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5 – 6 November 2012**



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Lunch Break

12:30 – 2:00 p.m.

Parallel Sessions

2:00 – 4:30 p.m.

Session : MM&SST - Memristor and Memristive System & Solid State Devices and Technology

Room : Seraya Room

Chairperson : Uzer Mohd Noor (Universiti Teknologi MARA, Malaysia)

2:00 - **Poly Silicon Resistance Uniformity Improvement by Implant Tuning**

Tiong Ung Chiong (XFab Sarawak Sdn Bhd, Malaysia); Jing BoChao (Diffusion, P.R. China)

2:20 - **Magnetic and electronic properties of Be-doped low-temperature grown GaAs layers**

Mohd Ambri Mohamed (Japan Advanced Institute of Science and Technology, Japan); Pham Tien Lam (Japan Advanced Institute of Science and Technology, Japan); Nobuo Otsuka (Japan Advanced Institute of Science and Technology, Japan)

2:40 - **Self Consistent Simulation of C-V Characterization and Ballistic Performance of Double Gate SOI Flexible-FET Incorporating QM Effects**

Zubair Al Azim (Bangladesh University of Engineering and Technology & Green University of Bangladesh, Bangladesh); Nadim Chowdhury (Bangladesh University of Engineering and Technology, Bangladesh); Imtiaz Ahmed (Bangladesh University of Engineering and Technology, Bangladesh); Iftikhar Ahmad Niaz (Green University of Bangladesh, Bangladesh); Md. Hasibul Alam (Bangladesh University of Engineering and Technology, Bangladesh); Quazi Khosru (Bangladesh University of Engineering and Technology, Bangladesh)

3:00 - **Self-Consistent C-V Characterization of Depletion Mode Buried Channel InGaAs/InAs Quantum Well FET Incorporating Strain Effects**

Imtiaz Ahmed (Bangladesh University of Engineering and Technology, Bangladesh); Iftikhar Ahmad Niaz (Green University of Bangladesh, Bangladesh); Md. Hasibul Alam (Bangladesh University of Engineering and Technology, Bangladesh); Nadim Chowdhury (Bangladesh University of Engineering and Technology, Bangladesh); Zubair Al Azim (Bangladesh University of Engineering and Technology & Green University of Bangladesh, Bangladesh); Quazi Khosru (Bangladesh University of Engineering and Technology, Bangladesh)

3:20 - **The Effect of Electrode Size on Memristor Properties: An Experimental and Theoretical Study**

Ella M Gale (University of the West of England, United Kingdom); Benjamin de Lacy Costello (University of the West of England, Bristol, United Kingdom); Andy Adamatzky (University of the West of England, United Kingdom)

3:40 - **Filamentary Extension of the Mem-Con theory of Memristance and its Application to Titanium Dioxide Sol-Gel Memristors**

Ella M Gale (University of the West of England, United Kingdom); Benjamin de Lacy Costello (University of the West of England, Bristol, United Kingdom); Andy Adamatzky (University of the West of England, United Kingdom)

Session : DSA – Digital Systems and Applications
Room : Meranti Room
Chairperson : Syed Abdul Mutalib Al-Junid (Universiti Teknologi MARA, Malaysia)

- 2:00 - **Efficient Implementation Of AES Algorithm in Hardware** *****
Rozita Borhan (Mimos Berhad, Malaysia); Raja Mohd Fuad Tengku Aziz (MIMOS Bhd, Malaysia)
- 2:20 - **A Study of Signed Multipliers on FPGAs** ****
Ahmed Sayed (HD, Egypt); Mohamed Ahmed Aly (Varkon Semiconductors, Egypt)
- 2:40 - **Contactless Check-ins Using Implied Locations: A NFC solution simplifying Business to Consumer Interaction in Location Based Services** *****
Avinash Nandwani (Lancaster University, United Kingdom); Reuben Edwards (Lancaster University, United Kingdom); Paul Coulton (Lancaster University, United Kingdom)
- 3:00 - **The Development of Tiny Encryption Algorithm (TEA) Crypto-Core for Mobile Systems** *****
Stephanie Ang (University Malaysia Perlis, Malaysia); Siti Zarina Md Naziri (Universiti Malaysia Perlis, Malaysia); Norina Idris (Universiti Malaysia Perlis, Malaysia)
- 3:20 - **Off-Line Testing of a d-q axis WPT Based Hybrid Digital Technique for Salient Pole Synchronous Generator Differential Protection** *****
Adel Aktaibi (Memorial University of Newfoundland, Canada); Aziz Rahman (IEMD - Chair, Canada)
- 3:40 - **SASC: A Hardware String Alignment Coprocessor for Stereo Correspondence** *****
Mario Vigliar (University of Salerno, Italy); Michele Fratello (University of Salerno, Italy); Luca Puglia (University of Salerno, Italy); Giancarlo Raiconi (University of Salerno, Italy)

