

# **2021 IEEE 16th Nanotechnology Materials and Devices Conference (NMDC 2021)**

**Vancouver, British Columbia, Canada  
12-15 December 2021**



**IEEE Catalog Number: CFP21NMD-POD  
ISBN: 978-1-6654-4653-2**

**Copyright © 2021 by the Institute of Electrical and Electronics Engineers, Inc.  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP21NMD-POD
ISBN (Print-On-Demand):	978-1-6654-4653-2
ISBN (Online):	978-1-6654-1892-8

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# TABLE OF CONTENTS

COMPETING CRYSTALLIZATION IN MULTI-ION PEROVSKITES .....	1
<i>Makhsud I. Saidaminov</i>	
ELECTRICAL ANALYSIS OF ENERGY DEPTH OF ELECTRON TRAP STATES IN SILICON NITRIDE FILMS FOR CHARGE-TRAP FLASH MEMORY APPLICATION.....	2
<i>Kiyoteru Kobayashi, Soichiro Nakagawa</i>	
DEVELOPMENT, TESTING, AND INTEGRATION OF SILICON AND GLASS SUBSTRATES FOR ADVANCED ION TRAP DESIGN.....	7
<i>P. Zhao, Y. D. Lim, H. Y. Li, J. Tao, L. Guidoni, C. S. Tan</i>	
SINTER-FREE INKJET-PRINTED PEDOT:PSS/WO <sub>3</sub> / PEDOT:PSS FLEXIBLE VALENCY CHANGE MEMORY.....	8
<i>Mohamed Delfag, Rajesh Katoch, Johannes Jehn, Yoandris Gonzalez, C. Schindler, A. Ruediger</i>	
INDIVIDUAL NANOFLAKES OF TWO DIMENSIONAL MATERIALS HARMONIC GENERATION WITH ULTRALOW PUMP POWER .....	9
<i>Ghazal Hajisalem, Mirali Seyed Shariatdoust, Rana Faryad Ali, Byron D. Gates, Paul E. Barclay, Reuven Gordon</i>	
THICKNESS-DEPENDENT SEEBECK COEFFICIENT IN HYBRID 2-DIMENSIONAL LAYERS.....	13
<i>Taher Ghomian, Nadim Darwish, Joshua Hihath</i>	
LASER GENERATION IN LIQUIDS OF DOPED NANOMATERIALS .....	17
<i>David Amans, Arsene Chemin, Julien Lam, Gaetan Laurens, Tristan Albaret, Vincent Motto- Ros, Gilles Ledoux, Christophe Dujardin</i>	
DISPERSIVE LOSSY MEDIA FOR NARROWING PLASMON LINEWIDTHS .....	18
<i>Ryan Peck, Ali Khademi, Juanjuan Ren, Stephen Hughes, Alex Brolo, Reuven Gordon</i>	
HEXAGONAL BORON NITRIDE SECOND HARMONIC GENERATION USING GOLD NANORODS WITH CONTINUOUS LASER SOURCE.....	22
<i>Mirali Seyed Shariatdoust, Michael Dobinson, Ghazal Hajisalem, Reuven Gordon</i>	
ENHANCING AND ISOLATING LANTHANIDE-DOPED NANOCRYSTALS USING DOUBLE NANO HOLE OPTICAL TWEEZERS FOR QUANTUM LIGHT SOURCES AT 1550 NM .....	26
<i>Zohreh Sharifi, Michael Dobinson, Ghazal Hajisalem, Adriaan Frencken, Frank C. J. M. Van Veggel, Reuven Gordon</i>	
THE IMPACT OF LOSS ON PLASMONIC RESONANCES IN A SLIT IN A REAL METAL.....	30
<i>Zohreh Sharifi, Reuven Gordon</i>	
MODELING AND INVESTIGATION OF ELECTRONIC TRANSPORT PROPERTIES OF BORON OR NITROGEN SUBSTITUTION DOPED SINGLE LAYER GRAPHENE.....	34
<i>L Chandrasekar, K P Pradhan</i>	
DIRECT ELECTRODEPOSITION OF INSB DEVICES ON SILICON.....	38
<i>Katarzyna Hnida-Gut, Marilynne Sousa, Kirsten Moselund, Heinz Schmid</i>	

