ACS Green Chemistry Institute
Pharmaceutical Roundtable

ACS GCIPR Key Research Areas Grant – Scalable Oxidations

2026 ACS Green Chemistry Institute Pharmaceutical Roundtable Research Grant for Developing Scalable Methods for Oxidation

The ACS Green Chemistry Institute Pharmaceutical Roundtable (GCIPR) is a partnership between the ACS Green Chemistry Institute® and pharmaceutical-related corporations united by a shared commitment to integrate the principles of green chemistry and engineering into the business of drug discovery and production. Current members are Abbvie, Amgen, Astrazeneca, Bayer, Biogen, Biohaven, BMS, Boehringer Ingelheim, Ferring, Gilead, GSK, Ipsen, J&J, Lilly, Merck, Merck KGaA, Neurocrine, Novartis, Novonordisk, Pfizer, Roche-Genentech, Sanofi, Takeda, UCB, Vertex and the ACS Green Chemistry Institute. Associate members are Asymchem, Axplora, Bachem AG, ChemExpress, Codexis, Dr. Reddys, EuroAPI, Hongene Biotech, Hovione, InnoSyn, Nitto Avecia, Olon, PharmaBlock, Pharmaron, Polypeptide, Porton, Sai Life Sciences, Sk Pharmteco, ST Pharm, Syngene, Veranova, and Wuxi AppTec. Affiliate members are Corteva Agriscience, Aralez Bio, FMC, Phlow Corp, PHT, USP, and Zoetis.

The ACS GCI Pharmaceutical Roundtable is seeking a one-year R&D commitment to assist the Roundtable's green chemistry initiative to develop strategies to conduct safe, selective, and benign oxidation chemistry on scale.

Proposals are invited from public and private institutions of higher education worldwide. This collaborative project is intended for a student within the selected Principal Investigator's research group. One grant is planned to be awarded and the total award is limited to $80,000 for a grant period of 12 months. Interested PIs are required to provide a written proposal describing the investigator's capability to carry out the Roundtable's proposed research. Deadline for receipt of proposals is **May 1, 2026, at 5 p.m. EST**. All submissions must be made in our application portal: https://gci.acs.org. The Principal Investigator with the selected proposal will be notified by **October 1, 2026.** It is expected that research will commence in the principal investigator's lab no later than **Q4 2026** and last 12 months.

Requirements for Submission

Proposals will only be accepted from public and private institutions of higher education. The grant is not limited to institutions in the United States. Proposals must be submitted through our application portal at https://gci.acs.org, and applicants must provide the contact information for the grant officer who will process the grant if selected. For institutions without a grant office or a comparable administrative office, applicants must upload a PDF letter signed by an appropriate university official acknowledging the terms of the grant and accepting the role of financial officer for the grant.

Detailed Project Description:

Oxidation reactions are powerful means of rapidly incorporating functionality into complex organic molecules and streamlining their syntheses, which can translate into an improved sustainability profile for a given chemical synthesis. Despite their utility, oxidations are not widely implemented on scale for a variety of reasons.[1,2] The ability to perform them safely is inherently challenging, as the organic solvents in which they are typically performed introduce two of three components necessary for combustion (oxidant, fuel), while the third, an ignition source, can be readily generated in numerous ways (e.g. static discharge). Beyond safety concerns, many common oxidants for organic synthesis are unselective, promiscuously oxidizing multiple functional groups in organic substrates, resulting in low yields and difficult-to-purge impurities. These oxidants also tend to generate stoichiometric amounts of waste, oftentimes hazardous, adding additional cost and waste processing steps that reduce the sustainability of the manufacturing process.

Recognizing the potential for innovation in this area, this RFP seeks proposals aimed at identifying new chemistries and technologies that facilitate the use of safe, selective, and sustainable oxidation reactions in the large-scale synthesis of high-value chemicals such as pharmaceuticals and agrochemicals.

Project goals include:

- Development of technologies to safely and scalably perform electrochemical, photochemical, or aerobic oxidations
- Development of catalysts or reagents that selectively perform oxidations with minimal/benign/recyclable waste
- Development of systems that can recycle/catalytically regenerate oxidants typically used in a stoichiometric fashion

Project Goal

Identify and develop novel new technologies that can replace existing methodologies for chemical oxidation.

Project Timeline

It is expected that one year of research support will be sufficient to provide progress toward intended goals.

