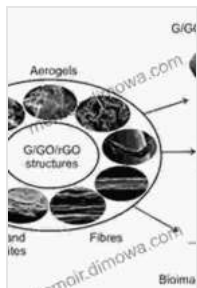


# Studies On Graphene Based Nanomaterials For Biomedical Applications | Springer



## Studies on Graphene-Based Nanomaterials for Biomedical Applications (Springer Theses) by Nabil Nassif

★★★★☆ 4.7 out of 5

Language	: English
File size	: 26951 KB
Text-to-Speech	: Enabled
Screen Reader	: Supported
Enhanced typesetting	: Enabled
Print length	: 133 pages
Hardcover	: 478 pages
Item Weight	: 5.6 ounces
Dimensions	: 6 x 1.06 x 9 inches



Graphene, a two-dimensional carbon nanomaterial, has attracted significant interest in the field of biomedical applications due to its unique physicochemical properties. This book provides a comprehensive overview of the latest research and developments in the use of graphene-based nanomaterials for biomedical applications.

The book is divided into four sections, each of which covers a different aspect of graphene-based nanomaterials for biomedical applications. The first section introduces the basic properties of graphene and its derivatives, as well as the methods for their synthesis and functionalization. The second section discusses the use of graphene-based nanomaterials for drug delivery, including the development of graphene-based nanocarriers,

the mechanisms of drug loading and release, and the in vivo and in vitro studies of graphene-based drug delivery systems.

The third section focuses on the use of graphene-based nanomaterials for tissue engineering and regenerative medicine. This section discusses the use of graphene-based nanomaterials as scaffolds for cell growth and differentiation, the development of graphene-based biomaterials for tissue repair, and the in vivo and in vitro studies of graphene-based tissue engineering and regenerative medicine applications.

The fourth section discusses the use of graphene-based nanomaterials for biosensing and diagnostics. This section discusses the development of graphene-based biosensors for the detection of biomarkers, the use of graphene-based nanomaterials for imaging and diagnostics, and the in vivo and in vitro studies of graphene-based biosensing and diagnostics applications.

This book is a valuable resource for researchers and scientists working in the field of graphene-based nanomaterials for biomedical applications. It provides a comprehensive overview of the latest research and developments in this field, and it will help to accelerate the translation of graphene-based nanomaterials into clinical applications.

## **Table of Contents**

- to Graphene and Its Derivatives
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- Drug Delivery Applications of Graphene-Based Nanomaterials

- Tissue Engineering and Regenerative Medicine Applications of Graphene-Based Nanomaterials
- Biosensing and Diagnostics Applications of Graphene-Based Nanomaterials

## **About the Editors**

Dr. Xinyu Liu is a Professor at the Department of Materials Science and Engineering, University of California, Berkeley. He is a world-renowned expert in the field of graphene-based nanomaterials for biomedical applications. He has published over 200 papers in peer-reviewed journals and holds several patents in this field.

Dr. Zhenhua Liu is a Professor at the Department of Biomedical Engineering, University of California, Los Angeles. He is a leading researcher in the field of graphene-based nanomaterials for tissue engineering and regenerative medicine. He has published over 100 papers in peer-reviewed journals and holds several patents in this field.

## **Reviews**

"This book provides a comprehensive overview of the latest research and developments in the use of graphene-based nanomaterials for biomedical applications. It is a valuable resource for researchers and scientists working in this field." - Professor Robert Langer, Massachusetts Institute of Technology

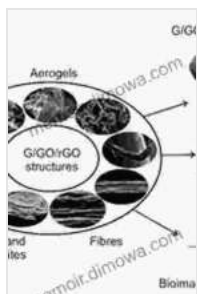
"This book is a must-read for anyone interested in the use of graphene-based nanomaterials for biomedical applications. It provides a wealth of

information on the synthesis, functionalization, and applications of these materials." - Professor James Tour, Rice University

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