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Authored/Edited Books and Conference Proceedings

● Total Authored/Edited Books or Conference Proceedings – 25

1. S. Kumar and M.J. Deen, **Fiber Optic Communications: Fundamentals and Applications**, John Wiley and Sons Ltd., ISBN: 978-0-470-51867-0, 552 pages (April 2014).

Publisher's Description: Fiber-optic communication systems have advanced dramatically over the last four decades, since the era of copper cables, resulting in low-cost and high-bandwidth transmission. Fiber optics is now the backbone of the internet and long-distance telecommunication. Without it we would not enjoy the benefits of high-speed internet, or low-rate international telephone calls.

This book introduces the basic concepts of fiber-optic communication in a pedagogical way. The important mathematical results are derived by first principles rather than citing research articles. In addition, physical interpretations and real-world analogies are provided to help students grasp the fundamental concepts.

Key Features:

- Lucid explanation of key topics such as fibers, lasers, and photodetectors.
- Includes recent developments such as coherent communication and digital signal processing.
- Comprehensive treatment of fiber nonlinear transmission.
- Worked examples, exercises, and answers.
- Accompanying website with PowerPoint slides and numerical experiments in MATLAB.

Intended primarily for senior undergraduates and graduates studying fiber-optic communications, the book is also suitable as a professional resource for researchers working in the field of fiber-optic communications.

2. M.J. Deen and P.K. Basu, **Silicon Photonics – Fundamentals and Devices**, John Wiley and Sons Ltd., ISBN-13: 978-0-470-51750-5, 456 pages (2012). Part of Wiley Series in Materials for Electronic and Optoelectronic Applications.

Publisher's Description: The creation of affordable high speed optical communications using standard semiconductor manufacturing technology is a principal aim of silicon photonics research. This would involve replacing copper connections with optical fibres or waveguides, and electrons with photons. With applications such as telecommunications and information processing, light detection, spectroscopy, holography and robotics, silicon photonics has the potential to revolutionise electronic-only systems. Providing an overview of the physics, technology and device operation of photonic devices using exclusively silicon and related alloys, the book includes: Basic Properties of Silicon; Quantum Wells, Wires, Dots and Superlattices; Absorption Processes in Semiconductors; Light Emitters in Silicon; Photodetectors, Photodiodes and Phototransistors; Raman Lasers including Raman Scattering; Guided Lightwaves; Planar Waveguide Devices; Fabrication Techniques and Material Systems.

Silicon Photonics: Fundamentals and Devices outlines the basic principles of operation of devices, the structures of the devices, and offers an insight into state-of-the-art and future developments.

3. M.J. Deen, Editor, **Silicon-based Millimeter-wave Technology, Vol. 174 in Advances in Imaging and Electron Physics**, Academic Press, Amsterdam (Elsevier), ISBN-13: 978-0-12-394298-2, 484 pages (December 2012).

Description: In this book, the latest developments in theory and practice of silicon-based mm-wave components and systems are described and discussed. The book will cover six main topics: measurement techniques, practical issues and challenges, including system calibration and test structures; transmission lines and passive components; modeling and design of high-frequency structures using artificial neural networks and space mapping; field-effect types of transistors – nanoscale FETs; RF MEMS switches and switch matrices; and substrate-integrated antennas on silicon. The book contains comprehensive reviews of the latest research results, theoretical issues and system performances for silicon-based mm-wave systems. It will be a valuable resource to both experienced engineers and researchers as well as beginners to this exciting field.

Contents: Measurement Techniques and Practical Issues; Transmission lines and passive components; Modeling and

Design of High Frequency Structures Using Artificial Neural Networks and Space Mapping; Field-effect types of transistors – Nanoscale FETs; RF MEMS Switches and Switch Matrices; and Substrate-Integrated Antennas on Silicon

4. M.J. Deen and T. A. Fjeldy, Editors, **Selected Topics in Electronics and Systems - Vol. 24: CMOS RF Modeling, Characterization and Applications**, World Scientific Publishing, Singapore, 409 pages (2002).

Publisher's Description: CMOS technology has now reached a state of evolution, in terms of both frequency and noise, where it is becoming a serious contender for radio frequency (RF) applications in the GHz range. Cutoff frequencies of about 50 GHz have been reported for 0.18 μm CMOS technology, and are expected to reach about 100 GHz when the feature size shrinks to 100 nm within a few years. This translates into CMOS circuit operating frequencies well into the GHz range, which covers the frequency range of many of today's popular wireless products, such as cell phones, GPS (Global Positioning System) and Bluetooth. Of course, the great interest in RF CMOS comes from the obvious advantages of CMOS technology in terms of production cost, high-level integration, and the ability to combine digital, analog and RF circuits on the same chip. This book discusses many of the challenges facing the CMOS RF circuit designer in terms of device modeling and characterization, which are crucial issues in circuit simulation and design.

Contents: RF MOS Measurements; MOSFET Modeling and Parameter Extraction for RF IC's; MOSFET Modeling for RF IC Design; RF CMOS Noise Characterization and Modeling; SOI CMOS Transistors for RF and Microwave Applications; and RF CMOS Reliability.

5. E. A. Gutierrez-D., M.J. Deen and C. Claeys, Editors, **Low Temperature Electronics: Physics, Devices, Circuits and Applications**, Academic Press, New York, 964 pages (2001).

Publisher's Description: Low Temperature Electronics: Physics, Devices, Circuits, and Applications summarizes the recent advances in cryoelectronics starting from the fundamentals in physics and semiconductor devices to electronic systems, hybrid superconductor-semiconductor technologies, photonic devices, cryocoolers and thermal management. Furthermore, this book provides an exploration of the currently available theory, research, and technologies related to cryoelectronics, including treatment of the solid state physical properties of the materials used in these systems.

Current applications are found in infrared systems, satellite communications and medical equipment. There are opportunities to expand in newer fields such as wireless and mobile communications, computers, and measurement and scientific equipment. Low temperature operations can offer certain advantages such as higher operational speeds, lower power dissipation, shorter signal transmission times, higher semiconductor and metal thermal conductivities, and improved digital and analog circuit performance.

The computer, telecommunication, and cellular phone market is pushing the semiconductor industry towards the development of very aggressive device and integrated circuit fabrication technologies. This is taking these technologies towards the physical miniaturization limit, where quantum effects and fabrication costs are becoming a technological and economical barrier for further development. In view of these limitations, operation of semiconductor devices and circuits at low temperature (cryogenic temperature) is studied in this book.

It is a book intended for a wide audience: students, scientists, technology development engineers, private companies, universities, etc. It contains information which is for the first time available as an all-in-one source; Interdisciplinary material is arranged and made compatible in this book. It is a must as reference source.

