

The Central States Section of the Combustion Institute

issues a

CALL FOR GRANT PROPOSALS

to High School Teachers



The Central States Section of the Combustion Institute (CSS / CI) issues this Call for Grant Proposals to high school teachers to submit grant proposals for developing and introducing a combustion science-based (i.e., applied chemistry) learning module into their course curriculum. Combustion science deals with fast exothermic oxidizing reactions that occur in the majority of energy, industrial, transportation, and fire suppression-based applications. Combustion science is a broad field consisting basically of chemistry, thermodynamics, heat transfer, and fluid mechanics. The CSS / CI has four major objectives in supporting this grant award:

1. to expose high school students to the present and future challenges of combustion science research and development of technology,
2. to augment high school teachers' current and on-going efforts to enhance STEM-based curricula,
3. to coordinate a mentor / mentee relationship between combustion researcher and teacher, and
4. to invest in the education of potential future combustion scientists and engineers.

Examples of previous years' winners are provided at this website:

<http://www.cssci.org/outreach/grants.html>

The award amount is up to \$5,000 (plus travel expenses to conferences as described below), with up to 2 awards. It is noted, however, that CSS/CI reserves the right to make no awards, if deemed appropriate.

Proposals are due by October 1, 2015. Teachers selected to receive the award are expected:

1. to attend the 2016 CSS/CI Spring Technical Meeting (located in Knoxville, TN, date to be determined, travel and lodging expenses paid) to interact with combustion scientists and researchers, establishing contacts and resources to help develop curricula materials,
2. to use the awarded funds, as described by the teacher in the proposal, to enable the development and instruction of a learning module focused on some aspect of combustion science, and
3. to attend the 10th US National Combustion Meeting in 2017 (date and location to be determined, travel and lodging expenses paid) to deliver a presentation of developed course materials, initial reporting of its implementation, and feedback on the support provided by CSS / CI.

Teacher applicants can request to be paired with a combustion researcher mentor, prior to the proposal submission due date, to assist with providing technical information about combustion. Please email the contact on Page 2 if this is needed.

APPLICATION REQUIREMENTS

Teachers interested in competing for this award should prepare a type-written proposal (no more than 5 total pages, single-spaced, size 12 Times New Roman font, 1" margins all sides) that describes the following elements, which also serve as the merit criteria:

1. the general topic of combustion science (i.e., applied chemistry) around which the learning module will be structured (e.g., stoichiometry of oxygenated fuels, calculated and measured flame temperatures as function of stoichiometry and / or fuel, and types of combustion-generated pollutants and techniques for pollutant mitigation),
2. the general structure / pedagogy employed in the learning module,

3. the basic activities the learning modules will require students to conduct,
4. the expected improvement to the curriculum for enabling students to meet state / national proficiency requirements,
5. the expected use of award funds (including cost estimates),
6. a timeline of implementation,
7. an approach to broadly disseminate and demonstrate ease of adoption of developed course materials to other teachers (e.g., hosting a workshop or presentation at a National Science Teachers Association meeting or creation of YouTube videos) and
8. confirmation that attendance to the 2016 CSS/CI Spring Technical Meeting in Knoxville, TN (date to be determined) and the 10th US National Combustion Meeting (date in 2017 and location to be determined) are compulsory (all expenses paid by CSS / CI).

Further, applicants must include a letter from the school principal acknowledging that:

1. the proposed effort will be supported and implemented to the maximum allowed capabilities of the school's resources,
2. awarded monies are made to the school on a reimbursable basis, for up to two-years after the date of award notification, and that award monies must be spent as proposed by the teacher, and
3. teacher attendance at the 2016 CSS/CI Spring Technical Meeting in Knoxville, TN (date to be determined) and the 10th US National Combustion Meeting (date in 2017 and location to be determined) will be allowed.

APPLICATIONS ARE DUE OCTOBER 1, 2015 and may be emailed as a single PDF document, or mailed postmarked by the due date, to the contact listed below. Applicants will be notified of award decisions by January 15, 2016. All questions related to this Call for Proposals can be made to the contact listed below.

Contact: Timothy J. Jacobs
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What is the Central States Section of the Combustion Institute?

Founded in 1966, the Central States Section of the Combustion Institute provides close and frequent contact among Combustion Institute members residing in the geographic area of the Central United States (i.e., Alabama, Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, Texas, and Wisconsin), promotes science and application of combustion, and provides a single forum whereby the diverse scientific and engineering disciplines can be brought together to interchange information related to combustion science and applications. More information about this organization can be found at www.cssci.org.

What is the Combustion Institute?

The Combustion Institute is an educational non-profit, international, scientific society whose purpose is to provide and disseminate research in combustion science. There are 34 sections of the Combustion Institute (one of which is the Central States Section). The main activity of the Combustion Institute is the International Symposium on Combustion. The symposia attract members of the Combustion Institute as well as others interested in combustion from around the world. The synergism produced at these symposia makes them the principal forum for presenting and integrating combustion research results. More information about the Combustion Institute can be found at www.combustioninstitute.org.