Reproducible Method for Planting Fingerprints for Ninhydrin, Iodine Development | Journal of Chemical Education
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    - Synthesis and Study of Silver Nanoparticles, Lorraine Mulfinger, Sally D. Solomon, Mozghan Bahadory, Aravindan V. Jeyarajasingam, Susan A. Rutkowsky, Charles Boritz (DOI: 10.1021/ed084p322)
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    - What We Do and Don't Know about Teaching and Learning Science: The National Research Council Weighs in on Discipline-Based Education Research, Norbert J. Pienta (DOI: 10.1021/ed300354t)
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- Commentary
    - JCE Classroom Activities Virtual Issue: Celebrating 15 Years with the 15 Greatest Hits, 1997-2012, Erica K. Jacobsen (DOI: 10.1021/ed300347g)
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- 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
    - Hyperconjugation: A More Coherent Approach, Joseph J. Mullins
    - What Are Elements and Compounds?, Rollie J. Myers
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    - 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

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- JCE Classroom Activities Virtual Issue: Celebrating 15 Years with the 15 Greatest Hits, 1997–2012, Erica K. Jacobsen
- 62 Color My Nanoworld, A. D. McFarland, C. L. Haynes, C. A. Mirkin, R. P. Van Duyne, H. A. Godwin
- 89 Colorful Lather Printing, S. A. S. Hershberger, M. Nance, A. M. Sarquis, L. M. Hogue
- 105 A Sticky Situation: Chewing Gum and Solubility, I. M. Montes-González, J. A. Cintron-Maldonado, I. E. Párez-Medina, V. Montes-Berríos, S. N. Román-López
- 106 Sequestration of Divalent Metal Ion by Superabsorbent Polymer in Diapers, C. Yueh-Huey, J.-Y. Lin, L.-P. Lin, H. Liang, J.-F. Yaung
- 67 Flame Tests: Which Ion Causes the Color?, M. J. Sanger
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- 108 Using Archimedes’ Principle To Explain Floating and Sinking Cans, 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
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Sujet	**Citation**
Clickers in the classroom	MacArthur and Jones (2008)
Teaching chemical equilibrium	Raviolo and Garritz (2009)
Green chemistry	Andraos and Dicks (2012)
Use of dataloggers	Tortosa (2012)
Transfer of learning	Dori and Sasson (2013)
Chemical triplet (Johnstone's triangle)	Taber (2013)
Learning progressions	Sevian and Talanquer (2014)
Teaching thermodynamics	Bain et al. (2014)
Solutions/electrolytes	de Berg (2014)
Hydrogen bonding	Weinhold and Klein (2014)
Education for sustainable development	Burmeister et al. (2012) Juntunen and Aksela (2014)
Quantum chemistry	Greca and Freire (2014)
Graphical representations of orbitals	Barradas-Solas and Sánchez Gómez (2014) Clauss et al. (2014)
Chemical bonding	Dhindsa and Treagust (2014)
Implicit knowledge	Taber (2014)
Distinguishing abstraction and complexity	Blackie (2014)
Organic chemistry	Graulich (2015)
Capturing student reasoning	Sevian et al. (2015)
Flipped learning	Seery (2015)
Chemical kinetics	Bain and Towns (2016)
Learning difficulties leading to misconceptions	Tümay (2016)
Symbolic expressions in chemistry	Liu and Taber (2016)
Pre-laboratory activities	Agustian and Seery (2017)
Reasoning about structure–property relationships	Talanquer (2018)

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

- 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
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- 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

2019

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    - Visualizations and representations in chemistry education - editorial - Resa Kelly and Sevil Akaygun, Chem. Educ. Res. Pract., 2019,20, 657-658 DOI: 10.1039/C9RP90009H
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  - Exploring prospective chemistry teachers' perceptions of precipitation, conception of precipitation reactions and visualization of the sub-microscopic level of precipitation reactions Canan Nakiboğlu and Nuri Nakiboğlu, Chem. Educ. Res. Pract., 2019,20, 873-889 DOI: 10.1039/C9RP00109C
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  - Application and testing of a framework for characterizing the quality of scientific reasoning in chemistry students' writing on ocean acidification Alena Moon, Robert Moeller, Anne Ruggles Gere and Ginger V. Shultz, Chem. Educ. Res. Pract., 2019,20, 484-494 DOI: 10.1039/C9RP00005D
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