

Two Post-doc positions: Post-Doc vacancy 1: “Biomechanical Design”

Background

The Man-Machine Systems group of the department BioMechanical Engineering of the faculty of Mechanical Engineering, Marine Technology and Material Science of Delft University of Technology is expanding its design activities on biologically-inspired technology for medical applications. The group has an opening for a Post-Doc position in this challenging new field of research and education.

Candidate’s profile

- Ph.D. degree Mechanical Engineering or equivalent, with experience in the field of mechanical design, preferably specialized in medical technology.
- Excellent results of Ph.D. study, resulting in a number of scientific publications.
- Profound theoretical background in mechanics combined with creative ability to invent novel mechanisms as well as practical experience in design of well-working prototypes.
- Broad interest in mechanical design, medical technology, biology and education.
- Experience with teaching in the field of mechanical design.

Tasks

The Post-Doc position will consist for about 60 percent of research and 40 percent of education. The research domain will cover the design of new technology for medical applications, inspired by biological mechanisms in nature. The research domain will be closely connected to the research on steerable surgical instruments and intestine inspection & intervention devices, currently being carried out in the Man-Machine Systems group, and will include the coaching of Ph.D. and M.Sc. students. The education domain concerns expanding and starting-up new teaching activities in the field of biologically-inspired design and medical technology.

Future opportunities

The Man-Machine Systems group offers an appointment for two years. Depending on the (excellent) outcomes of the work (education, publications, grants, patents), there is a possibility of a further extension that can finally lead to a permanent position in the Man-Machine Systems group (tenure track). The acquisition of funding for new research, like for instance the “VENI” research grant (Netherlands Organization for Scientific research, NWO), will help improve the opportunities for the permanent position in our competitive research group.

For more information / sent application to

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Post-Doc vacancy 2

“Training methods for minimally invasive surgical skills (keyhole surgery)”

Background

The Man-Machine Systems group of the department BioMechanical Engineering of the faculty of Mechanical, Maritime and Materials Engineering (3mE) of Delft University of Technology, is trying to enhance the performance of surgeons by development of new instruments and new training methods. Training is traditionally performed in the operating room under supervision of an expert surgeon. Especially for minimally invasive surgery (keyhole surgery) there is a need to develop training methods outside the operating room. Research is performed in a broad field; development of virtual reality trainers, development of instrumentation to tracking surgical instruments and force measurements to investigate the role of force feedback.

The group has an opening for a Post-Doc position in this challenging field of research.

Candidate's profile

- Ph.D. degree Mechanical Engineering or equivalent, with experience in the field of mechanical design, preferably specialized in medical technology.
- Excellent results of Ph.D. study, resulting in a number of scientific publications.
- Profound theoretical background in (bio)mechanics.
- Broad interest in mechanical design, medical technology, physiology and education.
- Experience with cooperation with researchers from other disciplines.
- Good communication and education capabilities.

Tasks

The research domain will cover the design of new training instrumentation for training of minimally invasive interventions. Development and evaluation of the training tools will be performed in close cooperation with surgeons/interventionists from (academic) hospitals. Hence, surgical interventions will be regularly attended. Furthermore, PhD and MSc/BSc students doing research in this field will be coached. The teaching activities of the candidate will be in the field of physiology, surgical instruments, training of surgeons and medical safety.

Future opportunities

The Man-Machine Systems group offers an appointment for two years. Depending on the outcome of the work (education, publications, grants, patents), there is a possibility of a further extension that may finally lead to a permanent position in the Man-Machine Systems group (tenure track). The acquisition of funding for new research, like for instance the “VENI” research grant (Netherlands Organization for Scientific research, NWO), will help improve the opportunities for the permanent position in our competitive research group.

For more information / sent application to

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