Session : SST & EAM – Solid State Devices and Technology & Emerging and Advanced Materials
Room : Balau Room
Chairperson : Sukreen Hana Herman (Universiti Teknologi MARA, Malaysia)

- 2:00 - **Electroluminescence and photoluminescence properties of porous silicon nanostructures with optimum etching time of photo-electrochemical anodization** *****
Maslihan Ain Zubaidah (Universiti Teknologi MARA Malaysia, Malaysia); Mohamad Rusop (Universiti Teknologi MARA - UiTM & NANO-SciTech Centre / NANO-ElecTronic Centre, Malaysia); Saifollah Abdullah (Universiti Teknologi MARA Malaysia, Malaysia)
- 2:20 - **Parameters Optimization of a Heterojunction Thin Film Solar Cell to Improve the Conversion Efficiency** *****
Yeasir Arafat (Bangladesh University of Engineering and Technology, Bangladesh); Md. Jannatul Ferdous (Bangladesh University of Engineering and Technology, Bangladesh); M. M. Shahidul Hassan (Bangladesh University of Engineering and Technology (BUET), Bangladesh)
- 2: 40 **I-V Characteristics Model for ballistic Single Wall Carbon Nanotube Field Effect Transistors (SW-CNTFET)** *****
Mostafa Fedawy (AAST, Egypt)

3:00 - **Hybrid Conjugated Polymer / Quantum Dots Thin Films for Electronics Application**
Fatin Naning (Universiti Pendidikan Sultan Idris, Malaysia); Syed Abdul Malik Syed Mohamad (Universiti Pendidikan Sultan Idris, Malaysia); Faridah Lisa Supian (Universiti Pendidikan Sultan Idris, Malaysia)

3:20 - **Effect of Synthesis Time on Carbon Nanotubes Growth from Palm Oil as Carbon Source by Thermal Chemical Vapor Deposition Method**
Suriani Abu Bakar (Universiti Pendidikan Sultan Idris, Malaysia); Nur Azmina Mohamed Safian (Universiti Pendidikan Sultan Idris, Malaysia); Salina Mohamad (Universiti Industri Selangor, Malaysia); Nor Dalila Abd. Rahman (Universiti Pendidikan Sultan Idris, Malaysia); NurFalina Alias (Universiti Pendidikan Sultan Idris, Malaysia); Rosly Jaafar (Universiti Pendidikan Sultan Idris, Malaysia); Mohamad Rusop (Universiti Teknologi MARA - UiTM & NANO-SciTech Centre / NANO-ElecTronic Centre, Malaysia)

3:40 - **Effect Of Catalysts On The Growth Of Carbon Nanotubes From Palm Oil Precursor**V °
Nur Azmina Mohamed Safian (Universiti Pendidikan Sultan Idris, Malaysia); Suriani Abu Bakar (Universiti Pendidikan Sultan Idris, Malaysia); Noor Asnida Asli (NANO-SciTech, Institute Of Science, Universiti Teknologi MARA, MALAYSIA, Malaysia); Salina Mohamad (Universiti Industri Selangor, Malaysia); Maryam Mohammad (University of Technology MARA & NANO-SciTech Centre, Institute of Science, Malaysia); Muhammad Salleh Shamsudin (Universiti Teknologi MARA, Malaysia); Roslan Md Nor (Universiti Malaya, Malaysia); Mohamad Rusop (Universiti Teknologi MARA - UiTM & NANO-SciTech Centre / NANO-ElecTronic Centre, Malaysia)

Afternoon Tea Break and Networking

4:30 – 5:00 p.m.

