

# Thomas A Holme

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

92  
papers

1,421  
citations

23  
h-index

33  
g-index

230  
ext. papers

1,718  
ext. citations

5.2  
avg. IF

5.8  
L-index

#	Paper	IF	Citations
92	The ACS Exams Institute Undergraduate Chemistry Anchoring Concepts Content Map I: General Chemistry. <i>Journal of Chemical Education</i> , <b>2012</b> , 89, 721-723	2.4	89
91	Updating the General Chemistry Anchoring Concepts Content Map. <i>Journal of Chemical Education</i> , <b>2015</b> , 92, 1115-1116	2.4	72
90	Building the ACS Exams Anchoring Concept Content Map for Undergraduate Chemistry. <i>Journal of Chemical Education</i> , <b>2012</b> , 89, 715-720	2.4	69
89	The ACS Exams Institute Undergraduate Chemistry Anchoring Concepts Content Map II: Organic Chemistry. <i>Journal of Chemical Education</i> , <b>2013</b> , 90, 1443-1445	2.4	62
88	Systems thinking for education about the molecular basis of sustainability. <i>Nature Sustainability</i> , <b>2019</b> , 2, 362-370	22.1	57
87	Vibrational energy flow into a reactive coordinate: A theoretical prototype for a chemical system. <i>Journal of Chemical Physics</i> , <b>1985</b> , 83, 2860-2869	3.9	56
86	Beyond ThertIdeas to Teaching General Chemistry from Rich Contexts: Visualizing the Chemistry of Climate Change (VC3). <i>Journal of Chemical Education</i> , <b>2017</b> , 94, 1027-1035	2.4	52
85	Assessment and Quality Control in Chemistry Education. <i>Journal of Chemical Education</i> , <b>2003</b> , 80, 594	2.4	40
84	Integrating the Molecular Basis of Sustainability into General Chemistry through Systems Thinking. <i>Journal of Chemical Education</i> , <b>2019</b> , 96, 2730-2741	2.4	35
83	A Historical Analysis of the Curriculum of Organic Chemistry Using ACS Exams as Artifacts. <i>Journal of Chemical Education</i> , <b>2013</b> , 90, 1437-1442	2.4	31
82	Journal of Chemical Education Call for Papers: Special Issue on Insights Gained While Teaching Chemistry in the Time of COVID-19. <i>Journal of Chemical Education</i> , <b>2020</b> , 97, 1226-1227	2.4	29
81	The ACS Exams Institute Undergraduate Chemistry Anchoring Concepts Content Map IV: Physical Chemistry. <i>Journal of Chemical Education</i> , <b>2018</b> , 95, 238-241	2.4	28
80	The ACS Exams Institute Undergraduate Chemistry Anchoring Concepts Content Map III: Inorganic Chemistry. <i>Journal of Chemical Education</i> , <b>2018</b> , 95, 233-237	2.4	28
79	Dynamics of overtone excitation processes for a polyatomic model. <i>Journal of Chemical Physics</i> , <b>1986</b> , 84, 5455-5462	3.9	28
78	Biochemistry InstructorsViews toward Developing and Assessing Visual Literacy in Their Courses. <i>Journal of Chemical Education</i> , <b>2015</b> , 92, 23-31	2.4	27
77	Classroom Response Systems Have Not Crossed the ChasmEstimating Numbers of Chemistry Faculty Who Use Clickers. <i>Journal of Chemical Education</i> , <b>2012</b> , 89, 465-469	2.4	27
76	Assessing Conceptual and Algorithmic Knowledge in General Chemistry with ACS Exams. <i>Journal of Chemical Education</i> , <b>2011</b> , 88, 1217-1222	2.4	27