6. **Solid-State Electronics and Photonics in Biology and Medicine 5**, Eds., Y.-L. Wang, A.M. Hoff, C.-T. Lin, W. Wu, L.F. Marsal, M.J. Deen, T. Sakata, Z.-H. Lin and Z.P. Aguilar, ECS Transactions, Vol. 85, Issue 9, 233rd Meeting of The Electrochemical Society, Seattle, Washington, USA (13-17 May 2018).
7. **Organic Semiconductor Materials, Devices, and Processing 4**, Eds., M.J. Deen, D. Gundlach, B. Iniguez and H. Klauk, ECS Transactions, Vol. 53, Issue 26, 223rd Meeting of The Electrochemical Society, Toronto, Canada (12-16 May 2013).
8. **ICNF 2011 – IEEE Proceedings of 21st International Conference on Noise and Fluctuations**, Eds. M.J. Deen and C.H. Chen, Toronto, Canada, 504 pages (12-16 June 2011).
9. **Organic Semiconductor Materials, Devices, and Processing 3**, Ed., M.J. Deen, ECS Transactions, Vol. 35, Issue 19, 219th ECS Meeting, Montreal, QC, Canada (16 May 2011).
10. **Silicon Nitride, Silicon Dioxide and Emerging Dielectrics 10 (Tenth International Symposium)**, Eds., R. E. Sah, J.F. Zhang, M.J. Deen, J. Yota, and Y. Toriumi, The Electrochemical Society, Proceedings Series, Pennington, N.J., ECS Transactions, Vol. 19, No. 2, 857 pages (2009).
11. **Organic Semiconductor Materials, Devices, and Processing 2**, Ed., M.J. Deen and H. Klauk, ECS Transactions, Vol. 25, Issue 26, 216th ECS Meeting, Vienna, Austria (4-9 October 2009).
12. **Silicon Nitride, Silicon Dioxide and Emerging Dielectrics 9 (Ninth International Symposium)**, Eds., R. E. Sah, M.J. Deen, J.F. Zhang, J. Yota, and Y. Kamakura, The Electrochemical Society, Proceedings Series, Pennington, N.J., ECS Transactions Vol. 6, No. 3, 847 pages (2007).
13. **Sensors Based on Nanotechnology 3**, Ed., J. Li, M.J. Deen, E. Traversa, ECS Transactions, Vol. 6, Issue 26, 211th ECS

Meeting, Chicago, Illinois (6-10 May 2007).

14. **Bioelectronics, Bionterfaces, and Biomedical Applications 2**, Eds., D. Landheer, R. Bashir, M. Deen, C. Kranz, C. Liu, M. Madou, A. Offenhaeuser, R. Schasfoort, ECS Transactions, Vol. 3, Issue 26, 210th ECS Meeting, Cancun, Mexico, 40 pages (29 October – 3 November 2006).
15. **Noise in Devices and Circuits III**, Eds., A. Balandin, F. Danneville, M.J. Deen and D.M. Fleetwood, SPIE Proceedings Series Vol. 5844, Bellingham, Washington (2005).
16. **Silicon Nitride and Silicon Dioxide Thin Insulating Films and Other Emerging Dielectrics (Eight International Symposium)**, Eds., R. E. Sah, M.J. Deen, J. Zhang, Y. Yota, and Y. Kamakura, The Electrochemical Society, Proceedings Series, Pennington, N.J., PV2005-01, 588 pages (2005).
17. **Noise in Devices and Circuits II**, Eds., F. Danneville, F. Bonani, M.J. Deen and M.E. Levinhstein, SPIE Proceedings Series Vol. 5470, 588 pages, Bellingham, Washington (2004).
18. **Noise in Devices and Circuits I**, Eds., M.J. Deen, Z. Celik-Butler and M.E. Levinhstein, SPIE Proceedings Series Vol. 5113, Bellingham, Washington, 516 pages (2003).
19. **Silicon Nitride and Silicon Dioxide Thin Insulating Films (Seventh International Symposium)**, Eds., R.E. Sah, M.J. Deen, D. Landheer, K.B. Sundaram, W.D. Brown and D. Misra, The Electrochemical Society, Proceedings Series, Pennington, N.J., PV-03, 636 pages (2003).
20. **Integrated Optoelectronics (First International Symposium)**, Eds., M.J. Deen, D. Misra and J. Ruzyllo, Electrochemical Society Proceedings Series Volume 2002-4, Pennington, New Jersey, 436 pages (2002).
21. **Silicon Nitride and Silicon Dioxide Thin Insulating Films (Sixth International Symposium)**, Eds., K.B. Sundaram, M.J. Deen, D. Landheer, W.D. Brown, D. Misra, M.D. Allendorf and R.E. Sah, Electrochemical Society Series, Pennington, New Jersey, Proceedings Volume PV 2001-7, 286 pages (2001).
22. **Silicon Nitride and Silicon Dioxide Thin Insulating Films (Fifth Int. Sym.)**, Eds., K.B. Sundaram, M.J. Deen, W. Brown, R. Sah, E. Poindexter, D. Misra, Electrochem. Soc. Series, Pennington, NJ, Proc. Vol. PV-99- 284 pages (1999).
23. **State-of-the-Art Program on Compound Semiconductors XXVI (Twenty-Sixth Int. Sym.)**, Eds., D.N. Buckley, S.N.G. Chu, H.Q. Hou, R.E. Sah, J.P. Vilcot and M.J. Deen, Electrochemical Society Series, Pennington, New Jersey, Proceedings Volume PV-97-1, 402 pages (1997).
24. **Low Temp. Electronics and High Temp. Superconductivity (4th Int. Sym.)**, Eds., C. Claeys, S.I. Raider, M.J. Deen, W. Brown and R.K. Kirschman, Electrochem. Soc. Series, Pennington, New Jersey, Proc. Vol. PV-97-2, 322 pages (1997).
25. **Silicon Nitride and Silicon Dioxide Thin Insulating Films (4th Int. Sym.)**, Eds., M.J. Deen, W.D. Brown, S.I. Raider and K.B. Sundaram, Electrochemical Society Series, Pennington, New Jersey, Proc. Volume PV-97-10, 588 pages, (1997).

Book Chapters

● Total Book Chapters – 25

● Invited Book Chapters - 19

1. S. Seghir Mechaour, A Derardja, M.J. Deen and P.R. Selvaganapathy, “*New Morphology of a Silver Chloride Surface Grown on Silver Wires*,” in **Advanced Structured Materials book series (STRUCTMAT, Volume 72) “Improved Performance of Materials”** pp 63-71 (2018).
2. **Invited Contribution**, M.J. Deen and F. Pascal, “*Electrical Characterization of Semiconductor Materials and Devices*,” in **Springer Handbook of Electronic and Optoelectronic Materials**, Second Edition, Eds. Safa Kasap and Peter Capper, Springer Science and Business Media Inc., New York, (2016).
3. **Invited Contribution**, Y.M. El-Batawy, F.M. Mohammedy and M.J. Deen, “*Resonant Cavity Enhanced Photodetectors: Theory, Design and Modeling*,” in **Photodetectors: Materials, Devices and Applications**, Woodhead Publishing Series in Electronics and Optical Materials – Vol. 84, Ed. Bahram Nabet, Chapter 13, pp. 415-470, Woodhead Publishing – Elsevier, Cambridge, UK (2016).
4. **Invited Contribution**, M.J. Deen, “Organic Semiconductor Devices,” **Wiley Encyclopedia of Electrical and Electronics Engineering**, Editor, J.G. Webster, John Wiley and Sons, Inc., 17 pages (Published on-line 15 Dec 2014).
5. O. Moldovan, A. Lazaro, F. Danneville, R. Picos, B. Nae, B. Iniguez and M.J. Deen, “*Nanoscale FETs*,” in M. Jamal Deen, Editor, **Silicon-based Millimeter-wave Technology, Vol. 174 in Advances in Imaging and Electron Physics**, Academic Press, Amsterdam (Elsevier), pp. 261-347 (December 2012).
6. G.A. Kouzaev, M.J. Deen and N.K. Nikolova, “*Transmission Lines and Passive Components*,” in M. Jamal Deen, Editor, **Silicon-based Millimeter-wave Technology, Vol. 174 in Advances in Imaging and Electron Physics**, Academic Press, Amsterdam (Elsevier), pp. 119-222 (December 2012).
7. M.J. Deen and O. Marinov, “*Measurement Techniques and Issues*,” in M. Jamal Deen, Editor, **Silicon-based**