Conference Dinner

8:00 – 10:00 p.m.

End of Day 1

Tuesday, 5th November

Session: Keynote Session (Chairperson: Uzer Mohd Noor, UiTM Malaysia)

Room: Seraya Room Time: 9:00 – 10:00 a.m.

Speaker: Assoc. Prof. Dr. Susumu Horita, Japan Advanced Institute of Science and Technology, Japan

Title: Low-Temperature Fabrication of Crystallized Si Films for Display and Solar Cell Applications

Abstract

Poly- or microcrystalline silicon (poly-Si) films fabricated at low temperature are of great interest for electron devices on temperature sensitive and cheap substrates. Thin film transistor (TFT) in active matrix flat panel display and solar cell are proper applications of the poly-Si films. So far, in order to obtain large grains with higher carrier mobility and long life time of minority carrier, solid phase crystallization (SPC), metal-induced lateral crystallization (MILC), and melting-crystallization by pulse laser annealing (PLA) have been proposed, in which a-Si films deposited on substrates are crystallized by annealing. SPC method has the demerits of high process temperature ($> 600\text{ }^{\circ}\text{C}$) and long annealing time (> 12 hours). Although MILC method overcomes these issues on SPC method, the impurity concentration is higher than $10^{18}/\text{cm}^3$, which induces large leakage current in Tr and shorten minority carrier. PLA method has advantages over the other methods, such as low thermal budget, large grain size, i.e., higher mobility, and low impurity concentration. However, a crystallized Si film is consisted of random oriented and size grains, which results in poor uniformity in device performance.

In order to overcome the above issues, we have been proposing the two kinds of unique methods. The one is melting-crystallization method using a linearly polarized Nd:YAG pulse laser. This method can control temperature profile of molten Si film to allow crystallization growth smoothly by producing a periodic energy distribution spontaneously on the irradiated Si film. The other is solid phase crystallization method using an induction layer for low-crystallization (crystallization-induction layer: CI layer) to cover amorphous surface of a substrate. Since the CI layer is polycrystalline dielectrics with a similar lattice constant and crystal structure to Si, this method can be expected to produce poly-Si films at low temperature in high mass production, by stimulating crystallization due to crystallographic information of the CI layer. In this presentation, after introducing the two methods, they are shown to be attractive and useful as low-temperature crystallization techniques based on an abundance of experimental data.

Speaker Biography

Susumu Horita received his B. S. degree in electrical engineering from Kanazawa University, Kanazawa, Japan, in 1982 and the M.S. and Ph. D degree in applied electronics from Tokyo Institute of Technology, Tokyo, Japan, in 1984 and 1987, respectively. In 1987, he joined as a Research Associate with the Department of Electrical and Computer Engineering, Kanazawa University, where he became a Lecture in 1988 and an Associate Professor in 1992. Since 1995, he has been an Associate Professor with the Graduate School of Materials Science, Japan Advanced Institute of science and Technology, Japan. His research interests are in the areas of ferroelectric memory, thin film transistors, and film formation process of electron devices. Dr. Horita is a member of the Materials Research Society, the Japan Society of Applied Physics, the Surface Science Society of Japan, and the Institute of Electronics Information and Communication Engineers. He is currently an Editor of Japanese Journal of Applied Physics and Applied Physics Express, and has been a program/executive committee member of the International Workshop on Active-Matrix Flatpanel Displays and Devices (AM-FPD) from 2010, and a program committee member of the International Display Workshops (IDW) from 2003.

Email: horita@jasit.ac.jp

Morning Tea Break and Networking

10:00 – 10:30 a.m.

Parallel Sessions

10:30 – 12:30 p.m.