EXTRAORDINARY ACOUSTIC RAMAN SPECTROSCOPY OF PR65.....	41
<i>Elham Babaei, Ghazal Hajisalem, Shohei Iwamoto, Burak Kaynak, Pemra Doruker, Mohsin M. Naqvi, Janet Kumita, Feng-Yu Wang, Jhih-Hong Cheng, Che-Min Wu, Shang-Hua Yang, Ivet Bahar, Laura Itzhaki, Reuven Gordon</i>	
DENSITY GRADIENT BASED QUANTUM-CORRECTED 3D DRIFT-DIFFUSION SIMULATOR FOR NANOSCALE MOSFETS .....	45
<i>Tapas Dutta, Cristina Medina-Bailon, Nikolas Xeni, Vihar P. Georgiev, Asen Asenov</i>	
PMMA NANOCOMPOSITE BASED CRYOGENIC DIELECTRICS FOR HIGH-TEMPERATURE SUPERCONDUCTING (HTS) CABLES .....	49
<i>Jordan Cook, Jacob Mahon, William Emmerling, Lei Yu, Robert R. Krchnavek, Wei Xue</i>	
MAKING ULTRA-ACTIVE ANTIMICROBIAL COPPER POSSIBLE THROUGH SURFACE AREA ENHANCEMENT .....	53
<i>Alfred A. Zinn, Rachel L. Brody, Mina Izadjoo, Rob R. Roth, Randall M. Stoltenberg</i>	
PULSED NANOSECOND DISCHARGE IN HEPTANE IN CONTACT WITH AG SOLUTION: FEASIBILITY OF NANOPARTICLES SYNTHESIS .....	57
<i>K. Mohammadi, A. Hamdan</i>	
ENGINEERING SURFACE LIGANDS ON COLLOIDAL QUANTUM DOTS FOR SOLAR ENERGY HARVESTING.....	58
<i>X. Wang</i>	
ELECTRICAL CHARACTERISTICS OF RECTENNA INTEGRATED AU/HFO <sub>2</sub> /PT AND CNT DIODES .....	59
<i>Lina Tizani, Baker Mohammad, Moh'D Rezeq, Ahmed Mahdy Yassin</i>	
A PROPOSAL OF ENERGY EFFICIENT FERROELECTRIC PDSOI LIF NEURON FOR SPIKING NEURAL NETWORK APPLICATIONS .....	64
<i>P Sowparna, V Rajakumari, K P Pradhan</i>	
INVESTIGATION OF TEMPERATURE VARIATION ON A HSO FERROELECTRIC FDSOI NCFET .....	68
<i>Rameez Raja Shaik, K P Pradhan</i>	
EXTENSIVE STUDY ON EFFECTS OF DEFECTS IN CZTS/CZTSE QUANTUM DOTS KESTERITE SOLAR CELLS .....	72
<i>G. S. Sahoo, S. Routray, G. P. Mishra</i>	
EFFECT OF SURFACE CHARGE MODEL IN THE CHARACTERIZATION OF TWO-DIMENSIONAL HYDROGENATED NANOCRYSTALLINE-DIAMOND METAL OXIDE SEMICONDUCTOR FIELD EFFECT TRANSISTOR (MOSFET) WITH DEVICE SIMULATION.....	76
<i>Reem Alhasani, Taichi Yabe, Yutaro Iyama, Mohammed Alhasani, Quang N. Nguyen, Hiroshi Kawarada</i>	
DEVELOPING A NEURAL NETWORK POTENTIAL TO INVESTIGATE INTERFACE PHENOMENA IN SOLID-PHASE EPITAXY .....	82
<i>Ruggero Lot, Layla Martin-Samos, Stefano De Gironcoli, Anne Hemeryck</i>	
ATOMIC-SCALE MODELING OF 2D MATERIAL BASED CONTACTS AND TRANSISTORS FOR NANOSCALE ELECTRONICS .....	87
<i>L. Jelver, K. W. Jacobsen, O. Hansen, S. Smidstrup, V. Arcisauskaite, A. Blom</i>	

