

Mohammed VI Polytechnic University

Complex Systems Engineering and Human Systems (CSEHS)

Position Announcement

Job Title: Assistant Professor in High Performance Computing (HPC).

Area of specialization in CSEHS Education and Research: Network protocols for HPC, High performance file system; Architecture of a super calculator, Parallel programming, Performance optimization.

Job description:

The Complex Systems Engineering and Human Systems (CSEHS) at Mohammed VI Polytechnic University invites applications for an Assistant Professor specialized in the area of High Performance Computing (HPC) as soon as profile found. Qualified candidates at the Assistant Professor level will be considered with hiring rank commensurate with academic accomplishments.

The position is open to individuals who hold a Doctoral degree, obtained since less than 12 years, in the subject discipline from a recognized university. The Scopus h-index should be between 3 and 12, and the number of papers in qualified revues should be between 2 and 18. Preference will be given to those with excellent research and teaching experience. Very good communication skills, both verbal and writing are important. Fluency in French and English are required.

Key duties:

Successful candidates are expected to:

- Have the desire and ability to teach courses at the undergraduate level related to the candidate's areas of research interest.
- Perform multidisciplinary research, and contribute to developing a funded research program.
- Publish the results of personal and sponsored research in international journals refereed by his/her peers.
- Pursue scholarly and professional activities that will keep him/her at the leading edge of his/her field.

Criteria of the candidate:

- PhD in the subject discipline

- Demonstrated understanding of operational requirements for a successful research project and contribution to resources management.
- Proven ability to identify and fulfill the academic writing requirements for target publications.
- Ability to generate new ideas, links, and to build upon existing ideas to generate good concepts and solutions.
- Demonstrated teaching skills.

Skills:

The candidate must have demonstrated a research activity in most of the following disciplinary fields:

- Algorithms and scientific computing libraries (in memory / out-of-core).
- Numerical methods: domain decomposition, solving of equations, management of uncertainty.
- Parallel programming in the main parallel programming models and parallel architectures (CPU, GPU, accelerators).
- Performance optimization (link between hardware and software), including optimization of energy consumption.
- Network protocols for HPC; high performance file system; architecture of a super calculator.
- Knowledge of the techniques used in the main calculation nuclei, in fields other than the field of the specialty (eg if the candidate is a specialty of linear algebra, he is asked to open also to fluid dynamics, to image processing, ...).

The candidate will be able to reinforce or bring a complementary point of view compared to the current work of UM6P on the topic of HPC. This includes, in particular, the eco-systems of data, the Internet of Things, smart buildings in terms of methods, algorithms, middleware and protocols. He should be positioned in relation to cloud computing and related architectures such as edge or fog computing.

About UM6P:

Located at the heart of the future Green City of Benguerir, Mohammed VI Polytechnic University (UM6P), a higher education institution with an international standard, is established to serve Morocco and the African continent. Its vision is honed around research and innovation at the service of education and development. This unique nascent university, with its state-of-the-art campus and infrastructure, has woven a sound academic and research network, and its recruitment process is seeking high quality academics and professionals in order to boost its quality-oriented research environment in the metropolitan area of Marrakech.

About CSEHS:

The Complex Systems Engineering and Human Systems (CSEHS) is a component of the University Mohammed VI Polytechnic (UM6P). It constitutes a structure of higher education and finalized research. Its main themes are: Modeling, Simulation, Data Science, Optimization, Probability and statistics.

Disciplinary fields of CSEHS cover the following areas: Numerical Analysis, Scientific Computing, HPC, Data Science, Fluid and solid Mechanic, Rheology, Optimization, Scheduling, Logistics, Probability and Applied Statistics, Stochastic Processes, Data Assimilation, Valorization, Social Interactions, Environment, Uncertainties and Reliability.

The CSEHS entity operates on the principle of partnerships with Moroccan and international universities and adopts the approach of joint diplomas and joint laboratories labeled.

The main operation of the CSEHS entity is structured around two axes:

- Finalized Research and Development: CSEHS operates on the principle of the development of finalized research projects (primarily for OCP), for which it seeks funding from OCP and other organizations.
- Initial and Executive Higher Education: The entity has four Masters and a Bachelor's degree in Data Sciences in initial training, already accredited by the ministry. The Bachelor's degree was launched in October 2018 and the Masters will start in September 2019. Two Executive Masters will also be launched in 2019.

Applications and selection procedure :

- Applications must be sent to: recrutement@um6p.ma , before April 30, 2019 in a single electronic zipped folder with the mention of the job title in the mail's subject. The folder must contain:
 - A cover letter indicating the position applied for and the main research interests.
 - A detailed CV.
 - A brief research statement.
 - Contact information of 3 references (applicants are assumed to have obtained their references' consent to be contacted for this matter).
- The short-listed candidates will be invited to meet the university selection committee.

About compensation package :

- Best in class salaries
- 30% annual bonus on gross salary.
- Research budget allowance to professor

- Best in class :
 - IP sharing policy (33% for professor)
 - MOOCs policy (60% for professor)
 - Consulting policy (100% for professor when teaching time is completed)
- Complete benefits including housing, tuition fees, life & medical insurance, retirement, maternity leave and sabbatical.