Session : CTA1 – Communications Technology and Applications 1

Room : Seraya Room

Chairperson : Nasser Qaddoumi (American University of Sharjah, UAE)

- 10:30 - **Optimization of Diode Model for Enhancing the Efficiency of RF Energy Harvesting Circuit** *****
Lutfi Albasha (American University Of Sharjah, UAE); Khaled Salem Alnuaimi (American University Of Sharjah, UAE); Nasser Qaddoumi (American University of Sharjah, UAE)
- 10:50 - **Design of an RF - DC Conversion Circuit for Energy Harvesting** *****
Kavuri K A Devi (Universiti Tenaga Nasional, Malaysia)
- 11:10 - **Design and Prototype Implementation of SMS Based Home Automation System** *****
Hassan El Kamchouchi (Alexandria University, Egypt); Ahmed ElShafee (Ahram Canadian University, Egypt)
- 11:30 - **Achievement of Novel Multicarrier CDMA with Various Modulation Techniques** *****
Mayada Faris Ghanim (Universiti Tun Hussein Onn Malaysia, Malaysia); Mohammad Faiz Liew Abdullah (Universiti Tun Hussein Onn Malaysia (UTHM) & Deputy Dean Research & Development, Malaysia)
- 11:50 - **System Consideration on LTE and LTE-Advanced Requirements for Receiver Channel Filter** *****
Bassam Swaked (American University of Sharjah, UAE); Mohamad Hallal (American University of Sharjah, UAE); Lutfi Albasha (American University Of Sharjah, UAE)
- 12:10 - **Performance study on implementation of DVB-S2 Low Density Parity Check Codes on Additive White Gaussian Noise channel and Rayleigh fading channel** *****
Hanady Hussien (Arab Academy for Science and Technology and Maritime Transport, Egypt); Khaled Ali Shehata (Arab Academy for Science and Technology, Egypt); Mohamed Khedr (Arab Academy for Science and Technology, Egypt); Sherry Hareth (Arab Academy for Science and Technology and Maritime Transport, Egypt)

Session : AD1 – Analog Design 1

Room : Meranti Room

Chairperson : Asst. Prof. Dr. Jefferson Hora (MSU-Iligan Institute of Technology, Philippines)

- 10:30 - **A Novel 3-TFT AMOLED Pixel Driver for Threshold Voltage Shift Compensation** *****
Mehdi Amiri (School of Electrical and Computer Engineering, College of Engineering, University of Tehran, Iran); Ashkan Roshan Zamir (School of Electrical and Computer Engineering, University of Tehran, Iran); Saharnaz Shahin (School of Electrical and Computer Engineering, University of Tehran, Iran); Shahin Ashtiani (University of Tehran, Iran)

10:50 - **Design of a 4-6GHz Wideband LNA in 0.13 μ m CMOS Technology**

Sana Arshad (NED University of Engineering & Technology, Pakistan); Faiza Zafar (NED University of Engineering & Technology, Pakistan); Qamar-ul Wahab (Linkopings University, Sweden)

11:10 - **A Fully Integrated Pulse Charge Generator embedded in a 64-channel readout ASIC dedicated to a PET/CT detector module**

Mohamed Walid Ben attouch (Université de Sherbrooke, Canada)

11:30 - **A Low Power, Self-Biased, Bandwidth Tracking Semi-Digital PLL Design**

Mitesh Yogesh (Linköping University, Sweden); Markus Dietl (Texas Instruments, Germany); Puneet Sareen (Texas Instruments, Germany); Ketan Dewan (Texas Instruments, Germany)

11:50 - **DDTA and DDCCTA: New Active Elements for Analog Signal Processing**

Montree Kumngern (King Mongkut's Institute of Technology Ladkrabang, Thailand)

12:10 - **Voltage-Mode Universal Filter with One Input and Five Outputs Using Five OTAs, Two Grounded Capacitors and One Resistor**

Montree Kumngern (King Mongkut's Institute of Technology Ladkrabang, Thailand)

Session : AD & ICE – Analog Design & Industrial and Consumer Electronics

Room : Balau Room

Chairperson : Prof. Selim Borekci (Akdeniz University, Turkey)

10:30 - **40nm CMOS DC-DC PWM boost converter for high power audio in mobile application**

