

ASSOCIATE PROFESSOR OF AGROHYDROLOGY AND BIOPHYSICAL MODELLING (211-0454)

Department of Plant and Environmental Sciences – Faculty of Science – University of Copenhagen

Department of Plant and Environmental Sciences invites applications for an associate professor position within the field of Agrohydrology and Biophysical Modelling from 1 May 2017 or as soon as possible thereafter.

Job description

The associate professor will be part of the Agrohydrology research group at the Department of Plant and Environmental Sciences, Faculty of Science, University of Copenhagen. The associate professor's main tasks will be to conduct research, including scientific publication and communication, within the field of soil physics and soil-plant-atmosphere processes, to perform research-based teaching, and to participate in examinations. Focus is on quantification of processes and biophysical mechanistic modelling.

The successful applicant will have scientific qualifications within modelling of one or more of the following areas:

- The vertical and lateral transport of water, solutes (not least nutrients and pesticides) and particles.
- The effect of tillage on soil hydraulics and transport properties.
- Effects of soil biological, chemical and physical properties and processes on soil structure and transport processes.
- Interactions between plant growth, soil physical processes, and water and solute dynamics in the soil (including climate change aspects).
- Gas exchange between the soil/canopy system and the atmosphere (in particular CO₂ and water) and coupling and feedbacks between soil and atmospheric processes.

The Agrohydrology group is responsible for the soil-plant-atmosphere-model "DAISY", and an important task for the associate professor will be to coordinate and support the maintenance and further development of this model, as well as its use in research and in the public domain. This has to be done in cooperation with relevant researchers in related fields within and outside the Department. Hence, it is a requirement that the applicant has demonstrated ability in the quantification and mathematical modelling of soil-plant-atmosphere processes.

The vision of PLEN is to provide solutions for future challenges such as feeding an increasing human population while climate change and pollution threaten to reduce the available land. The nine sections of the department form the basis for cross-disciplinary research activities that will produce a better understanding of basic molecular processes and ecological functions of organisms and the role of these organisms within their ecosystems. Fundamental studies of plant responses to abiotic and biotic stresses, and the interplay between soil, water and pollutants in the environment, form the core platform for the development of sustainable biological production systems and support human activities that will ensure a stable and secure environment. The Agrohydrology research group has an impressive track record in the field of preferential transport and modelling of water, carbon, nitrogen and pesticide dynamics. Ongoing work includes the dynamics in imperfectly drained soils and effects of tillage on hydraulic properties of soil. The broad expertise available at the department provides possibilities for future developments in several fields, for example dissolved organic carbon, phosphorus dynamics in plant and soil, transport and transformations of several other compounds or microorganisms. At the same time, it should be attempted to move technologies closer to practical use through emphasis on data assimilation and use of models in decision support.

The associate professor is also expected to participate in knowledge exchange with society, to lead a research area, to participate in Faculty of Sciences' innovation program, and to provide guidance of students at BSc, MSc and PhD levels.

Applicants are required to have university level teaching experience, documented teaching competencies and must be able to explain and reflect upon own teaching practice and portfolio. Formal pedagogical training or supervision equivalent to the University of Copenhagen teacher training programme for assistant professors is required.

Duties include the applicant's own research, development of the field, assessment tasks, grant applications, and research management such as supervision and training of research fellows and other staff. The successful applicant must also teach, supervise, prepare and participate in examinations, and fulfill other tasks requested by the Department.

Qualification requirements

Emphasis will be laid on the following professional and personal qualifications:

- Documentation of a high degree of original scientific production at an international level.

- Documented research qualifications in relation to the above-mentioned field(s).
- Documented teaching qualifications.
- Experience in research management or other managerial functions.
- Fluency in English.
- Furthermore, the successful applicant is expected to be enterprising and possess the cooperative and managerial skills necessary for projects and teaching activities, for which he/she will be responsible.

Assessment of applicants will primarily consider their level of documented, original scientific production at an international level, including contributions to developments in their field, as well as their documented teaching qualifications. Managerial and out-reach qualifications of applicants including ability to attract external funding will be considered as well.

Online available is information on the department <http://plen.ku.dk/english/> and the research group of Agrohydrology: http://plen.ku.dk/english/research/env_chem_phys/agrohydrology/.

Inquiries about the position can be made to Head of the Department Svend Christensen (svc@plen.ku.dk) or Head of Section Bjarne W. Strobel (bjwe@plen.ku.dk).

The position is open from 1 May 2017 or as soon as possible thereafter.

The University wishes the staff to reflect the diversity of the society and thus welcomes applications from all qualified candidates regardless of gender and personal background.

Terms of employment

The position is covered by the Memorandum on Job Structure for Academic Staff.

Terms of appointment and payment accord to the agreement between the Ministry of Finance and The Danish Confederation of Professional Associations on Academics in the State.

Commencing salary is currently for Assoc. Professor – up to DKK 449,720 including annual supplement (+ pension up to DKK 76,902). Negotiation for salary supplement is possible.

The application including all attachments must be in English and submitted electronically by clicking APPLY NOW below.

Please include

- Curriculum vitae including information about external funding.
- Diplomas (Master and PhD degree or equivalent).
- Research plan and visions – description of current and future research plans as well as visions for further development of agrohydrological modelling.
- Description and documentation of teaching experience and qualifications according to [university guidelines](#).
- Complete list of publications.
- Separate reprints of 5 particularly relevant papers.

The deadline for applications is 2 January 2017, 23:59 GMT +1.

After the expiry of the deadline for applications, the authorized recruitment manager selects applicants for assessment on the advice of the Interview Committee.

You can read about the recruitment process at <http://employment.ku.dk/faculty/recruitment-process/>.

Interviews/trial lectures will be held on 27 March 2017.

Please refer to the following no. in future communication in this case: 211-0454.

APPLY NOW

Part of the International Alliance of Research Universities (IARU), and among Europe's top-ranking universities, the University of Copenhagen promotes research and teaching of the highest international standard. Rich in tradition and modern in outlook, the University gives students and staff the opportunity to cultivate their talent in an ambitious and informal environment. An effective organisation – with good working conditions and a collaborative work culture – creates the ideal framework for a successful academic career.

