

## Call for Papers: *Journal of Chemical Education* Special Issue on Polymer Concepts across the Curriculum

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**ABSTRACT:** The *Journal of Chemical Education* announces a call for papers for an upcoming special issue on Polymer Concepts across the Curriculum.

**KEYWORDS:** High School/Introductory Chemistry, First-Year Undergraduate/General, Second-Year Undergraduate, Upper-Division Undergraduate, Interdisciplinary/Multidisciplinary, Laboratory Instruction, Curriculum, Polymer Chemistry

The *Journal of Chemical Education* announces a call for papers for an upcoming special issue on “Polymer Concepts across the Curriculum”. Polymers are one of chemistry’s biggest contributions to everyday human experience in the 21st century. Most chemistry graduates work with polymers at some time during their careers. Every student earning an undergraduate degree in chemistry should understand the fundamental concepts of how polymeric materials differ from small molecule materials. These concepts can be learned in a dedicated course in polymer chemistry, yet most students lack such an opportunity. The alternative is to learn polymer concepts as parts of the existing courses in analytical, inorganic, organic, and physical chemistry. Biochemistry courses include macromolecular concepts but generally not the synthesis and materials properties of macromolecules. The need for understanding polymer concepts is addressed in the 2015 ACS Committee on Professional Training Guidelines for undergraduate curricula.<sup>1,2</sup>

### ■ SPECIAL ISSUE SCOPE AND CONTENT

This *Journal of Chemical Education* special issue is intended to serve as a forum for sharing ideas, best practices, perspectives, and recommendations for teaching polymer concepts throughout the chemistry curriculum.

We welcome papers on the following topics, as well as other related topics that include a teaching focus:

- Reviews of concepts that should be included in foundational courses in analytical, inorganic, organic, and physical chemistry with specific suggestions as to how those concepts fit into the course
- Descriptions of how polymers have been integrated into the overall chemistry curricula at individual secondary schools, colleges, and universities
- Descriptions of foundational and advanced courses that include polymer concepts
- In-depth articles on specific concepts for the benefit of faculty who teach those concepts
- Teaching and learning materials, including how they are used and how outcomes of their use are evaluated
- Laboratory experiments and demonstrations appropriate for precollege-, college-, and university-level courses

- Descriptions of full-term dedicated courses in polymer chemistry

The aim of all contributions to the special issue should be to help faculty readers of the *Journal of Chemical Education* improve the teaching and learning of polymer concepts at their institutions. Research papers that do not have a teaching focus will not be considered.

### ■ SUBMISSION, REVIEW, AND PUBLICATION PROCESS

Manuscripts should align with the principles outlined in the Author Guidelines for the *Journal of Chemical Education*<sup>3</sup> and can be submitted using these manuscript types: Activity, Article, Commentary, Communication, Demonstration, Laboratory Experiment, and Technology Report. Authors are strongly encouraged to use the *JCE*-specific manuscript template,<sup>4</sup> which contains prompts for required manuscript components; using the manuscript template aids in creating documents that are easier to review and publish.

Manuscripts should be submitted to the *Journal of Chemical Education* through the online manuscript submission portal ACS Paragon Plus<sup>5</sup> by Monday, October 24, 2016 to receive full consideration for publication in the special issue. Manuscripts received after the deadline may still be considered for publication, but depending on the length of the peer-review process may be included in an issue of the *Journal* subsequent to this special issue.

When submitting your manuscript in the Paragon system, select “Polymer Concepts across the Curriculum” under the Special Issue Selection during “Step 1: Type, Title, & Abstract”. Authors should also indicate in the cover letter during “Step 5: Details & Comments” that the manuscript is submitted for publication in the *Special Issue: Polymer Concepts across the Curriculum*.

As with all ACS journals, articles intended for the special issue will be available ASAP (as soon as publishable) online as soon as they are accepted and proofs have been checked, ahead of publication in the special issue itself.

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## ■ GUEST EDITORS

The special issue on polymers will be curated by Warren T. Ford, Frank D. Blum, and Bob Howell.

Warren T. Ford retired as Regents' Professor of Chemistry from Oklahoma State University in 2010 after a 40-year career of teaching and research of organic and polymer chemistry. He is now Adjunct Professor at Portland State University.

Frank D. Blum is the Harrison I. Bartlett Chair of Chemistry, Regents' Professor, and Chair of Chemistry at Oklahoma State University. His research is in the area of interfacial science, especially polymers and surface-active agents at interfaces.

Bob A. Howell is a professor of organic chemistry and polymer science and the Director of the Center for Applications in Polymer Science at Central Michigan University. He has over 30 years experience in the area of polymers and polymer additives and has taught a wide variety of courses in organic chemistry and polymer science. A current major research focus is the development of nontoxic, biodegradable, environmentally friendly flame retardants based on renewable biosources.

All three guest editors are actively involved in the ACS Division of Polymer Chemistry<sup>6</sup> and POLYED,<sup>7</sup> a consortium of groups interested in science education in general and polymer education in particular.

## ■ INQUIRIES

Inquiries regarding the suitability of a manuscript topic can be directed to Warren Ford at [warren.ford@okstate.edu](mailto:warren.ford@okstate.edu). Questions regarding the submission process can be directed to [jce@jce.acs.org](mailto:jce@jce.acs.org).

## ■ AUTHOR INFORMATION

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## ■ REFERENCES

- (1) 2015 ACS Committee on Professional Training Guidelines. <http://www.acs.org/content/dam/acsorg/about/governance/committees/training/2015-acg-guidelines-for-bachelors-degree-programs.pdf> (accessed Apr 2016).
- (2) Wenzel, T. J.; McCoy, A. B.; Landis, C. R. An Overview of the Changes in the 2015 ACS Guidelines for Bachelor's Degree Programs. *J. Chem. Educ.* **2015**, *92* (6), 965–968.
- (3) Author Guidelines for the Journal of Chemical Education can be found at the Information for Authors page. <http://pubs.acs.org/page/jceda8/submission/authors.html> (accessed Apr 2016).
- (4) Journal of Chemical Education Document Templates. [http://pubs.acs.org/page/jceda8/submission/jceda8\\_templates.html](http://pubs.acs.org/page/jceda8/submission/jceda8_templates.html) (accessed Apr 2016).
- (5) ACS Paragon Plus. <https://acs.manuscriptcentral.com/acs> (accessed Apr 2016).
- (6) Division of Polymer Chemistry, Inc. of the American Chemical Society. <http://www.polyacs.org/Home> (accessed Apr 2016).
- (7) POLYED National Information Center for Polymer Education. <http://www.uwsp.edu/cols-ap/polyed/> (accessed Apr 2016).