Filippo Maria Neri (Samsung Electronics, Korea); Fabio di Fazio (ST-Ericsson, Switzerland); Srinivas Lonka (Aura Semiconductor, India); Shyam Somayajula (Aura Semiconductor, India); Lionel Cimaz (ST-Ericsson, France); Sophie Cahu (ST-Ericsson, France); Rossano Pantaleoni (IPSIS, France)

10:50 - **40nm CMOS White LED Driver for Mobile Display Application**

Filippo Maria Neri (Samsung Electronics, Korea); Rossano Pantaleoni (IPSIS, France); Shyam Somayajula (Aura Semiconductor, India); Arnold D'Souza (Aura Semiconductor, India); Ankit Seedher (Aura Semiconductor, India); Chiara Martelli (ST-Ericsson, Switzerland)

11:10 - **Interference Rejection in UWB LNA using Front-End Triode MOSFET**

Hossein Rezaei (Department of Electrical and Electronics Engineering, Shiraz University of Technology, Iran); Ebrahim Abiri (Shiraz iran, Iran); MohammadReza Salehi (Shiraz University of Technology, Iran)

11:30 - **UWB LNA with Out-band Interference Rejection Exploiting Multistage Matching Circuit**

Hossein Rezaei (Department of Electrical and Electronics Engineering, Shiraz University of Technology, Iran); Ebrahim Abiri (Shiraz iran, Iran); MohammadReza Salehi (Shiraz University of Technology, Iran)

11:50 - **Miniaturization of a UWB Antenna With Dual Band-Notched at WLAN/WiMAX Frequency Bands**

Emad Tammam (Egypt-Japan University of Science and Technology & Minia University, Egypt); Kuniaki Yoshitomi (Kyushu University, Japan); Ahmed Allam (Egypt-Japan University of Science and Technology, Egypt); Mohamed El-Sayed (Alexandria University, Egypt); Haruichi Kanaya (Kyushu University, Japan); Keiji Yoshida (Kyushu University, Japan)

Lunch Break

12:30 – 2:00 p.m.

Parallel Sessions

2:00 – 4:00 p.m.

Session : CTA2 – Communications Technology and Applications

Room : Seraya Room

Chairperson : Prof. Lutfi Albasha (American University of Sharjah, UAE)

2:00 - A Study of SIP Trunk Security and Challenges

Aws Jaber (NAv6 & Universiti Sains Malaysia, Malaysia); Selvakumar Manickam (Research Officer, Malaysia); Sureswaran Ramadass (, Malaysia)

2:20 - Advantages of MIMO Waveform in Sidelobe blanker system

Amirsadegh Roshanzamir (Sharif University of Technology, Iran); Mohammad Hassan Bastani (Sharif University of Technology, Iran)

2:40 - FPGA Implementation of CCSDS BCH (63, 56) for Satellite Communication

Arunkumar S (Anna University, Chennai, India); Kalaivani T (Anna University, Chennai, India)

3:00 - Simulation of Novel non-Adjacent Component Carriers in LTE-Advanced

Aws Zuheer Yonis (Universiti Tun Hussein Onn Malaysia, Malaysia); Mohammad Faiz Liew Abdullah (Universiti Tun Hussein Onn Malaysia (UTHM) & Deputy Dean Research & Development, Malaysia)

Session : AD2 – Analog Design 2

Room : Meranti Room

Chairperson : Ketan Dewan (Texas Instruments, Germany)

2:00 - A Capacitor Cross-Coupled Differential Cascode Low-Noise Amplifier

Maryam Khalili (Shahed, Iran); Mohsen Jalali (Shahed University, Iran)

2:20 - Very Low Bandgap Voltage Reference with High PSRR Enhancement Stage Implemented in 90nm CMOS Process Technology for LDO Application

Jefferson A. Hora (MSU-Iligan Institute of Technology & College of Engineering, EECE Dept., Philippines); Keith Francisco (Analog Devices, Philippines)

2:40 - On-chip Capacitor Low Dropout Voltage Regulator Implemented in 90nm CMOS Technology Process

