

- **1 Introduction**
- **I Quantitative Cell and Tissue Biology**
- **2 Tissue Organization**
- **3 Tissue Dynamics**
- **4 Morphogenesis**
- **5 Stem Cells**
- **6 The Cellular Fate Processes**
- **7 Coordination**
- **II Cell and Tissue Characterization**
- **8 High-Throughput Biological Data**
- **9 Cell and Tissue properties**
- **10 Cell and Tissue Culture**
- **11 Gene Transfer**
- **III Engineering Methods and Design**
- **12 Time Constants**
- **13 Scaling-up**
- **14 Cell Separation**
- **15 Biomaterial Scaffolds**
- **16 Tailoring Biomaterials**
- **IV Clinical Implementation**
- **17 Conventional Approaches to Tissue Repair**
- **18 Host Integration**
- **19 Producing TE Therapies**
- **Tissue Engineering Study Problems**
- **Bibliography**
- **Index**