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Titolo	Bollingen Series
Pubbl/distr/stampa	Princeton : Princeton University Press
Lingua di pubblicazione	Non definito
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2. Record Nr. UNINA9910788661403321

Titolo	An alpine anthology of homotopy theory : proceedings of the Second Arolla Conference on Algebraic Topology, August 24-29, 2004, Arolla, Switzerland / / Dominique Arlettaz, Kathryn Hess, editors
Pubbl/distr/stampa	Providence, Rhode Island : , : American Mathematical Society, , [2006] ©2006
ISBN	0-8218-7989-8 0-8218-5731-2
Descrizione fisica	1 online resource (228 p.)
Collana	Contemporary mathematics, , 0271-4132 ; ; 399
Disciplina	514/.24
Soggetti	Homotopy theory Algebraic topology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	""Contents""; ""Preface""; ""List of conference talks""; ""List of participants""; ""A note on the homology of a??n, the Schwartz genus, and solving polynomial equations""; ""A geometric construction of saturated fusion systems""; ""The orthogonal subcategory problem in homotopy theory""; ""Homotopy pull-back squares up to localization""; ""Traces and reduced group C*-algebras""; ""Integral cohomology of 2-local Hopf spaces with at most two non-trivial finite homotopy groups""; ""On the double suspension and the mod-p Moore space""; ""Rational extended Mackey functors for the circle group""

		""On the topological cyclic homology of the algebraic closure of a local field""""Realizing Kasparov's KK-theory groups as the homotopy classes of maps of a Quillen model category""; ""Homology commutators and P1 actions""
3.	Record Nr.	UNINA9911019678603321
	Autore	Azzaroni Omar
	Titolo	Graphene Field-Effect Transistors : Advanced Bioelectronic Devices for Sensing Applications
	Pubbl/distr/stampa	Newark : , : John Wiley & Sons, Incorporated, , 2023 ©2023
	ISBN	9783527843374 352784337X 9783527843398 3527843396 9783527843381 3527843388
	Edizione	[1st ed.]
	Descrizione fisica	1 online resource (446 pages)
	Altri autori (Persone)	KnollWolfgang
	Disciplina	621.3815284
	Soggetti	Graphene Field-effect transistors
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di contenuto	Cover -- Title Page -- Copyright -- Contents -- Foreword -- Preface -- Chapter 1 2D Electronic Circuits for Sensing Applications -- 1.1 Introduction -- 1.2 Graphene Inductors -- 1.2.1 Modeling of Graphene Inductors -- 1.3 Graphene Capacitors -- 1.3.1 Modeling Graphene Capacitors -- 1.4 2D Material Transistors -- 1.4.1 Most Common Topologies for Transistors -- 1.4.2 Modeling of 2D Materials-Based Transistors -- 1.5 2D Material Diodes -- 1.5.1 Most Common Topologies -- 1.5.2 Modeling of 2D Materials-Based Diodes -- 1.6 Graphene Devices -- 1.6.1 Graphene Frequency Multipliers -- 1.6.2 Graphene Mixers -- 1.6.3 Graphene Oscillators -- 1.6.3.1 Ring Oscillators -- 1.6.3.2 LC Tank Oscillators -- 1.7 Conclusion --