INFLUENCE OF ELECTRODES NATURE ON THE ELECTRICAL CHARACTERISTICS OF SPARK DISCHARGES IN WATER .....	88
<i>Audren Dorval, Naomi Bourbeau, Korentin Geraud, Flavien Valensi, Ahmad Hamdan</i>	
REPLACEMENT OF NMP SOLVENT FOR MORE SUSTAINABLE, HIGH-CAPACITY, PRINTED LI-ION BATTERY CATHODES .....	92
<i>Rafal Sliz, Juho Valikangas, Pauliina Vilmi, Tao Hu, Ulla Lassi, Tapio Fabritius</i>	
UNSUPERVISED LEARNING & RESERVOIR COMPUTING LEVERAGING ANALOG SPINTRONIC PHENOMENA .....	97
<i>Joseph S. Friedman</i>	
QUANTIZED DOMAIN-WALL MAGNETIC TUNNEL JUNCTION (DW-MTJ) NEURAL NETWORKS OPTIMIZED FOR RAPID, ENERGY EFFICIENT EDGE INFERENCE .....	99
<i>Christopher H. Bennett, Samuel Liu, T. Patrick Xiao, Otitoaleke Akinola, Alexander Edwards, Wesley Brigner, Can Cui, Thomas Leonard, Mashid Alamdar, Naimul Hassan, Robin Jacobs-Gedrim, Joseph S Friedman, Jean Anne Incorvia, Matthew J. Marinella</i>	
GIANT POLARIZATION IN NANODIELECTRICS: (INVITED PAPER) .....	100
<i>Christopher C. Homes</i>	
OBSERVATION OF THE DOMAIN MORPHOLOGY OF $PB(MG_{1/3}NB_{2/3})O_{3-x}PBTIO_3$ SINGLE CRYSTALS .....	104
<i>Haotian Wan, Yohachi Yamashita, Xiaoning Jiang</i>	
PULSED SPARK DISCHARGE IN DEIONIZED WATER FOR NANOPARTICLE SYNTHESIS: ELECTRICAL MEASUREMENT AND CAVITATION BUBBLE STUDY .....	109
<i>A. Dorval, K. Geraud, A. Hamdan, F. Valensi</i>	
SELF-ASSEMBLED ORGANOMETALLIC MOLECULAR WIRES IN SINGLE MOLECULE CIRCUITS .....	113
<i>Maria Kamenetska</i>	
SPECTROSCOPIC ANALYSIS OF PULSED UNDERWATER SPARK FOR NANOPARTICLES SYNTHESIS USING CU AND MO ELECTRODES .....	114
<i>T. Tmenova, F. Valensi, A. Veklich, Y. Cressault, V. Boretskij</i>	
VIABILITY OF BORON NITRIDE NANOTUBES AS A SUPPORT STRUCTURE FOR METAL NANOPARTICLE CATALYSTS FOR THE PLASMA-CATALYTIC SYNTHESIS OF AMMONIA .....	118
<i>Steven Walker, Gareth Price, Elmira Pajootan, Sylvain Coulombe</i>	
D-SHAPED PHOTONIC CRYSTAL FIBER BASED SURFACE PLASMON RESONANCE SENSOR USING DUAL COATING OF METAL OXIDE FOR HEALTHCARE APPLICATIONS .....	123
<i>Veerpal Kaur, Surinder Singh</i>	
OSTE+ POLYMER COMPOSITE WITH RARE EARTH HARD MAGNETIC PARTICLES FOR FLEXIBLE REACTION INJECTION-MOLDABLE MICROFLUIDIC ACTUATORS .....	127
<i>Chelsey Currie, Bonnie L. Gray</i>	
LOW-COST, HOMOGENEOUS, AND CONTINUOUS THIN FILM OF 2D SEMICONDUCTORS: TOWARDS LARGE SCALE ELECTRONIC AND PHOTONIC DEVICES .....	132
<i>Shahad Albawardi, Saeed Alghamdi, Faisal Alamri, Sarah Alsaggaf, Ghadeer Aljalham, Majed Alharbi, Haya Aljoudi, Olaiyan Alolaiyan, Moh. R. Amer</i>	

