Symposium Ⅱ-3

Improving the osseointegration of endosseous implants through thin film technology

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Surface modification with plasma techniques has gained increasing interest in the last decade to enhance the biological performance at the bio-implant interface since surface properties play a major role to determine the biocompatibility. Calcium phosphate and bioglass, which have the ability to bond to osseous and epithelial tissue, are often used as coatings since they do not have sufficient strength and toughness to be used by themselves as prosthesis materials. Both the composition and crystallinity of the calcium phosphate and bioglass coatings are important parameters for determining its dissolution characteristics, bone-bonding mechanism and the rate of bone formation. The ability to accurately control the composition is very important in determining the biocompatibility and the lifetime of coating. In this lecture, the bone-forming ability of thin calcium phosphate and bioglass coatinglayer formed by ion beam assisted deposition was discussed both in vitro and in vivo.

주요 학력 및 경력 :

He is currently at the Institute of Physics & Applied Physics, and Atomic-scale Surface Science Research Center in Yonsei University.He received B.Sc. in Metallurgical Engineering from YonseiUniversity in 1983, M.S. in Materials Science & Engineering from the University of Tennessee at Knoxville, TN in 1986, and Ph.D. in Materials Science & Engineering from the University of Tennessee at Knoxville, TN in 1989. His research interests are to develop biomaterials for implants, and have focused on improving the bio-implant interface. He has authored or co-authored over 90 pub-

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