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Tissue engineering lies at the crossroads of medicine, life sciences and engineering. The field has developed extensively over the last two decades, addressing the requirements of tissue and organ replacement as well as regeneration in a variety of congenital, traumatic, disease and aging-related conditions, including some of the most critical unmet challenges in modern medicine. Both our increased understanding of the biological basis of tissue engineering as well as significant technological advances mean that engineering design principles can now be used for the de novo construction of functional tissue replacements that meet the requirements of research and clinical applications.

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