HIGH-RESOLUTION IMAGING OF ULTRASOUND IN DIELECTRIC MATERIALS USING NEAR-FIELD SCANNING OPTICAL MICROSCOPY .....	136
<i>James B. Spicer</i>	
CONTACT MODULATION USING PULSED THERMAL ANNEALING IN 2-DIMENSIONAL SEMICONDUCTORS.....	140
<i>Olaiyan Alolaiyan, Abrar Alhazmi, Saeed Alghamdi, Faisal Alamri, Khalid Alhamdan, Awsaf Alsulami, Moh. R. Amer</i>	
SYNTHESIS OF FACE TO FACE PARTIALLY FUSED CARBON NANOTUBES FOR THE IMPROVEMENT OF THERMAL MANAGEMENT IN 3D DIE STACKING .....	144
<i>Hua Xu, Jeffery C. C. Lo, S. W. Ricky Lee</i>	
METASURFACE-BASED ANTENNAS INTEGRATED WITH CARBON NANOTUBES FOR DNA SENSORS APPLICATIONS.....	148
<i>Alina Cismaru, Martino Aldrigo, Sergiu Iordanescu, Mircea Dragoman, Cosmin Obreja, Catalin Parvulescu</i>	
TIME REVERSAL PLASMAS AS A VERSATILE SPACE-TIME PATTERNING DEPOSITION METHOD .....	152
<i>Valentin Mazieres, Romain Pascaud, Laurent Liard, Simon Dap, Richard Clergereaux, Olivier Pascal</i>	
SYNTHESIS OF COLLOIDAL QUANTUM DOT NANOSTRUCTURES FOR PHOTON UPCONVERSION .....	156
<i>Tory A. Welsch, Jill M. Cleveland, D. Bruce Chase, Matthew F. Doty</i>	
QUASI-MONOPOLE ULTRASOUND PULSE TRANSDUCER BASED ON PIEZOELECTRIC CERAMIC MATERIAL.....	161
<i>Yiqi Cai, Shuqi Song, Lijun Xu, Jianguo Ma</i>	
PROTEIN INTERACTION WITH $\text{SiO}_2$ AND AGNPS: FROM ADSORPTION ON SOLID SURFACES TO ORGANIZATION AND CONFORMATIONAL CHANGES.....	163
<i>Marvine Soumbo, Christina Villeneuve-Faure, Caroline Bonafos, Christine Roques, Kremena Makasheva</i>	
MODELING OF SPUTTERED $\text{MO-AL}_2\text{O}_3$ NANOCOMPOSITES USING A COMBINATION OF FDTD METHOD AND MAXWELL GARNETT APPROXIMATION .....	167
<i>Naznin Akter, Muhammad Mahmudul Hasan, J. J. Becerril-Gonzalez, Nezh Pala, O. Ares-Muzio</i>	
CONVERTING PARYLENE C INTO A THIN FILM PIEZOELECTRIC MATERIAL .....	171
<i>Murali Duggina, Nathan Jackson</i>	
HIGH PERFORMANCE MICROCRACK-BASED MWCNT-RUBBER STRAIN SENSOR.....	175
<i>Fei Wang, Pengcheng Wang, James Jenkinson, Haowei Zhang, Fan Zheng, Li Sun</i>	
GRAPHENIZED PAPERTRONIC DEVICES USING BLUE LASER ABLATED POLYIMIDE RESIN PAPER.....	179
<i>Pavar Sai Kumar, Khush Gohel, Sanket Goel</i>	
HIGH PERFORMANCE MXENE SUPPORTED GOLD NANOPARTICLES-BASED 3D PRINTED ANODE FOR NON-ENZYMATIC BIOFUEL CELL.....	183
<i>Jayapriya U S, Sanket Goel</i>	