- Millimeter-wave Technology, Vol. 174 in Advances in Imaging and Electron Physics**, Academic Press, Amsterdam (Elsevier), pp. 1-117 (December 2012).
8. **Invited Contribution**, D. Landheer, W. R. McKinnon, W.H. Jiang, G. Lopinski, G. Dubey, N.G. Tarr, M.W. Shinwari and M.J. Deen, “*Bioaffinity Sensors Based on MOS Field—Effect Transistors*,” in **Semiconductor Device-Based Sensors for Gas, Chemical, and Biomedical Applications**, Eds. Fan Ren and Steve Pearton, Taylor and Francis Books, Boca Raton, FL, USA, pp. 215-265 (2010).
 9. **Invited Contribution**, M.J. Deen and F. Pascal, “*Electrical Characterization of Semiconductor Materials and Devices*,” in **Springer Handbook of Electronic and Optoelectronic Materials**, Eds. Safa Kasap and Peter Capper, Springer Science and Business Media Inc., New York, pp. 409-438, (2006).
 10. **Invited Contribution**, Z. Wang, M.J. Deen and A. Rahal, “*Modeling of Integrated Inductors and Resistors for Microwave Applications*,” in **Integrated Passive Component Technology**, Ed. R.K. Ulrich and L.W. Schapper, Chapter 11, pp. 247-291, IEEE Press, New York, ISBN 0-471-24331-7 (2003).
 11. **Invited Contribution**, M. Sanden and M.J. Deen, “*Low Frequency Noise in Advanced Si-Based Bipolar Transistors and Circuits*,” in **Noise and Fluctuations Control in Electronic Devices**, Ed. A. Balandin, Chapter 11, pp. 235-247, American Scientific Publishers (2002).
 12. **Invited Contribution**, C-H Chen and M.J. Deen, “*RF CMOS Noise Characterization and Modeling*,” in **Selected Topics in Electronics and Systems - Vol. 24: CMOS RF Modeling, Characterization and Applications**, Eds. M. Jamal Deen and Tor A. Fjeldy, World Scientific Publishing, Singapore, pp. 199-271 (2002)
 13. **Invited Contribution**, S. Naseh and M.J. Deen, “*RF CMOS Reliability*,” in **Selected Topics in Electronics and Systems - Vol. 24: CMOS RF Modeling, Characterization and Applications**, Eds. M. Jamal Deen and Tor A. Fjeldy, World Scientific Publishing, Singapore, pp. 363-409 (2002).
 14. **Invited Contribution**, M.J. Deen, J. De la Hidalga, “*Circuits and Applications*,” in **Device and Circuit Cryogenic Operation for Low Temp. Electronics**, Eds., F. Balestra, G. Ghibauda, Kluwer Academic Press, pp. 189-262 (2001).
 15. E. A. Gutierrez-D., M.J. Deen and C. Claeys, “*General Introduction*,” in **Low Temperature Electronics: Physics, Devices, Circuits and Applications**, Eds., Edmundo A. Gutierrez-D., M. Jamal Deen and Cor Claeys, Academic Press, New York, pp. xi-xx (2001).
 16. **Invited Contribution**, J. De la Hidalga-W., M.J. Deen and Y. Xiao, “*Heterostructure and Compound Semiconductor Devices*,” in **Low Temperature Electronics: Physics, Devices, Circuits & Applications**, Eds., Edmundo A. Gutierrez-D., M. Jamal Deen & Cor Claeys, Academic Press, New York, pp. 511-646 (2001).
 17. **Invited Contribution**, Y. Xiao, M.J. Deen and J. De la Hidalga-W., “*Compound Semiconductor Lasers and Photodetectors*,” in **Low Temperature Electronics: Physics, Devices, Circuits and Applications**, Eds., Edmundo A. Gutierrez-D., M. Jamal Deen & Cor Claeys, Academic Press, New York, pp. 647-840 (2001).
 18. E. A. Gutierrez-D., M.J. Deen and C. Claeys, “*Conclusions, Trends and Perspectives*,” in **Low Temperature Electronics: Physics, Devices, Circuits and Applications**, Eds., Edmundo A. Gutierrez-D., M. Jamal Deen and Cor Claeys, Academic Press, New York, pp. 935-951 (2001).
 19. **Invited Contribution**, A. Bandyopadhyay and M.J. Deen, “*Photodetectors for Optical Fiber Communications*,” in **Photodetectors and Fiber Optics**, Ed. H.S. Nalwa, Academic Press, pp. 307-368 (2001).
 20. **Invited Contribution**, S. An and M.J. Deen, “*Photodetectors*,” **Optoelectronics and Photonics (CD-ROM Book)**, Ed. S. Kasap, Univ of Saskatchewan, 40 ms pages (2000).
 21. **Invited Contribution**, M.J. Deen, “*Organic Semiconductor Devices*,” **Wiley Encyclopedia of Electrical and Electronics Engineering - Vol. 15**, Editor, J.G. Webster, pp. 419-429 (1999).
 22. **Invited Contribution**, P. Kolev and M.J. Deen, “*Development and Applications of a New DLTS Method and New Averaging Techniques*,” **Advances in Imaging & Electron Physics**, Ed. P. Hawkes, Academic Press, New York, Vol. 109, pp. 1-161 (1999).
 23. **Invited Contribution**, T. Hardy, M.J. Deen and R. Murowinski, “*Effects of Radiation Damage in Scientific Charge Coupled Devices*,” **Advances in Imaging and Electron Physics**, Vol. 106, Editor P. Hawkes, Academic Press, Vol. 106, pp. 1-96 (1999).
 24. **Invited Contribution**, M.J. Deen, “*High Temperature Characteristics of AlAs-GaAs-AlAs Quantum Well Diodes*,” **High Temperature Electronics**, Editor R.K. Kirschman, IEEE Press Book, pp. 435-444 (1998).
 25. **Invited Contribution**, C.L.F. Ma, M.J. Deen and L. Tarof, “*Characterization and Modeling of SAGCM InP/ InGaAs Avalanche Photodiodes for Multigigabit Optical Fiber Communications*,” **Advances in Imaging and Electron Physics**, Vol. 99, Editor P. Hawkes, Academic Press, pp. 65-170 (1998).

