Virginia
WATER RESOURCES
Research Center

At Virginia Tech since 1965
210 Cheatham Hall (0444), Blacksburg, VA 24061
(540) 231-5624 | www.vwrrc.vt.edu | water@vt.edu

Call for Student Seed Grant Research Proposals 2022

DEADLINE: **Friday April 8, 2022 5:00 PM**

The Virginia Water Resources Research Center (VWRRC) is providing competitive funding for student research in water resources. Proposals are invited in all areas of water resources-related research including science, policy, management, and engineering. The maximum funding amount is $8,000 for one year; up to five proposals may be awarded depending on availability of funds. Applicants must be enrolled as a full-time undergraduate or graduate student at a Virginia institution of higher education and be the primary participant in the research. Faculty and staff are encouraged to contribute as Co-Principal Investigators, but *the proposal and application materials should be written and completed by the student*. At least one faculty member acting as the main research supervisor must be included as a Co-PI. The anticipated start and end dates for projects are September 1, 2022 and August 31, 2023, respectively. Start dates and award amounts are contingent upon receipt of federal funds from the U.S. Geological Survey under Section 104(b) of the Water Resources Research Act of 1984, as Amended.

The VWRRC highly encourages proposals from students who are from underrepresented or underserved groups in STEM disciplines, and from institutions that serve minority populations. Additionally, proposals are encouraged that increase diversity, equity, inclusion, and justice, and that intersect with water resources research. Proposals that address issues in historically marginalized or underserved communities are highly encouraged.

Example research areas include but are not limited to:
- Impacts on marginalized or underserved communities
- Improvements in water supply reliability
- Watershed planning, management, and policy
- Impacts of land use and climate change on water resources; extreme events, floods, droughts, in-stream flows
- Source water protection; groundwater withdrawal, demand, allocation in coastal aquifers
- Stormwater management and water infrastructure
- Private & small-scale water infrastructure (wells, sewerage) in rural areas
- Watershed community engagement
- Intersection of water, energy, and/or food
- Ecological impacts or ecosystem services
- Harmful algal blooms
- Occurrence, fate, and transport of pollutants including sediment, nutrients, salts, organics, metals, plastics, and contaminants of emerging concern.

Evaluation Criteria and Selection Process
Proposals will be evaluated with emphasis on intellectual merit, innovation, likelihood of success, *broader impacts on Virginians*, and alignment with state or regional water resources challenges. The following criteria will be considered and should be addressed by the proposal:

- How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields?
- To what extent does the proposed activity suggest and explore creative and original concepts and innovative, promising approaches to solving water-related problems?
- How clear are the objectives of the proposed work? *If part of a larger project, e.g., a thesis or dissertation, which objectives will be supported by this grant?*
- How well-qualified is the proposer (and Co-PIs) to conduct the project? Is there evidence to support that the PIs have experience with the subject matter?
- How well-conceived and organized is the proposed activity? Is there sufficient access to resources? Is the research leveraging existing resources?
- *What is the value added through support from this grant? In other words, would funding from this grant increase the student's success on the project? How important is the proposed work to the student's overall thesis or dissertation project? Does the proposed work add a new component to an existing study or increase the capacity of ongoing work? It is important to describe how this program would provide value-added to ongoing or planned student research.*
- *Does the proposed activity address water resources problems of major importance to Virginia or the region?*

Eligibility
- Students are eligible at any point in their graduate program and undergraduate students are eligible if they enroll in independent study credit with a faculty member and are at least junior level standing. Students must be full-time status during the grant period. The student's main faculty research supervisor in their recommendation letter should address student eligibility and if the applicant is an undergraduate, the research supervisor should describe how the independent study credit(s) will be accomplished.
- Appropriate topics may be in water resources science and engineering (including its physical, chemical, or biological aspects) or in water resources policy, planning, and management (including economics, systems analysis, sociology, and law).
- The faculty member acting as the main research supervisor must be included as a Co-PI. Other Co-PIs may be included as well.
- Only one application is allowed per student *and the student must write the proposal*.

Guidelines
All proposals should be written using 12-point Times New Roman font with 1-inch margins and standard page dimensions (8.5" by 11").

Cover page: The cover page should be *no more than one single-spaced typed page* and should include (a) project title; (b) name of the student PI and faculty Co-PI(s) including university and department/school, mailing address, phone number, and email address; (c) total budget request; (d) five keywords describing research; and (e) an abstract. If there is more than one Co-PI, indicate which is the student's main research supervisor.

Statement of Purpose: The statement should be *not more than one single-spaced typed page (including figures).* This section should be used to explain to the selection committee why receipt

of this grant is important to the student's research and the field of water resources. The significance and relevance of the proposed project should be explained and it should also highlight the significance in terms of important water resource issues in Virginia or the region. It should address why receipt of this grant is important to the student's program, thesis, or dissertation and how it may allow the student to carry out work beyond that which was originally planned or how it will enhance/expand/achieve goals of the student's training. Any additional information to support the student's application should be included in this section.