References -- Chapter 2 Large Graphene Oxide for Sensing Applications -- 2.1 Graphene Oxide (GO) -- 2.2 GO as Biosensors -- 2.3 Large GO -- 2.4 Mechanism of Large GO via Modified Hummers Method -- 2.5 Large GO (Modified Hummers Method) Biosensors -- 2.6 Mechanism of Large GO via Reduced GO Growth -- 2.7 Large GO (Reduced GO Growth) Biosensors -- 2.8 Conclusion -- 2.9 Further Developments -- References -- Chapter 3 Solution-Gated Reduced Graphene Oxide FETs: Device Fabrication and Biosensors Applications -- 3.1 Introduction -- 3.2 Graphene, Graphene Oxide, and Reduced Graphene Oxide -- 3.2.1 Chemical Reduction -- 3.2.2 Thermal Reduction -- 3.2.3 Electrochemical Reduction -- 3.3 rGO-Based Solution-Gated FETs -- 3.3.1 Manufacturing Strategies -- 3.4 Applications of rGO SG-FETs as Biosensors -- 3.4.1 rGO Functionalization -- 3.4.2 Enzymatic Biosensors -- 3.4.3 Affinity Biosensors -- 3.4.4 Debye Length Screening and How to Overcome It -- 3.5 Final Remarks and Challenges -- Acknowledgments -- References -- Chapter 4 Graphene-Based Electronic Biosensors for Disease Diagnostics -- 4.1 Introduction -- 4.1.1 A Promise for Diagnostics.
4.1.2 Principle of Graphene FET Sensor -- 4.2 Device Fabrication Process -- 4.2.1 Graphene Synthesis -- 4.2.2 Graphene Transfer Over Substrates -- 4.2.3 Fabrication of GFET -- 4.2.4 New Developments -- 4.3 Functionalization and Passivation -- 4.3.1 Probe Molecules -- 4.3.2 Immobilization of Probe Molecules -- 4.3.3 Debye Length -- 4.3.4 Passivation -- 4.4 CVD GFETs for Diagnostics -- 4.4.1 Graphene-Based FET Biosensors for Nucleic Acids -- 4.4.2 Graphene-Based FET Biosensors for Antibody-Antigen Interactions -- 4.4.3 Graphene-Based FET Biosensors for Enzymatic Biosensors -- 4.4.4 Graphene-Based FET Biosensors for Sensing of Small Ions -- 4.5 Discussion -- 4.5.1 Summary -- 4.5.2 Challenges -- 4.5.3 Future Perspectives -- References -- Chapter 5 Graphene Field-Effect Transistors: Advanced Bioelectronic Devices for Sensing Applications -- 5.1 Introduction -- 5.1.1 Bioelectronic Nose Using Olfactory Receptor-Conjugated Graphene -- 5.1.2 Bioelectronics for Diagnosis Using Bioprobe-Modified Graphene -- 5.1.3 Biosensors for Environmental Component Monitoring Using Graphene -- 5.2 Conclusion -- Acknowledgments -- References -- Chapter 6 Thin-Film Transistors Based on Reduced Graphene Oxide for Biosensing -- 6.1 Introduction -- 6.2 Working Principle of TFT-Based Biosensing -- 6.3 TFTs Based on rGO for Biosensing -- 6.3.1 Protein Detection -- 6.3.2 Metal-Ion Detection -- 6.3.3 Nucleic Acid Detection -- 6.3.4 Small Biomolecular Biosensor -- 6.3.5 Living-Cell Biosensor -- 6.3.6 Gas Detection -- 6.4 Conclusion -- References -- Chapter 7 Towards Graphene-FET Health Sensors: Hardware and Implementation Considerations -- 7.1 Introduction to Health Sensing -- 7.2 Graphene-FET in Liquid for Sensing -- 7.2.1 Graphene Transistors -- 7.2.2 Graphene Hall Structures in Liquid -- 7.2.3 Graphene Membrane Transistors -- 7.3 Device Implementation Considerations.
7.3.1 Hardware and Instrumentation -- 7.3.2 Biostability and Biocompatibility -- 7.3.3 Medical Imaging Compatibility -- References -- Chapter 8 Quadratic Fit Analysis of the Nonlinear Transconductance of Disordered Bilayer Graphene Field-Effect Biosensors Functionalized with Pyrene Derivatives -- 8.1 Introduction -- 8.2 Fabrication of Graphene-Based Field-Effect Biosensors -- 8.3 Fundamental Sensing Parameters of Graphene-Based Field-Effect Biosensors -- 8.4 Disordered Bilayer Graphene Field-Effect Biosensors Functionalized with Pyrene Derivatives -- 8.5 Quadratic Fit Analysis of the Nonlinear Transconductance of Disordered Bilayer Graphene Field-Effect

with Conducting Polymers -- 16.1 Introduction -- 16.2 Functionalization of Graphene Transistors with Poly(3-amino-benzylamine-co-aniline) Nanofilms -- 16.3 Construction of Acetylcholine Biosensors Based on GFET Devices Functionalized with Electropolymerized Poly(3-amino-benzylamine-co-aniline) Nanofilms -- 16.4 Glucose Detection by Graphene Field-Effect Transistors Functionalized with Electropolymerized Poly(3-amino-benzylamine-co-aniline) Nanofilms -- 16.5 Conclusions -- References -- Chapter 17 Graphene Field-Effect Transistors for Sensing Stress and Fatigue Biomarkers -- 17.1 Introduction -- 17.2 Molecular Biomarkers -- 17.3 Graphene Field-Effect Transistor Based Biosensors -- 17.3.1 Graphene -- 17.3.2 Structure of Graphene Field-Effect Transistors -- 17.3.3 Sensing Mechanism of GFET Biosensors -- 17.4 GFET Biosensor Fabrication -- 17.4.1 Graphene Production -- 17.4.2 Device Fabrication -- 17.4.3 Graphene Functionalization -- 17.5 GFET-Based Stress and Fatigue Biosensors -- 17.6 Flexible, Wearable GFET Biosensors, and Biosensor Systems.
17.7 Current Challenges and Future Perspective.

Sommario/riassunto

This book, edited by Omar Azzaroni and Wolfgang Knoll, explores the advanced applications of graphene field-effect transistors (FETs) in bioelectronic sensing devices. It covers a broad range of topics, including the modeling, fabrication, and application of graphene-based electronic components like inductors, capacitors, and diodes. Key focus areas include the use of graphene and its derivatives, such as graphene oxide and reduced graphene oxide, in biosensors for disease diagnostics, environmental monitoring, and health sensing. The book also discusses the mechanisms of graphene FETs operating in liquid environments, surface modification strategies for enhanced sensing capabilities, and hybrid graphene FETs for gas detection. Intended for researchers and professionals in the fields of materials science, electronics, and bioengineering, the book provides comprehensive insights into the potential of graphene technologies in developing innovative sensing solutions.