Patents

1. M.J. Deen, P. Selvaganapathy, M.W. Shinwari “*BioFET Based Microfluidic System*”, **Canadian Patent Number** 2,619,000 (11 July 2016).
2. M.M. Eldesouki & M.J. Deen, “*Injection Locking Based Power Amplifier*,” **US Patent Number** 9,099,956 (4 Aug 2015).
3. M.M. Eldesouki, M.J. Deen and Q. Fang, “*Coordinated In-pixel Light Detection Method and Apparatus*,” **US Patent Number** 8,859,944 (14 October 2014).
4. M.M. Eldesouki, M.J. Deen and Q. Fang, “*Single Photon Counting Image Sensor and Method*”, **U.S. Patent Number** 8,716,643, 46 pages (6 May 2014).
5. M.M. Eldesouki, M.J. Deen and Q. Fang, “*High-speed Analog Photon Counter and Method*”, **U.S. Patent Number** 8,581,172, 46 pages (12 November 2013).
6. M.M. Eldesouki, M.J. Deen and Q. Fang, “*Reduction of Delay Between Subsequent Capture Operations of a Light-detection Device*,” **U.S. Patent Number** 8,410,416 (Apr 2, 2013).
7. M.J. Deen, Z.X. Yan and D. S. Malhi, “*Gain-Controlled Amplifier and Automatic Gain Control Amplifier Using GCLBT*,” **U.S. Patent Number** 5,764,106, 21 pages (9 June 1998).
8. D. S. Malhi, M.J. Deen, W. Kung, J.I. Iłowski and S. Kovacic, “*Gate Controlled Lateral Bipolar Junction Transistor*,” **U.S. Patent Number** 5,717,241, 16 pages (10 February, 1998).
9. M.J. Deen, D. S. Malhi, Z.X. Yan and R.H. Hadaway, “*Modulation Circuit*,” **U.S. Patent Number 5,498,855**, 15 pages (12 March 1996).
10. B. Jaggi, M.J. Deen and B. Palcic, *Solid State Microscope*,” **European Patent Pub. No. 0 380 904 (B1)**, 20 pages (4 May 1994).
11. B. Jaggi, M.J. Deen & B. Palcic, “*Solid State Microscope*,” **Canadian Patent Number 1,304,612**, 40 pages (7 Jul 1992).
12. B. Jaggi, M.J. Deen and B. Palcic, “*Quantitative Light Microscope Using a Solid State Detector in the Primary Image Plane*,” **US Patent Number 4,845,552**, 14 pages (4 July, 1989).

Invited Journal Papers

● Total Invited and Contributed Journal Papers - 363

● Total Invited/Feature Journal Papers – 36

1. **Invited Paper**, O. Marinov, M.J. Deen, J. A. Jiménez-Tejada and C-H. Chen, “*Variable-Range Hopping Charge Transport in Organic Thin-Film Transistors*,” **Physics Reports**, >200 Pages, In Press (Accepted 10 December 2019).
2. **Invited Review Paper**, Wei Jiang, Yamn Chalich, M Jamal Deen, “*Sensors for Positron Emission Tomography Applications*” **Sensors**, Vol. 19(22), pp. 5019 - 56 pages (November 2019)
3. **Invited Paper**, J. A. Jiménez-Tejada, A. Romero, J. González, N. B. Chaure, A. N. Cammidge, I. Chambrier, A. K. Ray and M. J. Deen “*Evolutionary Computation for Parameter Extraction of Organic Thin-Film Transistors Using Newly Synthesized Liquid Crystalline Nickel Phthalocyanine*”, **Micromachines**, Vol. 10(10), 26 pages (October 2019).
4. **Feature Review Paper**, A.I. Faisal, S. Majumder, T. Mondal, D. Cowan, S. Naseh and M.J. Deen, “*Monitoring Methods of Human Body Joints: State-of-the-Art and Research Challenges*,” **Sensors**, Vol. 19(11), pp. 2629 – 39 pages (10 June 2019).
5. **Feature Review Article**, S. Majumder, T. Mondal and M.J. Deen, “*Wearable Sensors for Remote Health Monitoring*”, **Sensors**, vol. 17, 45 pages, On-line (12 Jan 2017).
6. **Invited Paper**, O. Moldovan, B. Iñiguez, M.J. Deen, L.F. Marsal “*Graphene Electronic Sensors – A Review of Recent Developments and Future Challenges*”, **IET Circuits, Devices & Systems**, Vol. 9(6), pp. 446-453 (November 2015).
7. **Invited Paper**, M. Jamal Deen, “*Information and Communications Technologies for Elderly Ubiquitous Healthcare in a Smart Home*,” **Personal and Ubiquitous Computing (Special Issue on Aspects of ubiquitous computing for improved clinical practice)**, Vol. 19, Issue 3-4, pp. 573-599 (July 2015).
8. **Invited Paper**, M.M.R. Howlader, M. Jamal Deen, and T. Suga, “*Nanobonding – A Key Technology for Emerging Applications in Health and Environmental Sciences*,” **Japanese Journal of Applied Physics**, Vol. 54(3), 10 pages, DOI:10.7567/JJAP.54.030201, (On-line, 2015).
9. **Invited Paper**, J.A. Jiménez Tejada, J.A. López Villanueva, P. López Varo, K. M. Awawdeh and M.J. Deen, “*Compact Modelling and Contact Effects in Thin Film Transistors*,” **IEEE Transactions on Electron Devices (Special Issue on Compact Modeling of Emerging Devices)**, Vol. 61(2), pp. 266-277 (February 2014).
10. **Invited Paper**, M.M.R. Howlader, P.R. Selvaganapathy, M.J. Deen and T. Suga, “*Nanobonding Technology Toward Electronic, Fluidic and Photonic Systems Integration*,” **IEEE Journal of Selected Topics in Quantum Electronics**,