75	Investigating Factors That Influence Item Performance on ACS Exams. <i>Journal of Chemical Education</i> , <b>2012</b> , 89, 346-350	2.4	26
74	A Valid and Reliable Instrument for Cognitive Complexity Rating Assignment of Chemistry Exam Items. <i>Journal of Chemical Education</i> , <b>2011</b> , 88, 554-560	2.4	26
73	Defining Conceptual Understanding in General Chemistry. <i>Journal of Chemical Education</i> , <b>2015</b> , 92, 1477-1483	2.4	25
72	What Do Conceptual Holes in Assessment Say about the Topics We Teach in General Chemistry?. <i>Journal of Chemical Education</i> , <b>2015</b> , 92, 993-1002	2.4	22
71	Graphical Tools for Conceptualizing Systems Thinking in Chemistry Education. <i>Journal of Chemical Education</i> , <b>2019</b> , 96, 2888-2900	2.4	22
70	Results from a National Needs Assessment Survey: A View of Assessment Efforts within Chemistry Departments. <i>Journal of Chemical Education</i> , <b>2013</b> , 90, 561-567	2.4	22
69	Infusing Sustainability Science Literacy through Chemistry Education: Climate Science as a Rich Context for Learning Chemistry. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2014</b> , 2, 2488-2494	8.3	19
68	Results of a National Survey of Biochemistry Instructors To Determine the Prevalence and Types of Representations Used during Instruction and Assessment. <i>Journal of Chemical Education</i> , <b>2014</b> , 91, 800-806	2.4	19
67	Building a Database for the Historical Analysis of the General Chemistry Curriculum Using ACS General Chemistry Exams as Artifacts. <i>Journal of Chemical Education</i> , <b>2015</b> , 92, 230-236	2.4	18
66	A theoretical application of coherent multicolor laser spectroscopy to selective control of singlet and triplet excitations in carbon monosulfide. <i>Journal of Chemical Physics</i> , <b>1987</b> , 86, 42-50	3.9	18
65	Analyzing the Role of Science Practices in ACS Exam Items. <i>Journal of Chemical Education</i> , <b>2017</b> , 94, 3-10	2.4	17
64	Assessing Student Knowledge of Chemistry and Climate Science Concepts Associated with Climate Change: Resources To Inform Teaching and Learning. <i>Journal of Chemical Education</i> , <b>2017</b> , 94, 407-417	2.4	16
63	Adaptation of an Instrument for Measuring the Cognitive Complexity of Organic Chemistry Exam Items. <i>Journal of Chemical Education</i> , <b>2013</b> , 90, 1290-1295	2.4	16
62	Usability Testing and the Development of an Augmented Reality Application for Laboratory Learning. <i>Journal of Chemical Education</i> , <b>2020</b> , 97, 97-105	2.4	15
61	A Quantum Chemistry Concept Inventory for Physical Chemistry Classes. <i>Journal of Chemical Education</i> , <b>2016</b> , 93, 605-612	2.4	13
60	Designing Chemistry Practice Exams for Enhanced Benefits. An Instrument for Comparing Performance and Mental Effort Measures. <i>Journal of Chemical Education</i> , <b>2009</b> , 86, 827	2.4	13
59	A model for impulsive mode energy transfer in highly vibrationally excited molecules. <i>Journal of Chemical Physics</i> , <b>1989</b> , 90, 4582-4593	3.9	13
58	What We Don't Test: What an Analysis of Unreleased ACS Exam Items Reveals about Content Coverage in General Chemistry Assessments. <i>Journal of Chemical Education</i> , <b>2017</b> , 94, 418-428	2.4	12

