On Launching a New Journal '*Biomedical Engineering Letters*' for Multidisciplinary Research

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Biomedical engineering is a multidisciplinary research area and has fulfilled the critical needs of modern medicine with the help of engineering technology. Initially, electrical, mechanical and material engineering were the key areas and though the integration of each discipline with medical and biological science, new healthcare technologies for diagnosis, monitoring and therapeutics were developed. Integrated science and engineering enabled the development of mechanical artificial organs including artificial heart, artificial limbs and cochlear implants, each of which is actively and broadly applied clinically. Recently, the rapid progress of biotechnology (BT), information technology (IT) and nano technology (NT) enabled more sophisticated design with broader biomedical impact. With the help of these emerging technologies, the development of artificial vision, neural engineering including brain-to-machine interfacing, molecular imaging and bio-optics has become an area of interest in biomedical engineering. Furthermore, the emerging technology enabled the improvement of conventional medical devices including pacemakers, infusion pumps, the heart-lung machine, dialysis machines, implants, cochlear implants and ocular prosthetics and the patients' quality of life was greatly improved.

In particular, the biomaterial engineering and biotechnology, including genetic engineering, have broadened the scope of biomedical engineering, and tissue engineering is representative interdisciplinary field that integrates the principles of engineering and life sciences. The goal of tissue engineering

is to create bio-artificial organs through the combination of cells and advanced engineering and materials methods, and now several engineered biological substitutes were reported to restore or maintain the function of the bone, cartilage, blood vessels, bladder and skin. As the area of biomedical engineering becomes wider and the specialized areas are complicated and diverse, the biomedical engineers lead to focus on a particular subfield or group of related subfields. They are less interested in other subfield and the extensive and active communication between biomedical engineers has been decreased. For example, the tissue engineers can stand to benefit from the communication with imaging or device expert, however, the lack of communication deprived of such benefit. Therefore, development of advanced biomedical technologies and advancement of biomedical engineering requires a convenient medium for communication. We expect *Biomedical Engineering Letters* to aid and promote communication between researchers of biomedical engineering. This journal targets to be a good avenue of communication for researchers from diverse areas, and will continuously provide emerging and cutting-edge information of biomedical engineering. Finally, we would like to appreciate Prof. Sun I. Kim, the immediate past President, and Prof. Do-Un Jeong, the current President of the Korean Society of Medical & Biological Engineering, for initiating this journal and Mr. Mark de Jongh of Springer-Verlag GmbH for accepting this conjoint publication.

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