- Vol. 17(3), pp. 689-703 (May/June 2011).
11. **Feature Article**, M.W. Shinwari, M.J. Deen, E.B. Starikov and G. Cuniberti, "Electrical Conductance in Biological Molecules," **Advanced Functional Materials**, Vol. 20 (12), pp. 1865-1883 (23 June 2010).
 12. **Invited Review Paper**, Farseem M. Mohammady and M. Jamal Deen, "Growth and Fabrication Issues of GaSb-based Detectors," **Journal of Materials Science: Materials in Electronics**, Vol. 20(10), pp. 1039-1058 (November 2009).
 13. **Invited Paper**, N. Faramarzpour, M.M. El-Desouki, M.J. Deen, S. Shirani and Q. Fang, "CMOS Photodetector Systems for Low-Level Light Applications," **Journal of Materials Science: Materials in Electronics (Special issue for ICOOPMA 2007)**, Vol. 20(Supplement 1), pp. S87-S93 (January 2009).
 14. **Invited Paper**, M.W. Shinwari, M.J. Deen, and P. Selvaganapathy, "Analytic Modeling of Biotransistors," **IET Circuits, Devices & Systems (Special issue for CODEC 2006)**, Vol. 2(1), pp. 158-165 (February 2008).
 15. **Invited Paper**, M.W. Shinwari, M.J. Deen and D. Landheer, "Study of the Electrolyte-Insulator-Semiconductor Field-Effect Transistor (EISFET) with Applications in Biosensor Design," **Microelectronics Reliability**, Vol. 47(12), pp. 2025-2057 (December 2007).
 16. **Invited Paper**, J.C. Ranuarez, M.J. Deen and C-H Chen, "A Review of Gate Tunneling Current in MOS Devices," **Microelectronics Reliability**, Vol. 46(12), pp. 1939-1956 (December 2006).
 17. **Invited Paper**, B. Iñiguez, T.A. Fjeldly, A. Lázaro, F. Danneville and M.J. Deen, "Compact Modeling Solutions For Nanoscale Double-Gate and Gate-All-Around MOSFETs," **IEEE Transactions on Electron Devices (Special Issue on Advanced Compact Models and 45-nm Modeling Challenges)**, Vol. 53(9), pp. 2128-2142 (Sept. 2006).
 18. **Invited Paper**, M.J. Deen, C.-H. Chen, S. Asgaran, G. A. Rezvani, J. Tao and Y. Kiyota, "High Frequency Noise of Modern MOSFETs: Compact Modeling and Measurement Issues," **IEEE Transactions on Electron Devices (Special Issue on Advanced Compact Models and 45-nm Modeling Challenges)**, Vol. 53(9), pp. 2062-2081(Sept. 2006).
 19. **Invited Paper**, M.J. Deen, B. Iniguez, O. Marinov. F. Lime, "Electrical Studies of Semiconductor-Dielectric Interfaces," **Special Issue - Journal of Materials Science: Materials in Electronics**, Vol. 17(9), pp. 663-683 (September 2006).
 20. **Invited Review Paper**, M.J. Deen and F. Pascal, "Electrical Characterization of Semiconductor Materials and Devices," **Journal of Materials Science: Materials in Electronics**, Vol. 17(8), pp. 549-575 (August 2006).
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Keynote, Plenary or Invited Conference Papers

● Total Plenary, Keynote, Invited Refereed and Contributed Conference Publications – 244

● Total Plenary, Keynote, Invited Refereed Conference Publications – 94

1. **Invited Paper**, A.U. Alam, S. Majumder, C-H. Chen, O. Marinov and M.J. Deen “*Low Frequency Noise in Electrochemical Sensors for Water Quality Monitoring*” **Proceedings of the 25th International Conference on Noise and Fluctuations (ICNF 2019)**, Neuchâtel, Switzerland, pp. 77-82 (18 - 21 June 2019).
2. **Keynote Paper**, M.J. Deen and A.U. Alam, “*Flexible Sensors – Materials, Interfaces and Surfaces*”, **Digest of 2019 6th International Workshop on Low Temperature Bonding for 3D Integration (LTB-3D 2019)**, pp. 108-115, Kanazawa, Ishikawa-Prefecture, Japan (May 21-25, 2019)
3. **Best Presentation Award - Opening Keynote Speaker**, M.J. Deen, “*Smart Sensors, IoT and Data Analytics – Research, Trends and Opportunities*,” **The 2018 International Congress on Cybermatics** p. 9, Halifax, Nova Scotia, Canada (30 July – 3 August 2018).
4. **Opening Keynote Paper**, M. Jamal Deen, “*Smart Sensors and IoT – Research, Trends and Opportunities*,” **IEEE Fifth International Conference on Enterprise Systems (ES 2017) – Industry 4.0 and Made in China 2025**, Tsinghua University, Beijing, China, p. 5 (22-24 September 2017).
5. **Opening Keynote Paper**, M. Jamal Deen, “*Smart Sensors and IoT – Research, Trends and Opportunities*,” **International Academicians Forum - Made in China 2025 and Industry 4.0**, Yiwu, China, 1 page (19 Sep 2017).
6. **Best Presentation Award – Distinguished Keynote Speaker**, M. Jamal Deen, “*Information and Communications Technologies for Smart Homes for Elderly Healthcare*,” **6th IEEE International Conference on Computer, Information and Telecommunication Systems (CITS 2017)**, Dalian, China, 2 pages (21-23 July 2017).
7. **Opening Plenary Paper**, M. Jamal Deen, “*Low Frequency Noise in Semiconductor Devices – State-of-the-art and Future Perspectives*,” **24th International Conference on Noise and Fluctuations (ICNF 2017)**, Vilnius, Lithuania, IEEE Conference Proceedings, 4 pages (20-23 June 2017).
8. **Best Presentation Award - Keynote Speaker**, M.J. Deen, “*Smart Sensors and Smart Home: State-of-the-Art and Future Perspectives*,” **The 2016 World Cybermatics Congress (Cybermatics X 2016)**, Chengdu, China 2 pages (16-19 December 2016).
9. **Plenary Paper**, M.J. Deen, “*Compact Modeling of Organic/Polymeric Thin Film Transistors - Past, Present and Future*”, **7th International Conference on Computer Aided Design for Thin-Film Transistor Technologies (CAD-TFT)**, Beijing, China, 2 pages (26-28 October 2016).
10. **Best Presentation Award - Keynote Speaker**, M.J. Deen, “*Smart Sensors - Research, Trends and Opportunities*,” **The 2016 International Conference on Smart X (Smart X 2016)**, Dalian, 2 pages (29-31 July 2016).
11. **Opening Keynote Speaker**, M.J. Deen, “*Engineering Education’s Contribution to Economic Development*,” **Asian Engineering Deans Summit (AEDS) 2016**, Zhejiang University, Hangzhou, China, 2 pages (16-17 May 2016).
12. **Best Presentation Award - Keynote Paper**, M.J. Deen, “*Smart Sensors, Smart Homes and Smart Cities*,” **2015 International Conference on Smart City (IEEE Smart City 2015)**, 2 pages, Chengdu, China (19-21 Dec 2015).
13. **Plenary Paper**, M.J. Deen, “*Unprecedented Vision: From Quantum Dots to Silicon Imagers*,” **The 5th IEEE International Conference on Computers and Devices for Communications (CODEC’15)**, Kolkata, India, pp 4-5, (16-18 December 2015).
14. **Plenary Paper**, M.J. Deen, “*Engineering Education’s Contribution to Economic Development*,” **2015 Conference of the Global Engineering Dean’s Council (GEDC2015)**, Adelaide, Australia, 2 pages (30 November – 2 Dec 2015).
15. **Keynote Paper**, M.J. Deen, “*Smart Home Technologies for Smart Cities*,” **The Twelfth International Conference on Ubiquitous Intelligence and Computing (UIC 2015)**, Beijing, China, 2 pages (10-14 August 2015).
16. **Keynote Paper**, M.J. Deen, “*Bioimagers – Life at the Intersection of Engineering and the Sciences*,” **International Photonics and Optoelectronics Meetings (POEM 2015) – Optoelectronics and Devices Integration (OEDI)**, 2 pages, Wuhan, China (16-19 June 2015).
17. **Best Presentation Award - Keynote Paper**, M.J. Deen, “*Information and Communications Technologies for Elderly Ubiquitous Healthcare*,” **Second IEEE International Symposium on Future Information & Communication**