57	Validating Chemistry Faculty Members' Self-Reported Familiarity with Assessment Terminology. <i>Journal of Chemical Education</i> , <b>2013</b> , 90, 1130-1136	2.4	12
56	Using Structural Equation Modeling To Understand Chemistry Faculty Familiarity of Assessment Terminology: Results from a National Survey. <i>Journal of Chemical Education</i> , <b>2013</b> , 90, 981-987	2.4	12
55	Identifying Differential Performance in General Chemistry: Differential Item Functioning Analysis of ACS General Chemistry Trial Tests. <i>Journal of Chemical Education</i> , <b>2013</b> , 90, 846-853	2.4	11
54	Using Interactive Anonymous Quizzes in Large Lecture General Chemistry Courses. <i>Journal of Chemical Education</i> , <b>1998</b> , 75, 574	2.4	11
53	Polytomous versus Dichotomous Scoring on Multiple-Choice Examinations: Development of a Rubric for Rating Partial Credit. <i>Journal of Chemical Education</i> , <b>2013</b> , 90, 1310-1315	2.4	10
52	A Historical Investigation into Item Formats of ACS Exams and Their Relationships to Science Practices. <i>Journal of Chemical Education</i> , <b>2015</b> , 92, 1798-1806	2.4	9
51	The Role of Non-Content Goals in the Assessment of Chemistry Learning. <i>ACS Symposium Series</i> , <b>2014</b> , 147-160	0.4	9
50	Using the chemistry of pharmaceuticals to introduce sustainable chemistry and systems thinking in general chemistry. <i>Sustainable Chemistry and Pharmacy</i> , <b>2020</b> , 16, 100234	3.9	7
49	MM3 parameterization for the B?N dative bond. <i>Journal of Computational Chemistry</i> , <b>2001</b> , 22, 913-922	3.5	7
48	Using the ACS Anchoring Concepts Content Map (ACCM) To Aid in the Evaluation and Development of ACS General Chemistry Exam Items. <i>ACS Symposium Series</i> , <b>2016</b> , 179-194	0.4	7
47	Reproducibility, Replication, and Generalization in Research about Teaching Innovation. <i>Journal of Chemical Education</i> , <b>2019</b> , 96, 2359-2360	2.4	7
46	Systems Thinking as a Vehicle To Introduce Additional Computational Thinking Skills in General Chemistry. <i>ACS Symposium Series</i> , <b>2019</b> , 239-250	0.4	6
45	Development of the Exams Data Analysis Spreadsheet as a Tool To Help Instructors Conduct Customizable Analyses of Student ACS Exam Data. <i>Journal of Chemical Education</i> , <b>2015</b> , 92, 2054-2061	2.4	6
44	Eye tracking student strategies for solving stoichiometry problems involving particulate nature of matter diagrams. <i>Chemistry Teacher International</i> , <b>2019</b> , 1,	1	6
43	Evaluation of Augmented Reality Application Usage and Measuring Students' Attitudes toward Instrumentation. <i>Journal of Chemical Education</i> , <b>2021</b> , 98, 1458-1464	2.4	6
42	Comparing Student Performance Using Computer and Paper-Based Tests: Results from Two Studies in General Chemistry. <i>Journal of Chemical Education</i> , <b>2017</b> , 94, 1822-1830	2.4	5
41	Methods for Addressing Missing Data with Applications from ACS Exams. <i>Journal of Chemical Education</i> , <b>2015</b> , 92, 2045-2053	2.4	5
40	Computational studies of dative bond containing heterocyclic ring structures. <i>Computational and Theoretical Chemistry</i> , <b>2013</b> , 1019, 78-84	2	5

39	Divergence of Faculty Perceptions of General Chemistry and Problem Solving Skills. <i>Journal of Chemical Education</i> , <b>2001</b> , 78, 1578	2.4	5
38	Adapting the Anchoring Concepts Content Map (ACCM) of ACS Exams by Incorporating a Theme: Merging Green Chemistry and Organic Chemistry. <i>Journal of Chemical Education</i> , <b>2020</b> , 97, 374-382	2.4	5
37	Incorporating elements of green and sustainable chemistry in general chemistry via systems thinking <b>2019</b> , 31-47		5
36	The American Chemical Society Exams Institute Undergraduate Chemistry Anchoring Concepts Content Map V: Analytical Chemistry. <i>Journal of Chemical Education</i> , <b>2020</b> , 97, 1530-1535	2.4	4
35	Comparing Recent Organizing Templates for Test Content between ACS Exams in General Chemistry and AP Chemistry. <i>Journal of Chemical Education</i> , <b>2014</b> , 91, 1352-1356	2.4	4
34	Assessing Conceptual versus Algorithmic Knowledge: Are We Engendering New Myths in Chemical Education?. <i>ACS Symposium Series</i> , <b>2011</b> , 195-206	0.4	4
33	Incorporating Elements of Green and Sustainable Chemistry in General Chemistry via Systems Thinking		4
32	Alignment of ACS Inorganic Chemistry Examination Items to the Anchoring Concepts Content Map. <i>Journal of Chemical Education</i> , <b>2018</b> , 95, 1468-1476	2.4	4
31	A Theoretical Study of the Interaction of Ammonia with Silicon Trimer. <i>Journal of Physical Chemistry A</i> , <b>1998</b> , 102, 9531-9536	2.8	3
30	The Winding Path toward Research-Informed Teaching Practices. <i>Journal of Chemical Education</i> , <b>2020</b> , 97, 311-312	2.4	1
29	Investigating the Content Connections of General Chemistry and Chemistry in the News. <i>ACS Symposium Series</i> , <b>2019</b> , 215-227	0.4	1
28	A Trajectory of Reform in General Chemistry for Engineering Students. <i>ACS Symposium Series</i> , <b>2013</b> , 65-78	0.4	1
27	Are Content Tests All the Assessment We Need?. <i>ACS Symposium Series</i> , <b>2015</b> , 257-275	0.4	1
26	Using Web-Based Databases in Large-Lecture Chemistry Courses. <i>The Chemical Educator</i> , <b>2000</b> , 5, 269-276		1
25	The Open-Response Chemistry Cognitive Assistance Tutor System: Development and Implementation. <i>Journal of Chemical Education</i> , <b>2022</b> , 99, 546-552	2.4	1
24	The Division of Chemical Education Executive Committee, Board of Publication, and ACS Examinations Institute Board of Trustees: A Historical Perspective from 1985 to 2015. <i>Journal of Chemical Education</i> , <b>2016</b> , 93, 1163-1169	2.4	1
23	Ensuring That Test Takers Can Use New Chemistry Assessments Made Possible by Technology. <i>ACS Symposium Series</i> , <b>2019</b> , 167-175	0.4	1
22	Virtual Special Issue Call for Papers: Teaching Changes and Insights Gained in the Time after COVID-19. <i>Journal of Chemical Education</i> , <b>2021</b> , 98, 2141-2142	2.4	1

