Solar Radiation Scientist/UV-B Monitoring and Research Program
Natural Resource Ecology Laboratory

The USDA UV-B Monitoring and Research Program (UVMRP) at the Natural Resource Ecology Laboratory, Colorado State University seeks a full-time Solar UV Radiation Scientist. The position will be filled at the RA-III or RS-I level depending on the qualifications of the successful candidate. The position will be responsible for providing scientific expertise regarding the quality of the USDA UVMRP UV atmospheric radiation data. The position is supported by a USDA grant that funds the establishment and operation of a national network of surface solar radiation monitoring sites. Currently 37 UV radiation monitoring sites exist in the USDA UVMRP network. Emphasis is on the region of ultraviolet radiation commonly referred to as “UV-B”, an area of the solar spectrum identified as responsible for plant and materials damage as well as human health problems. Since UV-B radiation has been significantly affected over the past two decades as a result of stratospheric ozone reduction, monitoring of current radiation levels, natural variations, and trends are critical to the understanding of the potential impacts on agricultural productivity and human health. The USDA UV-B Monitoring and Research Program coordinates with other federal agencies with UV-B measurement programs as well as those in Canada, New Zealand, and Europe and works with the U.S. Weather Service, Canadian Atmospheric and Environment Service, and World Meteorology Organization (WMO) to establish an international data base for UV-B.

The successful applicant will provide theoretical expertise in assessing the impact of atmospheric constituents on UV spectral direct, diffuse and total horizontal irradiance and will possess the ability to run and modify existing radiative transfer and other processing algorithms. The applicant will be responsible for scientific validation of the UV data collected by the network and will be required to represent the UVMRP in all matters related to the calibrations and data processing procedures and standards. The position requires the willingness to respond to project related special data requests from the public that may require expert advice and/or computer modeling of processing algorithms tailored to the request. Basic knowledge of radiative measurement techniques is also required including familiarity of basic instrument effects and calibration procedures. The candidate will coordinate with project members working on other aspects of the UVMRP, specifically in the development of network-based products and statistical analyses of temporal and spatial data through improved algorithms and quality control of the UVMRP database. The candidate will occasionally participate in UVMRP site visits for instrument inspection and/or replacement. Reporting research results through conference presentations, written reports, and co-authored peer-reviewed articles is expected. Candidates who have shown the ability to conduct independent research will be considered for the RS-I level appointment.

Qualifications:

The successful candidate must have earned an MS in Atmospheric Sciences, Applied Physics, Mathematics or a related discipline. Individuals who have recently completed requirements for a Ph D are also encouraged to apply and may qualify for appointment at the RS-I level based on a demonstrated ability to conduct independent research. Basic knowledge of the effects of the atmosphere on the transfer of UV radiation including the effects of clouds, aerosols and gases is required. An understanding of basic radiation transfer modeling is required. Familiarity with atmospheric radiation measurement technology is required including the ability to evaluate the short and long-
term performance of instrumentation, although expertise at the level of electronic engineering is not required. The applicant will be familiar with the effects of filter function response and diffuser cosine correction as well as lamp and Langley calibration methodologies. The applicant must be proficient in computer modeling using one or more of the widely accepted computer language(s) such as FORTRAN, C, C++, IDL, MATLAB, or JAVA. An understanding of data assimilation techniques and relational databases is desirable.

Although this long-term program has been running for over 16 years, funding of the position is dependent upon continued federal support that is renewed on an annual basis. This position is dependent upon performance and continued availability of funding. Salary is negotiable, commensurate with experience, in the range of $45,000-$55,000 per year, with benefits. Start date will be as soon as practical upon selection of a candidate. This detailed job description can be found at http://uvb.nrel.colostate.edu under Latest News. To apply, send a PDF of your CV, statement of research interest cover letter that addresses qualifications listed in job announcement and list of publications and three references by e-mail to openposition@uvb.nrel.colostate.edu; or a hard copy of all documents to Rita Deike, Program Assistant, USDA UV-B Monitoring and Research Program, Colorado State University, 419 Canyon Avenue, Suite 226, Fort Collins, CO 80521-2671. Applications will be considered until the position is filled; however, applicants should submit by 5:00 pm MST, on January 17, 2011 for full consideration. Availability for an in person interview is required.

Colorado State University is committed to providing a safe and productive learning and living community. To achieve that goal, we conduct background investigations for all final candidates being considered for employment. Background checks may include, but are not limited to, criminal history, national sex offender search and motor vehicle history.

Colorado State University is an equal opportunity/affirmative action employer and complies with all Federal and Colorado State laws, regulations, and executive orders regarding affirmative action requirements in all programs. The Office of Equal Opportunity and Diversity is located in 101 Student Services Building. In order to assist Colorado State University in meeting its affirmative action responsibilities, ethnic minorities, women and other protected class members are encouraged to apply and so identify themselves.