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M A T E R I A L S  
F O R U M

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## **“Interdisciplinary Development of Biomaterials for Tissue Regeneration”**

Historically, medical product development was based on materials that researchers could find and apply for example for implants (metals, ceramics, polymers and natural materials) and they were not developed specifically for medical applications. That brought risks such as low biocompatibility, strong foreign body reaction and failure due to corrosion and degradation.

The interdisciplinary approach developed in the recent years while involving engineers, chemists, biologists, and pharmacologists allowed to introduce polymers to medicine and functionalize devices or drug delivery systems.

Two examples of regenerative medicine are being used in order to explain the multidisciplinary cooperation approach :

- Knee defects can be treated no longer while using spare metal parts but now by regeneration of cartilage with cells, biomaterials and cytokines.
- Nerves can be regenerated while using soft co-polymers developed without acid degradation products.