

Microelectronics Technologies and Devices

PRESENTATION/ SESSION 1

May 13, 2015, Wednesday

11:00 AM-1:00 PM

Track 4

E3-06-13

Wang Tao

Broadband Piezoelectric Micromachined Ultrasonic Transducer (pMUT) Using Mode-Merged Design

Dong Yuan

Germanium-Tin on Silicon Avalanche Photodiode for Short-Wave Infrared Imaging

Lei Dian

High Mobility Germanium-Tin (Ge_{0.93}Sn_{0.07}) P-MOSFETs with Surface Passivation by Silicon Atomic Layer Epitaxy

Goh Kian Hui

Novel Short-Channel In_{0.53}Ga_{0.47}As Junctionless Nanowire nFET with Raised S/D Structure: An Ultimately Scaled 1-D Transistor Architecture

Sachin

Negative Differential Resistance in InAlAs/InGaAs MOSHEMTs

Ye Lin Thu

Study of The Effect of Protective Layer on The Performance of Germanium Anode Lithium-ion Battery

PRESENTATION/ SESSION 2

May 13, 2015, Wednesday

02:00-04:00 PM

Track 4

E3-06-13

Vinodh Shanmugam

Analysis of Fine Line Screen and Stencil Printed Metal Contacts for Silicon Wafer Solar Cells

Siew Shawn Yohanes

Ultra-Smooth Ridge Waveguides and Ring Resonators in Titanium Diffused Lithium Niobate

Ang Shan Zheng

Optomechanical Force Estimation

Sun Ruize

Prompt Estimation of Vacancy Density in Low Thermal Budget Quasi-ohmic or Schottky Contacts in AlGa_N/Ga_N HEMTs

Tong Yu

MoS₂ Oxygen Sensor with Gate Voltage Stress Induced Performance Enhancement

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PRESENTATION/ SESSION 3

May 14, 2015, Thursday

11:00 AM-1:00 PM

Track 4

E3-06-13

Weimin Li

Analysis of Microstructure and Surface Morphology of Sputter Deposited Molybdenum Back Contacts for CIGS Solar Cells

Liu Zhe

Luminescence Imaging Analysis of Light Trapping in Crystalline Silicon PV modules

Wang Dacheng

An Ultrathin Terahertz Quarter-wave Plate Using Planar Babinet-inverted Metasurface

Gao Minmin

Fine Structural Tuning of Whereabout and Clustering of Metal–metal Oxide Heterostructure for Optimal Photocatalytic Enhancement and Stability

Zhang Xiaoyi

Surface Orientation Effect with Different Body Thicknesses and EOTs of GaSb Double-gate Ultra-Thin-Body MOSFET

PRESENTATION/ SESSION 4

May 14, 2015, Thursday

02:00-04:00 PM

Track 4

E3-06-13

Mengjie Li

Modelling and Characterisation of BBr₃ Boron Diffusion Process for n-type Si Wafer Solar Cells

Li Chengguo

Polarity Inversion of GaN by Group-III Source Preflow in Metal-organic Chemical Vapor Deposition

Hou Haowen

Edge Plasmons and Cut-off Behavior of Graphene Nano-ribbon Waveguides

Yang Li

Optimization of Short Channel Ferroelectric MOSFET for Low Power Circuit Application

Prakash Pitchappa

Interpixelated MEMS Metamaterial

Dihan Md. Nuruddin Hasan

Dipolar Resonance Enhancement and Magnetic Resonance in Cross-coupled Bow-tie Nanoantenna Array by Plasmonic Cavity

Microelectronics Technologies and Devices

POSTER/SESSION 2
LT2 Area

May 14, 2015, Thursday
10:00-11:00 AM

Ang Wei Kean

Direct Ray Tracing of Scanning Electron Microscope Optics from Cathode-tip to Specimen

Banerjee Karan Dhrubojoti

Magnetic Proximity in the Topological Insulator BiSbTeSe₂

Dihan Md. Nuruddin Hasan

Fabrication and Characterization of Fractal Inspired Designs of Plasmonic Nanostructures

Dong Yuan

Germanium-tin on Silicon p-i-n Photodiode with Low Dark Current due to Sidewall Surface Passivation

Gao Minmin

Green Chemistry Synthesis of a Nanocomposite Graphene Hydrogel with Three-Dimensional Nanomesopores for Photocatalytic H₂ Production³

Goh Kian Hui

First Demonstration of Vertically Stacked III-V Nanowire CMOS Integrated on a Common Si Platform Enabled by Extremely-Thin Buffer Layer Technology

Han Weiding

Investigation of Electron Optics in Electron Energy Analyzer Due To Axis Misalignment

Li Chengguo

Growth and Characterizations of Indium Nitride Grown on Different Buffer Layers by Metal-organic Chemical Vapour Deposition

Liu Zhe

Impact of Rear Internal Reflectance on Photocurrent in Silicon Wafer Solar Cells

Prakash Pitchappa

Electromechanically Reconfigurable Terahertz Metamaterial with Polarization Insensitive Characteristics

Wang Hao

Convection-driven Long-range Linear Gradient Generator with Dynamic Control Function

Weimin Li

Molybdenum Back Contact with TiN_x Diffusion Barrier Layer for CIGS Solar Cells

Yang Li

Quantitative Analysis and Prediction of Experimental Observations on Quasi-static Hysteretic Metal-Ferroelectric-Metal-Insulator-Semiconductor FET based on Landau Theory

Zhang Xiaoyi

Performance Simulation of Novel Devices with Improved Top of Barrier Model and Real-space Atomistic Potential Profile

Zhao Yunshan

Anisotropy in Thermal Conductivity of Phase Change Ge₂Sb₂Te₅ Nanowires