CONSORTIUM FOR CLEAN COAL UTILIZATION

Request for Proposals

Date of Issue: March 15, 2017

The Consortium for Clean Coal Utilization (CCCU) at Washington University in St. Louis was established in January of 2009. The mission of the CCCU is to enable environmentally benign and sustainable use of coal, both as a source of energy and as a feedstock for chemicals and other materials. To this end, the CCCU solicits proposals from Washington University faculty members to support applied research and technology development.

This year the CCCU is soliciting proposals for awards in three categories:

1. Seed funding for new research projects (below)
2. Matching funds for external grants (page 5)
3. Equipment grants (page 6)

1. Seed Funding for New Research Projects

Important Dates:
Letter of Intent: Friday, April 7, 2017
Full Proposal: 5:00 pm CDT on Monday, May 29, 2017
Anticipated Project Start Date: Aug. 1, 2017

Goals
The CCCU seeks to support innovative and potentially transformational approaches to coal utilization that lead to reduced environmental impact. Seed funds are being supplied to support high-risk/high-reward concepts that are at early stages of development. The seed funding is to be used to develop promising fledgling technologies so that key components can be successfully demonstrated and sufficient data obtained to attract external funding for future research. The research should be application driven with clear deliverables, but may include a basic research component. Projects supported in this category will be supported for 1 year, with the potential for a second year of funding, should conditions warrant it.
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Topics of Interest
Proposed projects must be aligned with the research goals of the CCCU. Topics of interest include, but are not limited to:

- Capture of carbon dioxide from coal-fired power plants
- Geologic sequestration of carbon dioxide
- Utilization or conversion of carbon dioxide from coal-fired power plants
- Novel high-efficiency power generation cycles/systems
- New approaches to improve efficiency and/or flexibility of existing power plants
- Conversion of coal to other products or fuels
- New technologies to control pollutant emissions
- Novel uses for coal combustion residues (ash)

For more information about research areas of interest, and to read summaries of current and past research projects, visit [http://cccu.wustl.edu/research.php](http://cccu.wustl.edu/research.php).

Projects that utilize the Advanced Coal & Energy Research Facility (ACERF) are encouraged. Contact [cccu@wustl.edu](mailto:cccu@wustl.edu) for more information about ACERF.

Eligibility
To be a Principal Investigator, you must be a full-time faculty member at Washington University in St. Louis. Only one PI (lead) is permitted.

Principal Investigators may collaborate with others at Washington University and at outside institutions. Collaborations with researchers at the McDonnell Academy Partner Universities is encouraged. See [mageep.wustl.edu](http://mageep.wustl.edu) for additional information about the McDonnell Academy Partner Universities.

Collaboration with industrial partners is also encouraged, but not required.

Awards
The CCCU is anticipating funding a total of up to $200,000 for research projects over the next year. Individual project budgets should be in the range of $25,000-$50,000. Project performance period is Aug. 1, 2017 – July 31, 2018. In the Spring of 2018, the PI may submit a proposal to extend the project for an additional year during the open call period. Only the most successful projects, in which the potential for high-impact results is clearly demonstrated, will be extended. Restrictions on the project budget are summarized below:
Total Project Award: up to $50 K for one year (direct costs, **no overhead**)  
Sub-awards (if applicable):
- Collaborators at McDonnell Academy Partner University or other institution – up to $15K  
- Travel to McDonnell Academy Partner University – up to $5K.

The PI will be required to submit a written final report and make a presentation in front of the CCCU technical committee in Fall of 2018.

**Letter of Intent (LOI)**  
A letter of intent is required and is due by April 7, 2017. The letter of intent should be no more than one page and should include the project title, names and affiliations of all potential investigators, contact information for the PI and a brief description of the proposed research. Email the letter of intent in PDF format to **cccu@wustl.edu** by 5:00 pm CDT.

After review of the LOI, the applicant will be invited, or not invited, to submit a full proposal. Prior to preparing the LOI, it is recommended that you contact the CCCU Director Rich Axelbaum **axelbaum@wustl.edu** regarding the topic of the proposed work, to ensure that it is in line with the goals of this call and the CCCU.

**Full Proposal Preparation Instructions**  
The proposal should be set to print on standard 8½ by 11 paper with 1-inch margins and single sided using Arial size 11-point font or larger. All pages except the cover page should be numbered consecutively at the bottom of the page. The proposal should be sent as a single PDF document.

Proposal must include:

1. **Cover page**  
   - Project title  
   - PI institution, affiliation and contact information  
   - Total budget request  
   - Project summary in 250 words or less

2. **Project Description**  
   - No more than 5 pages. Follow NSF style.  
   - Include statement of work with major milestones.  
     - Statement of work must clearly delineate how the proposed research differs from other sponsored research being conducted or proposed by the PI or Co-PIs.
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- If another institution is to receive funds, describe the nature of the collaboration and the specific responsibilities of both institutions.

