

CAMT Seminar

“Plasma-assisted synthesis of chitosan-acrylic acid hydrogels”

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**Location: Main Conference Room (1st floor), Bldg. A12
Center for Atomic and Molecular Technologies (CAMT)
(A12 棟 1 階会議室)**

Abstract

For the past decade, the definition of biomaterials has transitioned from having inert materials for implantation in a living system, to an engineered substance which can interact with the living system. Materials such as metals, ceramics and polymers can generally be used to develop biomaterials. Polymeric biomaterials are one of the most easily manufactured biomaterial. Among this group, hydrogels are considered to be the most promising one for biomedical applications. Hydrogels resemble tissue-like functions because of their elasticity and water absorption ability. Depending on the type of polymer or crosslinking used, the structural integrity and physicochemical properties of hydrogels may be differentiated. In this study, a blend of natural and synthetic polymers, which are the chitosan and acrylic acid, was used to prepare the biocompatible hydrogels. The study also investigated the use of an atmospheric pressure plasma treatment to facilitate the hydrogel synthesis. The hydrogel forming ability and modification of atmospheric pressure plasma remain largely unexplored. The interaction of plasma in the chitosan and acrylic acid blend was examined in this study. Finally, the plasma-assisted hydrogels were compared with the pristine chitosan-acrylic acid hydrogels in terms of the physical, chemical, mechanical, and biological properties.

(Host: Satoshi Hamaguchi Ext:7913)