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 19. **Keynote Paper**, M.J. Deen, “*Information and Communications Technologies for Elderly Ubiquitous Healthcare*,” **Second IEEE International Symposium on Future Information & Communication Technologies for Ubiquitous Healthcare (Ubi-HealthTech 2015)**, 2 pages, Beijing, China (28-30 May 2015).
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 21. **Keynote Paper**, M. Jamal Deen, “*High-performance Integrated Circuits for Environmental and Biomedical Applications*,” **IEEE TENCON 2014 – Leveraging Technology for a Better Tomorrow (IEEE Region 10 International Technical Conference)**, Bangkok, Thailand, 2 pages (22-25 October 2014).
 22. **Keynote Paper**, M. Jamal Deen, “*Information and Communications Technologies for Ubiquitous Healthcare*,” **The 4th International Conference on Current and Future Trends of Information and Communication Technologies in Healthcare (ICTH)**, Halifax, Nova Scotia, 2 pages (22-25 September 2014).
 23. **Keynote Paper**, M. Jamal Deen and M.M.R. Howlader, “*Nanobonding - A Key Technology for Emerging Applications in Health and Environment*,” **2014 4th IEEE International Workshop on Low Temperature Bonding for 3D Integration (LTB-3D 2014)**, The University of Tokyo, Hongo, Japan, 2 pages (15-16 July 2014).
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 25. **Invited Paper**, M.J. Deen, “*Low Frequency Noise in Silicon-based Devices, Circuits and Systems*,” **22nd International Conference on Noise and Fluctuations**, Montpellier, France, 5 pages (24-28 June 2013).
 26. **Invited Paper**, M.J. Deen, “*Flexible Electronics – Opportunities and Challenges*,” **The 2013 IEEE International Conference on Electron Devices and Solid-State Circuits (EDSSC’13)**, Hong Kong, 2 pages (3-5 June 2013).
 27. **Plenary Paper**, M.J. Deen, “*Biosensors - Research at the Intersection of Engineering and the Sciences*,” **Second Saudi International Electronics, Communications and Photonics Conference (SIEPCPC)**, Riyadh, Saudi Arabia, 3 pages, (27-30 April 2013).
 28. **Invited Paper**, M.J. Deen, “*Photodetectors - From Quantum Dot to Silicon Imagers*,” **The 1st International Workshop on Advanced Materials and Devices (WAMD ‘13)**, Havana, Cuba, 4 pages (13-15 March 2013).
 29. **Keynote Paper**, M.J. Deen, “*Information and Communications Technologies for Ubiquitous Healthcare*,” **The 5th IEEE International Conference on Computers and Devices for Communications (CODEC’12)**, Kolkata, India, pp K1-K3, (17-19 December 2012).
 30. **Keynote Paper**, M.J. Deen “*Information and Communications Technologies for Ubiquitous Healthcare*,” **8th International Caribbean Conference on Devices, Circuits and Systems (ICCDCS)**, Playa del Carmen, Mexico, 2 pages (14-17 March 2012).
 31. **Plenary Paper**, M.J. Deen, “*Information and Communications Technologies for Ubiquitous-Healthcare*,” **2011 IEEE 10th Int’l Symposium on Signals, Circuits and Systems (ISSCS)**, Iasi, Romania, pp. 269-270 (30 June – 1 July 2011).
 32. **Keynote Paper**, M.J. Deen, M.M.R. Howlader, P.R. Selvaganapathy and T. Suga, “*Nanobonding Technologies for Emerging Applications*,” **JIEP-IEEE International Conference on Electronics Packaging (ICEP 2011)**, Nara, Japan, 13 pages (13-15 April 2011).
 33. **Invited Paper**, M.J. Deen, “*Low-Cost, High-Sensitivity Photodetection Systems for Biomedical Applications*,” **IEEE-URSI 12th International Symposium on Microwave and Optical Technology - ISMOT 2009**, New Delhi, India, 4 pages (16-19 December 2009).
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 35. **Plenary Paper**, Jamal Deen and Nazim Agoulmine, “*Convergence of U-Health and U-Environment: An Autonomic Smart Home for the Elderly*,” **2009 IEEE Toronto International Conference - Science and Technology for Humanity**, Toronto, Canada, 2 pages (26-27 September 2009).
 36. **Invited Paper**, M.J. Deen, M.M. El-Desouki and N. Faramarzpour, “*CMOS Image Sensors and Camera-on-a-Chip for Low-light Level Biomedical Applications*,” **2008 IEEE International Conference on Electron Devices and Solid-State Circuits (EDSSC 2008)**, Hong Kong, 6 pages (8-10 December 2008).
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 41. **Keynote Paper**, M. Jamal Deen, Munir M. El-Desouki, Hamed M. Jafari and Saman Asgaran, *Low-Power Integrated CMOS RF Transceiver Circuits for Short-Range Applications, 50th IEEE International Midwest Symposium on Circuits and Systems (MWSCAS 2007) and 5th IEEE International Northeast Workshop on Circuits and Systems (NEWCAS 2007)*, Montreal, Canada, 6 pages (5-8 August 2007).
 42. **Invited Paper**, M. Jamal Deen and M.W. Shinwari, *Modeling the Electrical Characteristics of FET-type Sensors for Biomedical Applications, Workshop on Compact Modeling*, Santa Clara, CA, 4 pages (20-24 May 2007).
 43. **Keynote Paper**, M.J. Deen, M. Waleed Shinwari, Dolf Landheer and Gregory Lopinski, *High Sensitivity Detection of Biological Species via the Field-Effect, Proceedings of the IEEE International Caribbean Conference on Devices, Circuits and Systems*, Playa del Carmen, Quintana Roo, Mexico, pp. 381-385 (26-28 April 2006).
 44. **Plenary Paper**, M. Jamal Deen and O. Marinov, *Noise in Advanced Electronic Devices and Circuits, 18th Int. Conf. on Noise in Physical Systems and 1/f Fluctuations (ICNF 2005)*, Salamanca, Spain, 19-23 September 2005, *AIP Conf. Proceedings*, Vol. 780, Eds. T. Gonzalez, J. Mateos and D. Pardo, Melville, New York, pp. 3-12 (2005).
 45. **Invited Paper**, M. Jamal Deen and Rizwan Murji, *Integrated Circuits for Low Power Transceiver Applications in CMOS, IEEE 2005 Int. NE Workshop Circ. & Sys. (NEWCAS)*, Quebec City, pp. 256-259 (June 19-22, 2005).
 46. **Invited Paper**, M. Jamal Deen, J.C. Ranuárez and C.-H. Chen, *Effect of the Gate Tunneling Current on the High-Frequency Noise of MOSFETs, Workshop on Compact Modeling*, Anaheim, CA, pp. 35-39 (8-12 May 2005).
 47. **Plenary Paper**, M. Jamal Deen, *Plastic Microelectronics with Organic and Polymeric Thin Film Transistors, IEEE Spanish Conference on Electron Devices - IEEE Conferencia De Dispositivos Electronicos*, Tarragona, Spain, (CDE05-102), 4 pages (3-5 February 2005).
 48. **Invited Paper**, M. Jamal Deen, Juan C. Ranuarez and Y. Ramadass, *Distributed and Travelling-Wave Amplifiers in CMOS Technology, Proc. of the 16th Asia Pacific Microwave Conf. (APMC' 04)*, Ed. R.S. Gupta, New Delhi, India, 4 pages (15-18 December 2004).
 49. **Invited Paper**, J.C. Ranuárez, Y.K. Ramadass and M.J. Deen, *CMOS Distributed Amplifiers, 5th IEEE Int. Caracas Conf. on Devices, Circuits and Systems*, Santo Domingo, Dominican Republic, pp. 29-36 (3 - 5 Nov. 2004).
 50. **Invited Paper**, C.H. Chen, S. Asgaran, F. Li and M.J. Deen, *Characterization and Modeling of High-Frequency Noise in MOSFETs for RFIC Design, SPIE - Noise in Devices and Circuits*, Vol. 5470, Eds. F. Danneville, M.J. Deen and M.E. Levinhstein, Gran Canaria, Spain, pp. 49-60 (26-28 May 2004).
 51. **Invited Paper**, S. Asgaran and M. Jamal Deen, *RF Noise Models of MOSFETs- A Review, Workshop on Compact Modeling*, Boston, Massachusetts, pp. 259-264 (8-12 May 2004).
 52. **Invited Paper**, F.J. De la Hidalga-W, F.J. Cortés-P and M.J. Deen, *New Insights on the Cryogenic Self-Heating of Silicon MOSFETs: Thermal Resistance of the Ceramic Package, Joint Proc. of the 7th Sym. on Low Temp. Elec. and the Int. Sym. on Low-Temperature Cofired Ceramic Based Electronic Devices*, Eds. C. Claeys, W. Wong-Ng and K.M. Nair, The Electrochemical Society Proc. Volume 2003-27, Pennington, New Jersey, pp. 30-44 (2004).
 53. **Plenary Paper**, M.J. Deen, R. Murji, N. Jafferli, S. Naseh and M.H. Kazemeini, *Low Power Integrated Circuits for Radio Frequency Applications: New Ways to Achieve Improved Performance, IEEE/SPIE International Conference on Computers and Devices for Communications (CODEC) 2004*, Calcutta, India, 6 pages (1-3 January 2004).
 54. **Invited Paper**, A. Jimenez, F.J. De la Hidalga-W and M.J. Deen, *Modeling of the Dynamic Threshold MOSFET, IEEE/SPIE Int. Conf. on Computers and Devices for Communications*, Calcutta, India, 6 pages (1-3 Jan. 2004).
 55. **Invited Paper**, N.R. Das and M.J. Deen, *SiGe and SiGeC-based Devices for Si-based Photonics, 12th Int. Workshop on the Physics of Semiconductor Devices (IWPSD 2003)*, IIT Madras, India, 6 pages, (16-20 December, 2003).
 56. **Invited Paper**, M.J. Deen, S. Naseh, W.L. Ngan, N. Jafferli *Low Power RFICs for Receiver Applications – Design and Performance Issues, IEEE Conf. El. Dev. & Solid-State Circuits*, Hong Kong, pp. 215-20 (14-16 Dec. 2003).
 57. **Invited Paper**, M.J. Deen, O. Marinov, S. Naseh, M. Sanden, M. Kazemeini, S.G-Jarrix, and F. Pascal, *Phase Noise in Oscillators: Experiments, Modeling and Circuit Issues, Proceedings of the 17th Int. Conf. on Noise in Phys. Sys. & 1/f Fluctuations (ICNF 2003)*, Prague, Czech Republic, pp. 525-532 (18-22 Aug. 2003).
 58. **Invited Paper**, O. Marinov and M.J. Deen, *Noise and Charge Transport in Polymer Thin-Film Structures, SPIE - Noise in Devices and Circuits*, Vol. 5113, Eds. M.J. Deen, Z. Celik-Butler and M.E. Levinhstein, pp. 301-312, Santa

