Table of Contents

Preface

Chapter 1
Graphene Processing

(Invited) Rethinking High-Performance CVD Graphene Nanoelectronics on Oxidized Silicon
D. Akinwande, L. Tao

(Invited) Challenges of Graphene Growth on Silicon Carbide
R. Yakimova, G. R. Yazdi, T. Iakimov, J. Eriksson, V. Darakchieva

(Invited) Growth Kinetics and Uniform Scaling-up of Graphene Synthesis
K. Celebi, M. T. Cole, N. Rupesinghe, P. Greenwood, L. Tao, D. Akinwande,
J. Robertson, H. G. Park, K. B. K. Teo

(Invited) Carbon 1D/2D Nanoelectronics: Advances in Synthesis and Integration
J. M. Parker, X. Chen, L. Liyanage, A. Tang, H. S. P. Wong

Chapter 2
Graphene Characterization

(Invited) Thermal Transport in Graphene and Graphene-based Composites
J. Hu, W. Park, X. Ruan, Y. P. Chen

(Invited) Theoretical Study of Silicene and Germanene
M. Houssa, B. van den Broek, E. Scalise, G. Pourtois, V. Afanas'ev, A. Stesmans

(Invited) Integration and Characterization of Graphene-Insulator-Graphene Junctions
Identification of Deep Levels Associated with Extended and Point Defects in GeSn Epitaxial Layers Using DLTs
S. Gupta, E. Simoen, H. Vrielinck, C. Merckling, B. Vincent, F. Gencarelli, R. Loo, M. Heyns

Semi-Metal Nanowire Transistors from First Principle Calculations
L. Ansari, G. Fagas, J. C. Greer

Chapter 7
Optoelectronics and Power Devices

(Invited) Indirect Conversion Digital X-Ray Imager Using an Amorphous Selenium Photoconductor
S. Abbaszadeh, R. Keshavarzi, K. Wang, K. S. Karim

ALD HfO₂ and Al₂O₃ as MIM Capacitor Dielectric for GaAs HBT Technology
J. Yota

Effect of Different Patterns Epitaxial Lift-Off Process by Finite Element Method

Novel Cross-Linked Ortho-Carborane and Ortho-Carborane: Y (Y=1,4-Diaminobenzene, Pyridine, Benzene) Polymer Films: A New Class of Carborane-Based Materials with Tunable Electronic Structure
F. L. Pasquale, R. James, R. Welch, E. Echeverria, P. A. Dowben, J. A. Kelber

Chapter 8
Poster Session

Application of an Extended Unified Schottky-Poole-Frenkel Model to High-k Capacitor Structures Used in Analog Integrated Circuit Technology
W. S. Lau

Characteristics of Low Temperature High Quality Silicon Oxide by Plasma Enhanced Atomic Layer Deposition with In Situ Plasma Densification Process
Interface Trap Redistribution and Deep Depletion Behavior of Non-Planar MOS with Ultra Thin Oxide Grown by Anodic Oxidation

P. H. Tseng, J. G. Hwu

Effect of Composition Rate on Erbium Silicide Work Function on Different Silicon Surface Orientation

H. Tanaka, A. Teramoto, T. Motoya, S. Sugawa, T. Ohmi

Effect of Moisture on Electrical and Reliability Characteristics for Dense and Porous Low-k Dielectrics

Y. L. Cheng, J. F. Huang, W. Y. Chang, Y. M. Chang, J. Leu

Experimental Observation of Poole-Frenkel Saturation in an Ultrathin Tantalum Oxide Capacitor Structure

W. S. Lau

Author Index