Jefferson A. Hora (MSU-Iligan Institute of Technology & College of Engineering, EECE Dept., Philippines)

3:00 - 2- π Crosstalk Noise Model for Deep Submicron VLSI Global RC Interconnects

Rajib Kar (National Institute of Technology, Durgapur, India); Ms Anushree (Hindustan College of Science and Technology, India); Saupayan Mazumdar (National Institute of Technology, Durgapur, India); Durbadal Mandal (National Institute of Technology, Durgapur, India); Anup Bhattacharjee. (National Institute of Technology, India); Vikas Maheshwari (NIT Durgapur, India)

3:20 - **A Low Power 2.4-GHz Current Reuse VCO for Low Power Miniaturized Transceiver System**
Md. Basar (University Malaysia Perlis, Malaysia); Mohd Fareq Abd Malek (Universiti Malaysia Perlis, Malaysia); Khairudi Mohd Juni (Politeknik Tuanku Syed Sirajuddin, Malaysia); Mohd Iskandar Mohd Saleh (Politeknik Tuanku Syed Sirajuddin, Malaysia); Mohd Shaharom Idris (Malaysia & Politeknik Tuanku Syed Sirajuddin, Malaysia)

3:40 - **A UHF Micro-Power CMOS Rectifier Using a Novel Diode Connected CMOS Transistor for Micro-Sensor and RFID Applications**
Reza Shokrani (Universiti Putra Malaysia & Farand Co, Iran); Mohd Nizar Hamidon (University Putra Malaysia, Malaysia); Mojtaba Khoddam (Kavosh Com Asia R&D Group, Iran); Vali Najafi (Sharif University of Technology, Iran)

Session : ICE & BA – Industrial and Consumer Electronics & Biomedical Applications
Room : Balau Room
Chairperson : Filippo Maria Neri (Samsung Electronics, Korea)

2:00 - **An Accurate Way of Determining BJT's Switching Loss in Medium and High Voltage Applications**
Selim Borekci (Akdeniz University, Turkey); Nihal Cetin (R. Asst., Turkey)

2:20 - **Gender Classification Based on Human Radiation Frequencies of Chakra Points and Brain Regions**
Mohamad Hushnie Haron (Universiti Teknologi MARA, Malaysia); Mohd Nasir Taib (Universiti Teknologi MARA, Malaysia); Megat Syahirul Amin Megat Ali (Universiti Teknologi MARA, Malaysia); Siti Zura A. Jalil (Universiti Teknologi Malaysia International Campus & Universiti Teknologi MARA, Malaysia); Megawati Mohd Yunus (Universiti Teknologi MARA, Malaysia)

2:40 - **Implementation of Multiple Linear Regressions in Lubricant Degradation Prediction Algorithm**
Rosnani Yahya (Universiti Teknologi MARA, Malaysia); Mohd Faizul Md Idros (Universiti Teknologi Mara, Malaysia)

3:00 - **Electronic Properties and Electrical Characteristics Of Modified PEDOT:PSS As A Buffer Layer In Organic Solar Cell**
Zurianti Rahman (University Of Malaya, Malaysia)

3:20 - **A Low-Power Noncoherent BPSK Demodulator for Implantable Medical Devices**
Bahareh Beheshti (Shahed University, Iran); Mohsen Jalali (Shahed University, Iran)

3:40 - **Microcalcifications Segmentation using Three Edge Detection Techniques**
Siti Salmah Yasiran (Universiti Teknologi Mara, Malaysia); Abdul Kadir Jumaat (University Teknologi MARA, Malaysia); Aminah Malek (UiTM, Malaysia); Rozi Mahmud (Universiti Putra Malaysia, Malaysia); Normah Ahmad (University Technology MARA, Malaysia); Fatin Hanani Hashim (Universiti Teknologi MARA, Malaysia); Nordhaniah Nasrir (Universiti Teknologi MARA, Malaysia); Syarifah Nurul Azirah Sayed Hassan (Universiti Teknologi MARA, Malaysia)

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Afternoon Tea Break and Networking

4:00 – 4:30 p.m.

End of Day 2