

**REQUEST FOR HIRING PROPOSALS FOR EPSCoR WyCEHG POSITIONS:  
PHASE 1: HYDROGEOPHYSICIST**

**OVERVIEW**

A \$20 million NSF EPSCoR grant (2012-2017) to UW will support the hire of four tenure-track faculty, two facility managers and two cyberinfrastructure academic professionals over a five-year period. These positions will contribute to the success of the new Wyoming Center for Environmental Hydrology and Geophysics (WyCEHG), which aims to be *a center of excellence in environmental hydrology and geophysics that serves water science and watershed management in Wyoming by providing cutting-edge tools to managers, scientists and educators in the public and private sectors.*

The four new tenure-track faculty will be hired in areas that support the research and teaching mission of WyCEHG and UW. Hires must be at the Assistant Professor rank. To fill these positions, the EPSCoR Office, the Office of Research and Economic Development, and the Office of Academic Affairs solicit proposals from academic units using a bid process, as outlined in this document. Successful proposals will provide compelling evidence for an EPSCoR position that benefits both WyCEHG and the University.

EPSCoR will provide support to successful position requests through salary bridge funding and start-up contributions for competitive hiring packages. Bridge funding for salary allows the university to hire into a position and delay the allocation of permanent funding, through Central Position Management, by a year. Other ancillary WyCEHG opportunities that contribute to successful hires will include access to state-of-the-art instrumentation and research infrastructure, post-doctoral positions, graduate student opportunities and the diverse offerings of a robust Education, Outreach and Diversity program funded by the award. Funds are also available for distinct recruitment strategies targeted at increasing diversity in the hiring outcome.

**DESCRIPTION OF THE FACULTY POSITIONS**

WyCEHG represents a unique interdisciplinary group that builds on strengths in diverse departments and colleges across campus. Project personnel currently include participants from four colleges and eight departments. Consequently, departments and programs who wish to participate in this bid process can build on UW's existing strengths, either by expanding their own commitments to these areas or by collaborating with other units. Faculty positions available over the next five years are described below:

***RFP in fall 2012 for 2013-2014 hire:***

**1. Hydrogeophysics (tenure-track assistant professor).** Advances in geophysical imaging technology are providing revolutionary tools that allow scientists to visualize and map the subsurface pathways of water in new ways. We seek a hydrogeophysicist with expertise in the development and use of near-surface geophysical techniques for hydrological problems. Of particular interest are rapidly emerging techniques in electrical and electromagnetic geophysics, including complex resistivity, ground-penetrating radar, and magnetic resonance sounding. The successful hire will integrate his/her research with the goals of WyCEHG and provide academic support to the WRESE Ph.D. Program in Hydrology.

***RFP in spring 2013 for 2014-2015 hire or spring 2014 for 2015-2016 hire:***

**2. Hydrological systems modeler (tenure-track assistant professor).** Integrated systems modeling has emerged over the past half-decade as the key direction in which sophisticated, state-of-the-art hydrology programs are moving. We will seek a computational modeler who will be able to merge complex surface and groundwater models by exploiting the ARCC and NWSC to solve immediate and emergent water resources issues. High impact areas of research include integrating future climate scenarios into dynamic hydrologic models to provide potential future forecasts in water sustainability and the use of sophisticated hydrologic and geophysical observational data to guide model development. The successful hire will be able to leverage both Track I (WyCEHG) and Track II (CI-WATER) and research initiatives in modeling, provide key academic support to several departments on campus and the WRESE

PhD Program in Hydrology, and add to the growing body of computational scientists working in natural resources at UW.

**3. Groundwater hydrologist (tenure-track assistant professor).** Groundwater resources are of immense importance to societal and ecological needs; approximately half of Wyoming water resources are from groundwater, and subsurface resources provide critical water to agriculture, oil and gas development, and municipalities. There are tremendous research challenges in groundwater resulting from changing climate signals and human population patterns, and emerging analytical techniques provide outstanding opportunities for groundwater hydrologists to better quantify the fate and transport of water in a changing west. We seek a groundwater hydrologist who is capable of working in the field using both conventional and emerging geophysical techniques to parameterize computational methods that describe complex subsurface flow. The successful hire will integrate his/her research with the goals of the new Wyoming Center for Environmental Hydrology and Geophysics and provide academic support to the WRESE PhD Program in Hydrology.

**4. Rock physics (tenure-track assistant professor).** Recent advances in theory, instrumentation, and analytical methods enable new ways to link geophysically inferred properties of the subsurface to hydrological state variables. We seek a scientist with expertise in the application of rock physics theory and laboratory-scale measurements to problems of fluid flow in saturated and unsaturated pore spaces. Of particular interest are rapidly evolving approaches linking remotely sensed or logged electrical, magnetic, and mechanical properties of geological materials to in situ state variables under conditions relevant to groundwater systems. The successful hire will integrate his/her research with the goals of the new Wyoming Center for Environmental Hydrology and Geophysics and provide academic support to the WRESE Ph.D. Program in Hydrology.

