



## Department of Polymer Science & Rubber Technology

പോളിമർ-റബ്ബർ ശാസ്ത്ര സാങ്കേതിക വിഭാഗം

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Cochin University of Science & Technology

കൊച്ചി ശാസ്ത്ര സാങ്കേതിക സർവ്വകലാശാല

### Statement of research achievements on which awards have been received

I have been awarded the prestigious Young Scientist Award instituted by KSCSTE (Kerala State Council for Science, Technology and Environment), Govt. of Kerala in 2004. The work chosen for the award is development of Hydroxyapatite (HAP) integrated Chitosan-PAA polyelectrolyte complex –a mouldable scaffold for bone substitute applications. In this work, a simple method by which HAP can be integrated *in situ* into the polyelectrolyte complex matrix comprising chitosan and poly(acrylic acid). The composite is biocompatible with good mouldability and appreciable mechanical properties and can be used for making clinically relevant shapes for bone graft applications. In addition to ‘Young Scientist Award – 2004’ this work has also led to 3 publications in *J. Mater. Sci.*, *J. Appl Polym Sci* and *Acta Biomater*.

Another award is SPSI Gold Medal by Society of Polymer Science, India (Kerala) in 2009 for the best Ph.D. Thesis of the year. In addition to this, my Ph.D. work has been also recognized in conferences: Indo-Australian best poster award twice (2005 and 2007) and best paper award in National conference held at IIT Madras in 2005. My Ph.D. thesis proposed a novel surface phosphorylated copolymer by a new method for surface phosphorylation of polymers leading to remarkable cell adhesion and osteogenic properties. The protocol is proved in multiple polymers.

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