- Fe, New Mexico (1-4 June 2003).
59. **Invited Paper**, F. Pascal, S.G-Jarrix, C. Delseny, A. Penarrier, C. Chay and M.J. Deen, *Comparison of Low Frequency Noise in III-V and Si/SiGe HBTs*, **SPIE - Noise in Devices and Circuits**, Vol. 5113, Eds. M.J. Deen, Z. Celik-Butler and M.E. LeVinhstein, pp. 133-146, Santa Fe, New Mexico (1-4 June 2003).
 60. **Keynote Paper**, M.J. Deen and F. Pascal, *Low Frequency Noise in Silicon Transistors: Experiments, Modeling, Scaling, Reliability and Circuit Issues*, **SPIE - Noise in Devices and Circuits**, Vol. 5113, Eds. M.J. Deen, Z. Celik-Butler and M.E. LeVinhstein, pp. 1-15, Santa Fe, New Mexico (1-4 June 2003).
 61. **Plenary Paper**, M.J. Deen, *Electrical Characterization Techniques for Semiconductor-Silicon Dioxide Interfaces - A Review*, **Proceedings of the Sixth Symposium Silicon Nitride and Silicon Dioxide Thin Insulating Films**, Ed.S.R.E. Sah, M.J. Deen, D. Landheer, K.B. Sundaram, W.D. Brown and D. Misra, **The 203rd Meeting of the Electrochemical Society** Paris, France, pp. 3-21 (27 April - 2 May 2003).
 62. **Invited Paper**, Y. El-Batawy and M.J. Deen, *Resonant Cavity Enhanced Photodetectors (RCE-PDs): Structure, Material, Analysis and Optimization*, **SPIE Photonics West, Optoelectronics 2003 - Quantum Sensing: Evolution and Revolution from Past to Future**, Proc. Volume 4999, 16 pages, San Jose, California (25-31 January 2003).
 63. **Invited Paper**, N.R. Das and M.J. Deen, *Integrated Silicon Photoreceivers for Optical Communication*, **Photonics 2002**, Mumbai, India, 6 pages (December 2002).
 64. **Invited Paper**, P.K. Basu, S. Ghosh and M.J. Deen, *Optoelectronic Integrated Devices and Planar Lightwave Circuits on Silicon and Related Materials*, **Photonics 2002**, Mumbai, India, 6 pages (December 2002).
 65. **Invited Paper**, O. Marinov, M.J. Deen, J. Yu, G. Vamvounis, S. Holdcroft and W. Woods, *Instability of the Noise Level in Polymer Field Effect Transistors with Non-Stationary Electrical Characteristics*, **3rd Int. Conf. on Unsolved Problems of Noise & Fluctuations**, 2-7 Sep. 2002, Ed. S.M. Bezrukov, AIP Conf. Proc. Vol. 665, New York, pp. 488-495 (2003).
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Plenary, Keynote or Invited Conference Abstracts

● Total Plenary, Keynote, Invited Refereed and Contributed Conference Abstracts – 220