21	Measuring the impact of incorporating systems thinking into general chemistry on affective components of student learning. <i>Canadian Journal of Chemistry</i> , <b>2021</b> , 99, 698-705	0.9	1
20	Lessons Learned from Collaborations in Chemistry Assessment across Universities: Challenges in Transfer and Scale. <i>ACS Symposium Series</i> , <b>2013</b> , 157-169	0.4	0
19	Framing Student and Faculty Stress in Education: A Proposed Science Analogy. <i>Journal of Chemical Education</i> , <b>2021</b> , 98, 1473-1475	2.4	0
18	How Do Chemistry Educators View Items That Test Conceptual Understanding?. <i>ACS Symposium Series</i> , <b>2016</b> , 195-210	0.4	0
17	Investigating General Chemistry Students' Ideas of the Role of Scientific Instruments. <i>Journal of Chemical Education</i> , <b>2022</b> , 99, 828-838	2.4	0
16	Communication and the Chemistry Education Conference Pause of 2020. <i>Journal of Chemical Education</i> , <b>2020</b> , 97, 1509-1510	2.4	
15	Confronting Racism in Chemistry Journals. <i>ACS Applied Nano Materials</i> , <b>2020</b> , 3, 6131-6133	5.6	
14	Confronting Racism in Chemistry Journals. <i>ACS Applied Polymer Materials</i> , <b>2020</b> , 2, 2496-2498	4.3	
13	Confronting Racism in Chemistry Journals. <i>Organometallics</i> , <b>2020</b> , 39, 2331-2333	3.8	
12	The Emerging Role of Prepublication in Chemistry Education. <i>Journal of Chemical Education</i> , <b>2020</b> , 97, 595-596	2.4	
11	Update to Our Reader, Reviewer, and Author Communities April 2020. <i>Energy &amp; Fuels</i> , <b>2020</b> , 34, 5107-5108	4.1	
10	Update to Our Reader, Reviewer, and Author Communities April 2020. <i>Organometallics</i> , <b>2020</b> , 39, 1665-1666	3.6	
9	Impacts of the 2018 Division of Chemical Education Bylaw Changes on the Division's Executive Committee Composition and Work. <i>Journal of Chemical Education</i> , <b>2018</b> , 95, 1448-1450	2.4	
8	Review of Pioneers of Quantum Chemistry. <i>Journal of Chemical Education</i> , <b>2014</b> , 91, 773-775	2.4	
7	Importance of Considering Longitudinal Trajectories in Education Reform Efforts. <i>ACS Symposium Series</i> , <b>2013</b> , 3-10	0.4	
6	Review of Nature of Science in General Chemistry Textbooks. <i>Journal of Chemical Education</i> , <b>2012</b> , 89, 975-976	2.4	
5	The Impact of Nanoscience Context on Multiple Choice Chemistry Items. <i>ACS Symposium Series</i> , <b>2010</b> , 7-18	0.4	
4	Evolving Towards Meaningful Web Assignments. <i>The Chemical Educator</i> , <b>1998</b> , 3, 1-12		

3 Managing Information Flow for Flexible Assessment of Student Learning in Large Lecture Classes. *The Chemical Educator*, **2001**, 6, 313-314

2 Confronting Racism in Chemistry Journals. *Journal of Chemical Health and Safety*, **2020**, 27, 198-200 1.7

1 Connecting Chemistry Education and Insects. *Journal of Chemical Education*, **2022**, 99, 1545-1546 2.4