Sélection d'articles en didactique de la chimie

Fix Me! à ajouter :

- https://dvillers.umons.ac.be/wiki/teaching:biblio-10.1021-ed2001957

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

- …

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 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
- Journal of Chemical Education - Vol 98, No 3
- 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
    - Analyzing Chemistry Teachers' Formative Assessment Practices Using Formative Assessment Portfolio Chapters Timothy N. Abell and Hannah Sevian, J. Chem. Educ. 2020, 97, 12, 4255–4267 DOI: 10.1021/acs.jchemed.0c00361
        - 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
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    - 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
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    - 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
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    - 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
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    - Using Hands-On Chemistry Experiments While Teaching Online
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    - 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
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    - Physical and Digital Educational Escape Room for Teaching Chemical Bonding] * [[https://pubs.acs.org/doi/10.1021/acs.jchemed.0c00739|A Course of History of Chemistry and Chemical Education Completely Delivered in Distance Education Mode during Epidemic COVID-19

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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
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  - 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)
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