Proposal Format

Please be prepared to provide the following information in the application portal:

1. Name and email of grant officer
2. Name, title, phone, email and address of the Principal Investigator
3. Project Title

[1] Dugger, R. W.; Ragan, J. A.; Brown Ripin, D. H. Survey of GMP Bulk Reactions Run in a Research Facility between 1985 and 2002. *Org. Process Res. Dev.* **2005**, *9*, 253–258.

[2] Caron, S., Dugger, D. W., Ruggeri, S. G., Ragan, J. A., Brown Ripin, D. H. Large-Scale Oxidations in the Pharmaceutical Industry. *Chem. Rev.* **2006**, *106*, 2943–2989

4. Abstract (200 words)
5. Research Group website
6. PDF of Proposed Plan of Work *(2 pages, 12 pt font, 1-inch margins)*
    - Objectives: Briefly state the project objectives
    - Project Approach: Include specific aims and investigations planned
    - Proposed milestone deliveries with brief description of the manner in which the researcher intends to achieve them
    - Brief description of the PI's research facilities and summary of the student's (undergraduate, graduate student and /or postdoc) capabilities to perform the proposed work
    - References (does not count toward your page limit)

Note: The PI should list any existing background intellectual property and/or collaborations they are aware of that might limit the freedom to operate any of the results arising from any research funded by ACS GCIPR. The priority of the Roundtable is to encourage research utilizing reaction conditions that are commercially available with the freedom to use.

7. PDF of Detailed Estimated Budget: The total amount requested would include all direct costs, student assistantships, etc. The total award is limited to $80,000 for a grant period of up to 12 months.
    - Institutional overhead costs (indirect costs) should not be more than 10% of the total budget.
    - Post-doctoral associate salary and benefits are supported.
    - Student stipend and benefits are supported. Proposals for support of advanced graduate students are highly favored.
    - PI salary supplements will not be supported.
    - Laboratory supplies and instrument use charges are supported.
    - No funds may be allocated for travel, equipment purchase or repair, or administrative support.
8. Curriculum Vitae of Project Team Members: Please submit a curriculum vitae of each project team member (up to two pages per team member, combined into one document). This does not count toward your page limit.

Report Requirements

- Progress reports or updates are due monthly or bi-monthly from initiation of research and will be discussed in arranged web-conferences. Reports will be shared with the member companies of the Roundtable.
- Reports are to include research milestones/significant outcomes, summary of progress to date noting any deviations from the proposal, and research plans for upcoming months.
- A final comprehensive report is due one month after the end of the grant period. This report must be submitted as a PDF document electronically to gcipr@acs.org. In addition, the content of the report should be targeted for publication in a peer-reviewed technical journal.

The paper will be co-authored by the principal investigator and student(s) performing the work with the guidance of member companies of the ACS GCIPR.

Intellectual Property, Publication Acknowledgement, and Terms of the Grant

- The primary purpose of this grant is the public dissemination of research through publication.
- Every patent, United States or foreign, that results from research funded (in part or in its entirety) by the ACS GCIPR Research Grant shall be immediately dedicated to the public, royalty free.
- Publication of results is expected within 6 months of work completion.
- Each publication prepared in connection with an ACS GCIPR Grant shall make acknowledgement in the following manner: "This manuscript was developed with the support of the ACS Green Chemistry Institute Pharmaceutical Roundtable (https://www.acsgcipr.org), under Grant No. XXXXX. The ACS GCI Pharmaceutical Roundtable's mission is to catalyze green chemistry & engineering in the global pharmaceutical industry."
- Acceptance of a Roundtable Grant will be conditional upon agreement by the grantee institution that in the event the Principal Investigator is unable for any reason to conduct the research proposed, the funds, if previously paid by the Roundtable, shall, upon demand, be returned in full to the Roundtable, and further, that in the event the PI is unable for any reason to continue with the research after it has commenced, this grant shall be terminated forthwith and the unexpended and unencumbered balance of any funds theretofore advanced shall be returned to the Roundtable.
- The grantee institution, by acceptance of this grant, provides assurance that support normally provided by the institution for research of the faculty member will not be diminished.
- Applicants may have only one research grant with the ACS GCIPR at a time. In order to close a grant, the ACS GCIPR must receive and approve the required reports.

For additional information:

Website: www.acsgcipr.org
Email: gcipr@acs.org