ANALYSIS, MODELLING AND APPLICATIONS OF FERROELECTRIC NEGATIVE CAPACITANCE INCORPORATED 2D SEMICONDUCTOR FIELD EFFECT TRANSISTORS.....	188
<i>Guangchao Zhao, Xingli Wang, Mingqiang Huang, Beng Kang Tay</i>	
APPLICATION OF RUTHENIUM NITRIDE DEPOSITED ON MULTI-WALLED CARBON NANOTUBE FOREST AS ELECTRODE MATERIAL FOR SUPERCAPACITORS .....	189
<i>Hanie Kazari, Elmira Pajootan, Eric Deguns, Mark Sowa, Emmeline Kao, Sylvain Coulombe</i>	
2D RRAM AND VERILOG-A MODEL FOR NEUROMORPHIC COMPUTING .....	194
<i>Yifu Huang, Xiaohan Wu, Yuqian Gu, Ruijing Ge, Jiahao Zhang, Yao-Feng Chang, Deji Akinwande, Jack C. Lee</i>	
CONDUCTIVE GREEN GRAPHENE INKS FOR PRINTED ELECTRONICS .....	198
<i>Ahmad Al Shboul, Mohsen Ketabi, Ricardo Izquierdo</i>	
MINIATURIZED DUAL-MODE INTRAVASCULAR TRANSDUCER FOR SONOTHROMBOLYSIS.....	202
<i>Bohua Zhang, Huaiyu Wu, Xiaoning Jiang</i>	
ULTRASOUND AND MAGNETIC DUAL-MODE STACKED TRANSDUCER FOR HIGH-FREQUENCY MAGNETO-SONOTHROMBOLYSIS.....	206
<i>Bohua Zhang, Huaiyu Wu, Xiaoning Jiang</i>	
A HIGH YIELD, HIGH PURITY MICROFLUIDIC DEVICE FOR POTENTIAL APPLICATION OF BLOOD PLASMA GENERATION.....	211
<i>Hesam Abouali, Seiedali Hosseini, Sanjana Srikant, Mahla Poudineh</i>	
QUANTUM TRANSPORT IN CONDUCTIVE BACTERIAL NANOWIRES .....	215
<i>William Livernois, M. P. Anantram</i>	
PREFERENTIAL GROWTH OF CRYSTALLINE MOS <sub>2</sub> ON PATTERNED NI CHANNELS IN CONTACT WITH AU THIN FILMS .....	220
<i>Neha Kondekar, Pralav P. Shetty, Lan Ho, Yi Li, Matthew P. West, Matthew T. McDowell</i>	
DESIGN OF OPTIMAL LAYER THICKNESS IN ELECTROCHROMIC DEVICES .....	224
<i>Shaurya Verma, Tanushree H. Choudhury, Revathy Padmanabhan</i>	
A SENSITIVE ELECTROCHEMICAL BIOSENSORS BASED ON GLASSY CARBON ELECTRODES INTEGRATED WITH SMARTPHONE FOR PROSTATE CANCER DETECTION .....	228
<i>Naresh Mandal, Chirasree Roychaudhuri, Bidhan Pramanick</i>	
INKJET-PRINTED HIGH QUALITY GATE OXIDE FOR FULLY PRINTED IGZO TRANSISTORS.....	230
<i>Nima Arjmandi, Mohammad Seraj, Mehrdad Najafi, Seyed Ahmad Reza Ahmadi Afshar</i>	
REACTOR-INJECTOR: SYNTHESIS AND DIRECT ATOMIZATION OF NANOPARTICLES TOWARDS NANOCOMPOSITE COATINGS ASSISTED BY PLASMA PROCESS.....	234
<i>G. Carnide, C. Sim, Y. Champouret, E. Amin-Chaloub, M. Kahn, R. Clergereaux</i>	
FEM APPROACH TO THE ROBUST DESIGN OF A GRAPHENE-BASED 3D STRUCTURE FOR THZ DEVICES.....	235
<i>Polina Kuzhir, Monica La Mura, Patrizia Lamberti, Alesia Paddubskaya, Vincenzo Tucci, Viatcheslav Vanyukov</i>	
MODELING OF HYSTERESIS IN PEROVSKITE-SILICON TANDEM SOLAR CELLS.....	239
<i>Kumudini Ganesh, Revathy Padmanabhan</i>	

