



2019 ACS GCI Pharmaceutical Roundtable Ignition Grant Program for Green Chemistry and Engineering Research

The need for green and sustainable chemistry for use in the pharmaceutical and other chemical industries is increasingly critical as we face the environmental challenges of the twenty-first century. Unfortunately, available funding to support research for the kind of innovative and sustainable solutions required has not kept pace with this need. In addition, it is often very difficult to receive funding for ideas without preliminary results, while obtaining preliminary results will indeed require funding. The ACS Green Chemistry Institute Pharmaceutical Roundtable (GCIPR) is seeking to provide 'ignition' funding for novel and innovative ideas that have the potential to provide sustainable solutions to chemistry and engineering problems relevant to the pharmaceutical industry from discovery to manufacturing. The goal is to provide researchers with initial funding to obtain preliminary results that may then be used by the researchers to help apply for funding from traditional funding agencies.

The ACS GCIPR will provide \$25,000 in 'ignition' funding for up to four proposals. Proposals on any chemistry or engineering topic relevant to green and sustainable discovery and manufacture of pharmaceutical products will be considered; however, a list of key green chemistry and engineering research areas has been previously published by the ACS GCIPR and represents areas of particular interest.¹ Proposals must be limited to three pages, one of which is a title page. The proposal should focus on the objectives, specific aims, investigations planned and brief discussion of why the proposed chemistry will be more sustainable than the current state of the art. A very brief description of the budget and timelines should also be included. The following sections should **not** be included in the proposal: abstract, background, references, current funding, facilities description, collaborations/IP considerations. Once a proposal is selected to receive funding, more details on some of the above items may be requested. The proposed research must not be currently funded by any private or public grants.

Upon completion of the funded research, a brief report will be required as outlined below. Provided that the project is successful in obtaining preliminary results, the PI will be encouraged to apply for larger research grants from traditional institutions. The PI may also apply for future funding from the ACS GCIPR.

Deadline for receipt of proposals is July 1, 2019 at 5 p.m. EDT (GMT-4). Proposals not received by the deadline will not be considered. Submissions must be a single PDF file submitted to gcipr@acs.org. We will notify the PI in **August 2019** of the decision. We expect research to commence in the principal investigator's lab upon transfer of funds (**expected by October 1, 2019**) and for the work to be completed within 6 months of that date.

Requirements for Submission:

Proposals will only be accepted from public and private institutions of higher education worldwide. Proposals must be submitted to gcipr@acs.org through the appropriate institutional office for external funding. For international submissions with no comparable office, submit a PDF file of a letter signed by an appropriate university official recognizing the terms of the grant.

Project Goal:

Discovery of new sustainable and green chemistry that has the potential to impact the pharmaceutical industry. Proposals should be highly ambitious and novel, with high risk of failure but high reward if successful.

Project Timeline:

It is expected that research will be completed within 6 months of the award.

Proposal Format:

A maximum of 3 pages, as described below, plus CVs is requested. All of the information below must be submitted as a single PDF file. All components described in sections A, B, and C must be included in the same PDF file to assure the proposal is reviewed in its entirety.

A) Title Page (*1 page, 12 pt font, 1-inch margins*)

1. Project Title
2. Principal Investigator
3. Title / Position(s)
4. Telephone Number(s)
5. Fax Number(s)
6. Postal Mailing Address
7. E-Mail Address
8. Research Group website

B) Proposed Plan of Work (*2 pages, 12 pt font, 1-inch margins*)

1. Objectives: Briefly state the project objectives
2. Project Approach: Include specific aims and investigations planned
3. Discussion of work's potential impact on sustainability
4. Brief overview of budget and timeline.

C) Curriculum Vitae: Please submit a two-page CV of all project team members. (Does not count toward your page limit.)

Any proposals selected for funding will then be required to submit the following:

1. Detailed Project Timeline
2. Detailed Estimated Budget: The total amount requested would include all direct costs, student assistantships, etc. The total award is limited to \$25,000 for a grant period of up to 6 months.
 - a. Institutional overhead costs (indirect costs) are prohibited.
 - b. Post-doctoral associate salary and benefits are supported.
 - c. Graduate student stipend and benefits are supported. Proposals for support of advanced graduate students are highly favored.
 - d. PI salary supplements will not be supported.
 - e. Laboratory supplies and instrument use charges are supported.
 - f. No funds may be allocated for travel, equipment purchase or repair, or administrative support.

3. Current funding list for the PI including title of grant award, agency, award amount and duration.
4. Listing of any existing background intellectual property and/or collaborations that might limit the freedom to operate any of the results arising from any research funded by ACS GCIPR.

Report Requirements/Additional Grants:

- A final comprehensive report including research outcomes and final budget is due one month after the end of the grant period.
 - The report must be submitted as a PDF file to gcipr@acs.org. The report will be shared with the member companies of the Roundtable.
 - If the research program is successful, the PI is expected to use the preliminary results to apply for larger research grants from traditional institutions. The PI may also apply for future funding from the ACS GCIPR. The ACS GCIPR should be notified of any funding obtained by the PI based upon the preliminary results obtained from this ignition grant program.

Intellectual Property, Publication Acknowledgement, and Terms of the Grant:

- The primary purpose of this grant is to publish research to make information publicly available.
- 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.
- 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 American Chemical Society Green Chemistry Institute Pharmaceutical Roundtable (<https://www.acsgcipr.org>). The ACS GCI is a not-for-profit organization whose mission is to catalyze and enable the implementation of green and sustainable chemistry and engineering throughout the global chemistry enterprise and across the Society. The ACS GCI Pharmaceutical Roundtable is composed of pharmaceutical and biotechnology companies and was established to encourage innovation while catalyzing the integration of green chemistry and green engineering in the pharmaceutical industry. The activities of the Roundtable reflect its members’ shared belief that the pursuit of green chemistry and engineering is imperative for business and environmental sustainability.”
- Acceptance of an ACS GCIPR Research Grant will be conditioned upon agreement by the grantee institution that in the event the PI is unable for any reason to conduct the research proposed, the funds, if previously paid by the Roundtable, will, upon demand, be returned in full to the Roundtable. Further, in the event the PI is unable for any reason to continue with the research after it has commenced, this grant will 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.

For additional information:

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

ⁱ Bryan, M. C.; Dunn, P. J.; Entwistle, D.; Gallou, F.; Koenig, S. G.; Hayler, J. D.; Hickey, M. R.; Hughes, S.; Kopach, M. E.; Moine, G.; Richardson, P.; Roschangar, F.; Steven, A.; Weiberth, F. J. [Key Green Chemistry research areas from a pharmaceutical manufacturers’ perspective revisited.](#) *Green Chem.*, **2018**, *20*, 5082-5103. DOI: 10.1039/C8GC01276H

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Jimenez-Gonzalez, C.; Poehlauer, P.; Broxterman, Q. B.; Yang, B-S., am Ende, D.; Baird, J.; Bertsch, C.; Hannah, R. E.; Dell’Orco, P.; Noorman, H.; et al. Key Green Engineering Research Areas for Sustainable Manufacturing: A Perspective from Pharmaceutical and Fine Chemicals Manufacturers, *Org Proc. Res. & Dev.*, **2011**, *15*(4):900-911. **DOI:** 10.1021/op100327d