#### **PROPOSAL GUIDELINES FOR 2012-2013 BID PROCESS.**

This document outlines a Request for Positions (RFP) with a mechanism to hire the first EPSCoR-supported faculty position, in the area of hydrogeophysics, using a bid process. The EPSCoR award includes bridge funding for one year prior to state-funded support and also contributes to competitive start-up packages. This RFP encourages units to strengthen the connections between their disciplinary research, their curricula, and UW's institutional commitment to the research areas of WyCEHG as consistent with the State's Science and Technology Plan.

Hiring for most positions will be staged over the five-year duration of the award. The July 13, 2012 award notice occurred after the normal CPM timeline for 2012-2013; consequently, this RFP meets the critical need for the near-term hire of a hydrogeophysicist, while adhering to a feasible bid process. This request outlines the guidelines for the submission of proposals and summarizes the criteria for proposal evaluation for the hydrogeophysics position.

- 1. Hydrogeophysics position description:** The new faculty position should be consistent with the description of the hydrogeophysicist provided above. This section of the proposal should demonstrate (a) a credible disciplinary connection to research areas of WyCEHG, (b) a lasting commitment to scholarship in the focus area of hydrogeophysics, (c) a willingness to cultivate interdisciplinary programs of research, and (d) an interest in pursuing curricular innovations that tie scholarship to undergraduate and graduate education.
- 2. Search plan, including recruitment strategies:** The proposal should outline a plan to search and fill the position by no later than the start of fall semester, 2013. The search plan should include strategies to encourage applications by women and underrepresented minorities. Successful proposals that outline creative and targeted mechanisms to hire for diversity will have access to additional recruitment funds from the EPSCoR office.
- 3. Instructional and curriculum plans:** Proposals should include well-articulated evidence for how the proposed position will meet instructional needs for the department and campus. Successful

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departments will have a hospitable and progressive teaching environment, a visionary approach to curriculum development, and a breadth of teaching opportunities at all levels for the intended hire. Successful instructional alignment will enhance programs across the University and include contributions to WyCEHG, consistent with the interdisciplinary nature of the program.

4. **Graduate program alignment:** Proposals should include explicit discussion of how the proposed position would contribute to UW's new doctoral Program in Water Resources/Environmental Sciences and Engineering (WRESE; <http://www.uwyo.edu/wrese/>) and to other relevant interdepartmental initiatives on campus.
5. **Departmental configurations:** Proposals can be submitted by single units; however, interdisciplinary proposals for split positions are encouraged. The proposal should include an explanation of the advantages of the split position for departments, the University and WyCEHG.
6. **Departmental oversight:** Proposals must specify an appropriate academic home for the hydrogeophysicist. The home unit will have the authority to initiate reappointment, tenure, and promotion deliberations and should fall under the purview of one of UW's seven academic colleges (Agriculture & Natural Resources, Arts & Sciences, Business, Education, Engineering, Health Sciences, Law). In the case of proposed split appointments, proponents should identify an articulated policy for how the split appointment will be coordinated. This description should include expected roles of the appointee in the minority department and a clear articulation of the review process for reappointment, tenure, and promotion decisions.
7. **Commitment to WyCEHG and CPM planning:** Proposing units or consortia of units should identify long-range commitments to build intramural and interdisciplinary strength in areas related to WyCEHG over the next five years. The position described will come from the standard CPM process, but expedited this year to accommodate early hire of the hydrogeophysicist. Departments should make sure that their short- and long-range hiring priorities are consistent with this EPSCoR focus area before deciding to bid.
8. **Evidence for broad support:** Consistent with the commitment to WyCEHG, proposals should identify strengthening resources that may include, but are not limited to, future position requests, research facilities and equipment, startup funding, space, and funding for doctoral students. Units submitting successful bids will be responsible for providing the office and laboratory space needed to support the individuals hired.
9. **Details of proposal preparation:**
  - Pre-planning is on a short time frame due to the expedited request of the hydrogeophysicist for the coming year, 2013-2014. To facilitate planning, departments may wish to contact the EPSCoR office to arrange a visit between their faculty and PIs Sylvester, Holbrook and Miller.
  - The attached template should be used for preparing the proposal.
  - Proposals should be no more than 5 single-spaced 8.5"-by-11" pages in length, in a 12-point font with one-inch margins.
  - Signatures should be provided by all affected department heads, college deans or program directors.
  - Proposals for the hydrogeophysics position should be **submitted as a single pdf in an email attachment directly to Nicole Ballenger [NicoleB@uwyo.edu](mailto:NicoleB@uwyo.edu) by November 15, 2012**, with a copy emailed to the EPSCoR office to Anne Sylvester [annesyl@uwyo.edu](mailto:annesyl@uwyo.edu) and to WyCEHG co-Directors Steve Holbrook [steveh@uwyo.edu](mailto:steveh@uwyo.edu) and Scott Miller [snmiller@uwyo.edu](mailto:snmiller@uwyo.edu).