3. References

4. Budget and Budget Justification (Do not include WUSTL overhead. A maximum of 0.5 months salary per year is allowed for faculty)
   - One year budget form in NSF budget format
   - One page maximum for budget justification
   - If another institution is to receive funds, include a separate budget and describe amount and type of matching funds, with appropriate documentation.

5. Current and Pending Support
   - Use NSF format

6. Curriculum Vitae of all participating faculty and senior personnel.
   - Use NSF format. No more than 2 pages for each investigator.

7. Letters of support (encouraged, but not required)

8. Summary of results and accomplishments of prior CCCU funding (if applicable), 1 page.

Email full proposals to cccu@wustl.edu no later than 5:00 pm CDT on Monday, May 29, 2017. Proposals should not include trade secrets and/or confidential/proprietary or privileged information. For additional information please contact the Consortium Director at axelbaum@wustl.edu.

Proposal Evaluation Criteria
Each proposal received will be reviewed and evaluated internally by the CCCU Technical Committee and by up to two external reviewers. The criteria for evaluating proposals are:

1. Scientific quality of the proposed research and expertise of investigators/collaborators.
2. Originality and innovativeness, with relevance to clean utilization of coal.
3. Potential for future external funding opportunities.
4. Quality of collaborations. (if applicable)
5. Level of success of research from previous CCCU support. (if applicable)
2. Matching Funds for External Grants

**Important Dates:**
This call for proposals for matching funds will remain open until all of the funds have been committed. Proposals may be submitted at any time.

**Summary**
CCCU funds may be used as matching funds for research proposals to outside agencies that require cost sharing. In order to be eligible, the proposed research must be aligned with the research goals of the CCCU. For more information about research areas of interest, and to read summaries of current and past research projects, visit [http://cccu.wustl.edu/research.php](http://cccu.wustl.edu/research.php).

**Eligibility**
The Principal Investigator listed on the proposal must be a full-time WUSTL faculty member. Requests from any faculty member will be considered, regardless of past or present support from the CCCU.

**Awards**
Cost share support can be in the range of $20,000 - $50,000, depending upon size and scope of the proposal to outside agency. Funds are available on a first-come, first-serve basis.

**Instructions**
To respond to this RFP, send a one to two-page summary document with justification for the requested funds to [cccu@wustl.edu](mailto:cccu@wustl.edu). Additional information may be requested after the Technical Committee reviews the request for funds. After the research proposal has been submitted to the outside agency, send a copy to the CCCU.

Prior to submission, it is recommended that you discuss the proposed work with Richard Axelbaum ([axelbaum@wustl.edu](mailto:axelbaum@wustl.edu)), Director of the CCCU, to ensure that it is well aligned with the goals of the CCCU.

The PI will be required to submit a brief annual progress report and make a presentation in front of the CCCU technical committee.
3. Equipment Grants

Important Dates:
This call for proposals for equipment grants will remain open until all of the funds have been committed. Proposals may be submitted at any time. Funds are available on a first-come, first-serve basis.

Summary
By making funds available for equipment, the CCCU aims to ensure that WUSTL investigators have state-of-the-art analytical facilities for coal research and are able to continue to build new coal research capabilities. The CCCU is currently seeking proposals from investigators for new equipment purchases. Specialized equipment intended for individual lab use will be considered, however, it is preferred that the equipment be beneficial and made available to multiple users (shared). PIs may request items that benefit existing programs, or that would add new capabilities that could be utilized to attract additional outside funding.

Eligibility
The recipient must be a full-time WUSTL faculty member. Requests from any faculty member will be considered, regardless of past or present support from the CCCU.

Awards
Individual requests for equipment funds can be made for $10,000 to $50,000. This amount can be increased if a strong case can be made. Funds are available on a first-come, first-serve basis.

Instructions
To respond to this RFP, send a one to two-page summary document with justification for the requested funds to cccu@wustl.edu. Briefly describe the purpose and function of the proposed equipment and how it would be utilized in your research program and that of others. Explain why presently available facilities/equipment are not sufficient for the proposed work. A direct connection to the research goals of the CCCU must be made. Provide the intended location of the instrument. If the instrument is intended to be shared, briefly discuss a management plan for maintenance, user training, and operation of the equipment. Discuss how the equipment may assist in attracting outside funds. A cost estimate must be included.

Prior to submission, it is recommended that you discuss the proposed equipment with Richard Axelbaum (axelbaum@wustl.edu), Director of the CCCU, to ensure that it is well-aligned with the goals of the CCCU.