ANALYSIS OF ELECTRICAL AND OPTICAL LOSS IN PEROVSKITE SOLAR CELLS USING A SEMI-ANALYTICAL MODEL .....	244
<i>Vanshaj Sharma, Revathy Padmanabhan</i>	
CTE-TAILORABLE COPPER HEAT SPREADERS, HEAT SINKS, AND HEAT PIPES VIA A NANOCOPPER APPROACH.....	249
<i>Alfred A. Zinn, Alex Capanzana, Nhi T. Ngo, Rob R. Roth, Randall M. Stoltenberg</i>	
CHARACTERIZATION OF ELECTROPHORETICALLY DEPOSITED ZINC OXIDE NANOPARTICLES ON SILICON WITH FABRICATION OF A P-N JUNCTION.....	253
<i>F. Hazzazi, A. Young, C. O'Loughlin, O. Kizilkaya, T. Daniels-Race</i>	
PHOTOLUMINESCENCE-RAMAN/FTIR UNDER VARIABLE HYDROSTATIC PRESSURE TO REVEAL THE ORIGIN OF LUMINESCENT CENTERS IN LEAD HALIDE PEROVSKITES .....	254
<i>Tao Chen, Chong Wang, Jiming Bao</i>	
ULTRASOUND IMAGING-GUIDED MICROBUBBLE-MEDIATED CATHETER-DIRECTED SONOTHROMBOLYSIS: AN IN-VITRO STUDY.....	259
<i>Chang Peng, Bohua Zhang, Huaiyu Wu, Paul Dayton, Zhen Xu, Xiaoning Jiang</i>	
A THEORETICAL STUDY ON POROUS-SILICON BASED SYNAPSE DESIGN FOR NEURAL HARDWARE .....	260
<i>Orthi Sikder, Peter Schubert</i>	
ANALYSIS OF HIGH ASPECT RATIO NANOPORES FOR RESISTIVE PULSE SENSING APPLICATIONS THROUGH NUMERICAL SIMULATIONS .....	264
<i>Jose Alvim Berkenbrock, Daniela Ota Hisayasu Suzuki, Garth Wells, Matthias Mail, Torsten Scherer, Sven Achenbach</i>	
TUNABLE MULTIFERROICS FOR RECONFIGURABLE RF SYSTEM PACKAGES.....	268
<i>Pawan Gaire, Veeru Jaiswal, Sk Yeahia Been Sayeed, John L. Volakis, Markondeya Raj Pulugurtha, Shubhendu Bhardwaj</i>	
ENERGY-EFFICIENT FLEXIBLE AMMONIA SENSORS ENABLED BY POLYPYRROLE- GRAPHENE.....	272
<i>Xiao Xu, Zhehan Wang, Ke Zhan, Chenxu Bao, Zhengrui Zhu, Bo Chang, Qichao Chen, Xu Jing, Li Tao</i>	
SWCNT AND PANI NANOCOMPOSITE THIN FILMS FABRICATION FOR IMPROVED EMI SHIELDING EFFECTIVENESS.....	276
<i>V P R Siva Kumar Ogirala, Savithri Padma Priya V, Arunmetha Sundaramoorthy</i>	
BIOELECTRONIC SYSTEM SCALING SOLUTIONS WITH NANOPACKAGING .....	281
<i>Markondeya Raj Pulugurtha</i>	
HYBRID MAGNON MODES.....	282
<i>A. Hoffmann</i>	
ENERGY HARVESTING AT MILLIMETER-WAVES EXPLOITING DIELECTRIC RESONATOR ANTENNAS (DRA) ON SILICON .....	283
<i>S. Trovarello, D. Masotti, A. Costanzo</i>	



QUALITATIVE STUDY OF THE INJECTION MECHANISM IN N,N'-DITRIDECYL-3,4,9,10-PERYLENETETRACARBOXYLIC DIIMIDE (PTCDI-C13) BASED VERTICAL ORGANIC FIELD-EFFECT TRANSISTORS .....	284
<i>Morvan Marjorie, Buso David, Ternisien Marc, Renaud Cedric, El Housseiny Houssein, Zissis Georges</i>	
INJECTION MECHANISM CHARACTERIZATION IN N,N'-DITRIDECYL-3,4,9,10-PERYLENETETRACARBOXYLIC DIIMIDE BASED VERTICAL ORGANIC FIELD-EFFECT TRANSISTORS .....	286
<i>Morvan Marjorie, Buso David, Ternisien Marc, Renaud Cedric, El Housseiny Houssein, Zissis Georges</i>	
MORPHOLOGY CONTROL AND OPTIMIZATION OF NANO-MGO-MG(OH) <sub>2</sub> COMPOSITE VIA VAPOR STEAMING FOR EFFECTIVE CO <sub>2</sub> CAPTURE .....	288
<i>H. L. Senevirathna, S. Wu, W. P. C. Lee, P. Wu</i>	
FORMATION OF NANO-TREE AND NANO-RING STRUCTURES FROM AU-SI-GE EUTECTIC SOLIDS .....	289
<i>Galih R. Suwito, Weizhen Wang, Nathaniel J. Quitoriano</i>	
MULTISCALE MODELLING AND OPTIMIZATION OF FLEXOELECTRIC NANO STRUCTURES .....	291
<i>Xiaoying Zhuang</i>	

**Author Index**