### CRITERIA FOR PROPOSAL EVALUATION

Proposals will be screened by a review committee consisting of representatives from Academic Affairs, the Office of Research and Economic Development, EPSCoR and members of the WyCEHG leadership team. Screening criteria will specifically evaluate the elements described above by addressing the following questions:

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1. **Hydrogeophysics position description:** Does the proposed position help to fulfill WyCEHG's mission (see first paragraph of RFP) and will the position description likely attract top level applicants who can contribute to the research and teaching mission of UW?
2. **Search plan, including recruitment strategies:** Is the search plan designed to capture a broad applicant pool within the timeframe requested?
3. **Instructional and curriculum plans:** Are the instructional goals for the position consistent with departmental, University and WyCEHG needs? Is there demonstrated long-range planning in defining the contribution of the position to curriculum development at lower-division, upper-division, and graduate levels?
4. **Graduate program alignment:** Is there a clear alignment between the proposed position and graduate training needs of WRESE and other on-campus initiatives?
5. **Departmental configurations:** In the case of split positions, is there a clear benefit to the proposing departments, University and WyCEHG? Does the split position create new opportunities for all concerned to advance the research, teaching and interdisciplinary mission of WyCEHG?
6. **Departmental oversight:** In the case of split positions, is a policy outlined that explains the role of the majority and minor department and are the expectations of a successful applicant clearly defined?
7. **Commitment to WyCEHG and CPM planning:** Is there clear evidence that the position fits long-range academic planning either by augmenting strategies already in place or contributing to new and transformative initiatives in the proposing unit(s)?
8. **Evidence for broad support:** Are strengthening resources offered by the proposing unit(s) clearly defined with approval indicated by signature authority?

In addition to evaluating these eight points, the review committee will consider whether the proposing unit(s) demonstrate a scholarly culture that can sustain further growth at UW and in WyCEHG. Strong proposals will come from units that have a record of encouraging interdisciplinarity and with well-integrated research and teaching curricula in the research areas related to WyCEHG. Examples of such evidence include:

- Consistency of the proposal with academic planning among the proposing unit(s),
- A record of successful accommodation of interdisciplinary activity in reappointment, tenure, promotion, and faculty evaluation decisions,
- A history of extramural funding commensurate with opportunities available in the disciplines represented in the proposal,
- A record of educational commitments at all levels of UW's teaching mission,
- Curricular initiatives that focus on theoretical or applications-oriented content to WyCEHG.

Successful proposals will come from unit(s) with demonstrated success at integrating the activities of the new faculty into their own academic missions and success at interacting productively across campus in interdisciplinary programs. Successful units will have a culture of effective leadership and a constructive, collegial academic climate.

### FOR FURTHER INFORMATION, PLEASE CONTACT:

Anne Sylvester, Project Director for Wyoming EPSCoR, ([annesyl@uwyo.edu](mailto:annesyl@uwyo.edu); 6-4993)

Steve Holbrook, Co-Director of WyCEHG, ([steveh@uwyo.edu](mailto:steveh@uwyo.edu); 6-2427)

Scott Miller, Co-Director of WyCEHG ([snmiller@uwyo.edu](mailto:snmiller@uwyo.edu); 6-4274)

Bill Gern, Vice President for Research & Economic Development, Chair of EPSCoR State Governing Committee ([willger@uwyo.edu](mailto:willger@uwyo.edu); 6-5353)

Myron Allen, Provost and Vice President for Academic Affairs ([allen@uwyo.edu](mailto:allen@uwyo.edu); 6-4286).

**TEMPLATE**  
**Proposal to Hire an EPSCoR WyCEHG Phase I Position:**  
**Hydrogeophysicist**

**Instructions:** Please supply the information as requested in the RFP.

**College(s):**

**Department(s):**

**Signatures:**

**Narrative**

1. **Hydrogeophysics position description:**
2. **Search plan, including recruitment strategies:**
3. **Instructional and curriculum plans:**
4. **Graduate program alignment:**
5. **Departmental configurations:**
6. **Departmental oversight:**
7. **Commitment to WyCEHG and CPM planning:**
8. **Evidence for broad support:.**

**Special requirements:**

The University is committed to equal opportunity for all persons in all facets of the University's operations. The University's policy has been, and will continue to be, one of nondiscrimination, offering equal opportunity to all employees and applicants for employment on the basis of their demonstrated ability and competence without regard to such matters as race, color, religion, sex, national origin, disability, age, veteran status, sexual orientation or political belief. It shall also be the policy of the University to take affirmative action in the recruiting, hiring and promotion of women, minorities and other persons from designated groups covered by federal statutes, executive orders and implementing regulations.