Medicine Meets Engineering

Proceedings of the 2nd Conference on Applied Biomechanics
Regensburg

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Preface

Biomedical Engineering is defined as the science that integrates medical and engineering sciences to improve diagnosis and treatment of patients. Only by this integration can progress be achieved. Both medical and engineering sciences comprise a huge diversity in topics, so understandably, in combining these two areas of science, Biomedical Engineering is even more huge. If research between several medical disciplines is called multidisciplinary it is rational to call research in Biomedical Engineering megadisciplinary. Thanks to this megadisciplinary approach many breakthroughs can be achieved. More and more research groups are realising this and starting new research projects, resulting in a rapid increase in knowledge, which can only benefit the main aim of Biomedical Engineering, improving the diagnosis and treatment of patients when it is spread and applied.

Conferences are a valuable means in distributing knowledge. Since Biomedical Engineering is a multidisciplinary science it is important to reach both medical and engineering specialists. This requirement is very difficult to realise as both research groups often focus only on their own research field, which hinders the essential integration of knowledge.

The 2nd Regensburg Applied Biomechanics conference is special in that it realised both the distribution of new knowledge and the essential integration of medical and engineering specialists. The first step for that was to have not one, but two, congress chairmen, one medical and one technical: Prof. Nehrlich and Prof. Hammer. They made a unique program around the central topic 'Applied Biomechanics'. This topic was well chosen, because it was challenging for and could be understood by both groups, which is not obvious, since both groups have a different culture and language. It also attracted many young scientists and since they are the future, this was very good to note.

The conference dealt with the latest results in applied biomechanics, ranging from fundamental bone strength properties via bone remodelling phenomena to new implants that replace lost human functions. Also, new research areas like robot surgery and tissue engineering were discussed.

This conference is an excellent example of the activities of ESEM, the European Society for Engineering and Medicine that aims at stimulating and integrating research in Biomedical Engineering. One of the ways ESEM is stimulating research is by awarding excellent presentations, and during this conference an ESEM scientific award was issued.

The only drawback in organising a successful conference is that everybody expects that next year it will be organised again…

Prof. Dr. Bart Verkerke
ESEM president