MSc programme in Medicine and Technology makes a positive difference to Rigshospitalet

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The initiators of the programme Medicine and Technology, Professor Jørgen Arendt Jensen, Ørsted·DTU and Liselotte Højgaard, Rigshospitalet.

Rigshospitalet's involvement in the new MSc programme in Medicine and Technology opens up the prospect of recruiting new skilled engineers at MSc level to the departments with advanced equipment such as the radiotherapy department, clinical physiology and nuclear medicine with the PET centre, the anaesthesia departments, surgical sections, the large biomedical engineering department, clinical neurophysiology and the neo-natal department (incubator babies). With the new dedicated programme, the future graduates will get on more easily in a hospital environment. Besides, their approach to problems and interdisciplinary cooperation will be improved.

The future MSc engineers under the new programme will be better trained to handle tasks in hospital departments with advanced equipment. They do not have to be trained for several years before they acquire basic skills in anatomy, biochemistry, physiology and diseases in general. They will have an academic attitude and be able to discuss various issues with doctors and other academic hospital staff active within research at a high international level. They will be able to carry out independent research and development. Besides, they will take part in the elaboration of new technologies and new application areas and they will ensure improved cooperation between industry, hospitals and universities.
The complexity, weight and importance of advanced technologic hospital equipment are increasing. The utilisation of equipment will be enhanced resulting in an improved treatment of patients and an elevation of the level of research and education, also viewed from an international perspective. As a side benefit, the cooperation opens up prospects of research within the field between medicine and technology. This could become very exiting because new significant and startling inventions are in fact often made in between fields. The work in connection with the new programme has led to new contacts resulting in cooperation on research. Furthermore, the cooperation between DTU, KU and Medico-industrien (an industrial association within biomedical engineering) has had a favourable influence on the promotion of research and education within medicine and technology in general.

As a new member of the Danish Council for Research Policy I acquire a broader background within medicine and technology through the cooperation on the new programme in Medicine and Technology which is a great advantage.
We look forward to participating in the programme and to employ the graduates. Five years will pass quickly and so far, the first students seem to be competent and they have shown great interest in the field.

Cooperation between DTU and Radiometer

By Johan Schrøder, President and CEO, Radiometer A/S

Development and cooperation

A prerequisite for a Danish biomedical engineering company like Radiometer is of course research in medical problems and an industry which is able to utilise this research to develop tangible products and services enhancing the efficiency of doctors' diagnostics and monitoring of critically ill patients.
Historically, Radiometer became involved in the need for measurements of pH and blood gases in connection with the serious polio epidemic in the fifties. In close cooperation with internationally, highly respected medical researchers in Denmark and in the USA, Radiometer grew to the successful company it is today.
To influence the development within biomedical engineering with more than just sporadic initiatives, it is a prerequisite that we research in and develop new measurement technologies based on real and serious clinical problems experienced by doctors in their clinics. Otherwise, we will be forced to choose between measurement technologies offered by other companies - either from the USA, China or a third country.
This is one of the reasons why it is very important to Radiometer to promote research in biomedical engineering and to cooperate with universities like DTU.

When industry supports university research it should not at all be considered a kind of "supplementary benefit" but rather "help-to-help-yourself".
Radiometer may increase its competitiveness, and together we can ensure a far better utilisation of the knowledge resources within our field. Through agreements on patents and the sharing of knowledge, we can also ensure that the latest knowledge within research leads to the development of products to the benefit of as many patients as possible.
Seen from a Danish point of view, it is very important to advance a natural network between industry and research.

Why does Radiometer sponsor Ørsted·DTU?

Radiometer sponsors Ørsted·DTU with five million Danish kroner to ensure the research within the company's business area and perhaps recruit future employees. In return, DTU receives assistance in preserving a strong position within biomedical engineering.
The cooperation between Radiometer and DTU will lead to strong bonds between the two institutions. Together we can strengthen biomedical engineering. Hopefully, we will be able to comply with some of the demands for employees combining medical and technical qualifications with basic biochemical and medical knowledge.
Even though Radiometer sponsors a new five-year professorship focusing on clinical and chemical biosensors in connection with the new programme in Medicine and Technology, the company is aware that the research will primarily focus on subjects considered essential to future society in spite of an individual company's interest in the field.

Radiometer has not laid down any exact conditions for this sponsorship even though it is no secret that we have some favourite fields.

Knowledge leads to wealth

It is important to keep in mind that universities' most important contribution to the business community and society in general is the education of qualified graduates and high quality research.
We are living in a society where continuous growth is considered a necessity requiring a high level of research activity and quality.
Every day, about 1,000 scientific articles are produced within clinical medicine, but today there is basically no tradition for research and implementation of new research results in the clinical everyday life. Consequently, much new knowledge may not be utilised to the benefit of the patients. In recent years, the average age of the Danes has been stagnant which to a certain extent may be due to the life style. However, it has also been claimed that the quality of the treatment could play a role.
Consequently, Radiometer looks forward to receiving new, competent graduates from the programme Medicine and Technology who may even find it very interesting to work for us and - in cooperation with the present team - develop innovative and exiting products based on supreme research results to the benefit of patients and Danish exports.

Medicine and Technology students