Research Proposal: This section is limited to *two single-spaced typed pages (including figures)* that address 1) what is to be accomplished in the proposed project (including goals, objectives, hypotheses, or research questions), 2) how the proposed work will be carried out and 3) what results are expected (i.e., scientific, policy, or technical contributions). This section should include specific aspects of experimental design, analysis, and methodologies as appropriate and suitable background that provides context and justification to the proposed work. Details should be adequate to evaluate probability of project completion/success (a timeline is suggested). The proposal should be written so that a general professional in water resources (i.e., not necessarily a specialist) can assess its laudability and merit. If relevant (e.g., the proposed work is part of ongoing thesis or dissertation work), research progress to date should be stated. References cited are not included in the page count.

Detailed Budget: Provide a detailed listing of each budget item, its estimated cost or cost rate, and justification. The budget should be as detailed as possible. Per the language in the Water Resources Research Act, this program does not pay indirect costs. Acceptable budget items might include, but are not limited to: student summer salary or wages for lab/field assistants; research costs such as laboratory supplies, computer simulation time, analytical costs, or field instrumentation; travel costs (provide include location, number of personnel, number of days, per diem rate, lodging rate, mileage and mileage rate, airfare, etc.); publication costs (provide specific journals for planned submission); and/or one technical symposium or conference (include specific conference and detailed travel costs). Each budget item must include justification.

CV and Transcripts: The student should provide a copy of their current CV (2-page maximum). Transcripts are not required and should not be submitted.

Letters of Recommendation: Two letter of recommendation are required. 1) The student's main faculty research supervisor (or in the case of undergraduate applicants, the research advisor or department head) and 2) another faculty member (e.g., from the student's thesis committee or in the case of undergraduate applicants a faculty member that can speak to the student's research aptitude) must each submit a letter of recommendation in support of the proposal. *Student eligibility, academic performance, and qualifications to carry out the research* should be addressed in the letter by the student's main faculty research supervisor and the other letter writer. Specific examples demonstrating the student's ability will provide a stronger endorsement. *Letters must be received within five days of the application deadline through the web recommendation letter submission page (see URL below).* It is the student's responsibility to arrange for recommendation letters, check on their status with letter writers (not with the VWRRC), and to communicate instructions to letter writers. Proposals with a missing letter will not be considered.

- Letters should be typed on official letterhead, signed by the faculty member, saved in PDF format, and uploaded using the web recommendation letter submission page: https://bit.ly/VWRRC_recommendation_form.

Other details and submission: The budget may not include indirect costs and must not exceed $8,000. The funding will be awarded as a grant to the student's faculty advisor. *Proposals submitted from institutions outside of Virginia Tech will only be accepted from the student's university office of sponsored programs or grants and contracts office and not directly from individual students or departments.* The anticipated project duration will be from September 1, 2022 to August 31, 2023. Dates and awards are contingent upon receipt of federal funds. All expenses must be invoiced or posted by August 15, 2023. Cost sharing is not required. Incomplete applications and those that do not conform to the above format will not be considered and applicants will not be notified as such. Proposals and letters should be submitted online by the deadlines listed in this RFP. ***Under no exceptions will late applications or recommendations be accepted.*** The proposal packet with the exception of recommendation letters should be submitted using the web interface available at: https://bit.ly/VWRRC_student_seed_grant.

Reporting
Reporting requirements will include a one-page progress report to be submitted to the VWRRC by March 1, 2023 and a final report to be submitted by August 15, 2023. Reports are to be written in the form of a broad science communication article (<450 words) that describes progress or findings and significance of the work. Details on the report format are provided on the VWRRC's website. The student PI may be asked to contribute to VWRRC communications (e.g., newsletter, website, etc.) related to the student's research. The VWRRC shall be credited in all publications (journal articles, conference papers, presentations, graduate thesis, websites, etc.) that result from the project. ***It is the responsibility of the student and faculty Co-PI to communicate publications, proposals, and data resulting from this grant even after the reporting period.***

Data Archiving and Publication Open Access: Federal funds are used to support this grant program, which require that data are made fully accessible, discoverable, and usable (open access) as soon as possible, but no later than one (1) year after project completion. However, if the data are critical for completion of a student thesis or dissertation, they can be released one year after the submission of the thesis or dissertation. Data products will be archived by the Virginia Tech Data Repository (data.lib.vt.edu), the institutional repository in the University Libraries at Virginia Tech, or at the institutional data repository of the recipient of the seed grant home institution if not from Virginia Tech, for purposes of preservation, discoverability, and access. PIs must provide a URL (or doi) to their data repository entry no later than one year after submission of their final report or completion of a student thesis or dissertation. Manuscripts resulting from this grant program should also be open access if possible. For Virginia Tech researchers, an open access deposit of accepted manuscripts is available through the university's institutional repository (see Virginia Tech Policy 13000 2.3.A. #8).

For More Information Contact: Kevin McGuire (kevin.mcguire@vt.edu), 540-231-6017