Max Planck Society seeks faculty in Autonomous Systems at all levels

MAX-PLANCK-GESELLSCHAFT

Locations: Stuttgart and Tübingen

The Max Planck Society is establishing a major new research direction in "Autonomous Systems" in Stuttgart and Tübingen, Germany. The goal will be to investigate and understand the organizing principles of autonomous systems that successfully interact with complex environments, and to use this understanding to design future systems. The Institute will study these principles in material, biological, bio-hybrid, and computational systems. The Institute is novel in its interdisciplinary study of autonomous systems ranging from nano to macro scales. By combining theory, computation, material science, and biology, the Institute will explore fundamental issues in perception, action and learning.

Applications from candidates at all levels including W2 (both pre-tenured and tenured, corresponding roughly to assistant and associate professor) and W3 (director, corresponding to full professor) are solicited. The successful candidates should have an outstanding academic record relative to their academic age, the willingness to engage in collaborative and multidisciplinary work, and an innovative research agenda relating to autonomous systems as broadly defined above — visionary, transformative (potentially high risk) research programs are encouraged. Successful candidates are expected to build a team and pursue a highly visible research agenda, both independently and in collaboration with other groups. Senior candidates must have demonstrated leadership abilities and recognized international stature. The Max Planck Society is funded by the German federal government and the federal states. Within the Max Planck Society, the regulations that apply with respect to W2 and W3 positions are comparable to federal civil service law; with respect to all other positions, the regulations of the collective wage agreement for government service workers (TVöD) apply.

The Institute will pursue research on a broad range of topics in autonomous systems. Examples include, but are not restricted to

1. Synthesis of autonomous behavior in molecular, nano, and microscopic systems; e.g. novel materials that sense, move, and learn
2. Analysis and programming of cellular behavior and cellular machines
3. Molecular machines and the synthesis of novel autonomous systems using RNA, DNA, and proteins
4. Biological or synthetic self assembly of autonomous systems
5. Micro/nano-robotics including applications in medicine
6. Synthesis of autonomous behavior in macro systems; e.g. advanced robotic and/or perception systems
7. Computational models of perception, action, learning, and inference; e.g. computer vision, robotics, and machine learning
8. Theoretical models of perception-action systems; e.g. game-theoretic and evolutionary models

At the W2 level candidates in any area of autonomous systems are encouraged to apply. At the level of Director (W3) we are particularly seeking candidates working on autonomous systems in areas 1-5 above.

The Institute is a major new undertaking of the Max Planck Society with significant resources necessary to advance an innovative multidisciplinary approach to autonomous systems. MPIs have an established record of world-class, fundamental research in the fields of medicine, biology, chemistry, physics, materials science, technology and humanities. Since 1948, MPI researchers have won 17 Nobel prizes. The new effort on Autonomous Systems aspires to meet the highest standards of excellence and international recognition while breaking new ground in the understanding of the principles of perception, action, learning, and inference in systems ranging from molecules to machines.

The Institute will offer faculty a unique environment to realize their research goals. Faculty receive generous funding to build and lead a team of graduate students and post-docs. Faculty are provided with outstanding technical and administrative support facilities as well as internationally competitive compensation packages.

The Institute will eventually have eight research departments and an additional four to eight independent research groups with ample funding for doctoral and post-doctoral researchers. We maintain an open, international and diverse work environment and seek applications from outstanding researchers regardless of national origin or citizenship. The working language is English; knowledge of the German language is not required for a successful career at the Institute.

The Institute will have two sites: Stuttgart and Tübingen. The dual locations will foster collaboration with existing MPIs, local universities, and centers of excellence. The locations are among the nicest in southern Germany offering world-class cultural activities and access to nature. Located at the edge of the Swabian Alb the surrounding country is characterized by rolling hills, river valleys, medieval towns, and extensive walking and biking trails. The two sites are well connected by road and public transportation and will have state of the art teleconferencing facilities.

Qualified candidates should apply electronically by sending application materials to apply@as.mpg.de. Applications in PDF format should include a current CV, a research statement relating to autonomous systems, and the names and contact information of 3-5 references. Inquiries about the positions can be sent to the founding directors; see the web page below for contact information.

The deadline for application is January 31, 2011.

Successful candidates should be prepared to participate in a symposium on April 11 and 12, 2011.

The Max Planck Society is committed to increasing the representation of minorities, women and individuals with physical disabilities in the sciences. We particularly encourage such individuals to apply.