● Total Plenary, Keynote, Invited Refereed Conference Abstracts – 105

1. **Opening Keynote Speaker**, M.J. Deen, “*Sensing Technologies for Ubiquitous Healthcare*,” **7th International Conf. on Computers and Devices for Communication (CODEC 2019)**, page 1, Kolkata, India (Thur 19 December 2019).
2. **Opening Keynote Speaker**, M.J. Deen, “*Smart Sensors and Smart Homes for Ubiquitous Healthcare – AI is a Key Enabler*,” **2019 Guangdong-Hong Kong-Macao Greater Bay Area International Summit – “Focusing on EDA & Modeling Initiative Program”**, 1 page, Shenzhen, China (Sunday 15 December 2019).
3. **Opening Keynote Speaker**, M.J. Deen, “*Bioimagers – Having Fun at the Intersection of Engineering and Sciences*,” **2019 International Academicians Summit**, 1 page, Chengdu, China (Tuesday 15 October 2019).
4. **Keynote Speaker**, M.J. Deen, “*Smart Sensors for Water Quality Monitoring Applications*,” **2019 Smart China Expo – “Smart Agriculture Forum”**, 1 page, Chongqing, China (27 August 2019).
5. **Best Presentation Award - Opening Keynote Speaker**, M.J. Deen, “*Smart Sensors and Data Analytics for Ubiquitous Healthcare*,” **2019 IEEE HPCC/Smart City/DSS 2019 (21st International Conference High Performance Computing and Communications / 17th International Conference on Smart City / 5th International Conference on Data Science and Systems)**, p. 11, Zhangjiajie, China, (10 August 2019).
6. **Invited Speaker**, M.M.R. Howlader and M.J. Deen, “*Nanomaterials Based Low-cost Sensors*,” **19th Canadian Semiconductor Science and Technology Conference (CSSTC 2019)**, 1 page, Saskatoon, Saskatchewan, Canada (28 July – 1 August 2019).
7. **Keynote Speaker**, M.J. Deen, “*Cognitive Decision Making – A Case Study for Fiber Optic Communication Systems*,” **2019 Huawei Future Network Frontiers Workshop**, 1 page Montreal, Canada (18-19 July 2019).
8. **Keynote Speaker**, M.J. Deen, “*Smart Sensors for Environmental Applications*,” “**2019 Inspiring ICT**” **International Summer School on Information and Communication Technology**, Xidian University, pp. 20-21, Xian, China (6 July 2019).
9. **Best Presentation Award - Opening Keynote Speaker**, M.J. Deen, “*Smart Sensors and Data Analytics for U-Healthcare – AI is a Key Enabler*,” **2019 APEC Innovation Dialog Forum**, 1 page, Huzhou, China, (14 May 2019).
10. **Plenary Speaker**, M.J. Deen, “*Smart Sensors, IoT and Data Analytics – Research, Trends and Opportunities*,” **The Humboldt Association of Canada “Kolleg: Transitions”**, 1 page, Ottawa, Canada, (11 May 2019).

11. **Keynote Speaker**, M.J. Deen, “*Integrating Nano-/Optoelectronics in Bioimagers for Healthcare Applications*,” “**2018 Innovative ICT**” **International Summer School on Information and Communication Technology**, Xidian University, 1 page, Xian, China (25 July 2018).
12. **Keynote Speaker**, M.J. Deen, “*Smart Sensors and Smart Homes for Ubiquitous Healthcare*,” **2018 The Second International Duke Kunshan University Innovation Forum “AI: Recent Development Emerging Applications**,” p. 6, Kunshan, China (21-22 May 2018).
13. **Keynote Speaker**, M.J. Deen, “*Smart Sensors – Having Fun at the Intersection of Engineering & Sciences*,” **Nanotech Malaysia 2018**, p. 8P-1-2, Kuala Lumpur, Malaysia (7-9 May 2018).
14. **Keynote Speaker**, M.J. Deen, “*Smart Sensors and Smart Homes for Elderly Ubiquitous Healthcare*,” **2017 International Conference on Security, Pattern Analysis and Cybermatics**, pp11-13, Shenzhen, China (15-17 December 2017).
15. **Opening Keynote Speaker**, M.J. Deen, “*Smart Sensors and IoT – Research, Trends and Opportunities*,” **Proceedings of ES 2017. IEEE Fifth International Conference on Enterprise Systems (ES 2017) – Industry 4.0 and Made in China 2025**, 12page, Tsinghua University, Beijing, China (September 2017).
16. **Opening Keynote Speaker**, M.J. Deen, “*Smart Sensors and IoT – Research, Trends and Opportunities. Conference Proceedings. International Academicians Forum - Made in China 2025 and Industry 4.0*,” 1 page, Yiwu, China (September 2017).
17. **Keynote Speaker**, M.J. Deen, “*Smart Sensors – Research, Trends and Opportunities*,” **Chip on the Sands - SB-Micro 2017**, Fortaleza, Brazil, 2 pages (Wednesday 30 August 2017).
18. **Keynote Lecture**, M.J. Deen, “*Nano-Optoelectronic Systems for Health Applications*,” **NTU-MediaTek IC Design Workshop**, Nanyang Technological University, Singapore (16 August 2017).
19. **Opening Keynote Speaker**, M.J. Deen, “*Unprecedented Vision: From Quantum Dots to Silicon Imagers*,” **Annual Workshop – 111 Project Base of Wide Band-gap Semiconductor and Micro-Nano-Electronics**, Xidian University, Xian, China, p 1 (19 July 2017).
20. **Keynote Lecture**, M.J. Deen, “*Smart Sensors for Ubiquitous Healthcare: Trends and Stat-of-the-Art*,” **International Summer School on Information and Communication Technology (16-25 July 2017)**, Xidian University, Xian, China, p 11 (18 July 2017).
21. **Invited Paper**, J.A. Jimenez Tejada, P. Lopez Varo, O. Marinov, C.H. Chen and M.J. Deen, “*Effect of Metal-Organic Interfaces in Analytical Modeling of Organic Solar Cells*,” **231st Meeting of the Electrochemical Society**, 2 pages, New Orleans, LA (26 May – 1 June 2017).
22. **Opening Keynote Speaker**, M.J. Deen, “*Nano-Optoelectronic Systems for Health Applications*,” **BIT’s 3rd Annual World Congress of Smart Materials – 2017, Theme: Step Towards a Ubiquitous Smart Future**, Bangkok, Thailand, p. 42, (16-18 March 2017).
23. **Opening Keynote Speaker**, M.J. Deen, “*Smart Sensors for Health Applications – Research, Trends and Opportunities*,” **Second Generation of Information Technology, Technology Innovation Shenzhen-Hong Kong Cooperation, Shenzhen-Hong Kong Cooperation High-Level Forum**, Shenzhen Research Institute, Key Laboratory of Shenzhen System Chip Design, Peking University, Shenzhen, China, 1 page (Saturday 18 February 2017).
24. **Opening Keynote Speaker**, M.J. Deen, “*Smart Sensors for the Grand Challenges in Health and Environmental Applications*,” **38th Annual Scientific Meeting of the National Academy of Science and Technology “Looking Back and Looking Forward”**, Manila, Philippines, 2 pages, (Wednesday 13 July 2016).
25. **Invited Paper**, M.J. Deen, “*Engineering Education and Economic Development - Fact or Fiction*,” Graduate Students Meeting on Electronics Engineering, Universitat Rovira i Virgili (URV), Tarragona, Spain, 2 pages (Friday 1 July 2016).
26. **Invited Paper**, M.J. Deen, “*Flexible Electronics: Opportunities and Challenges*,” **International Workshop on Flexible Electronics (WFE)**, Universitat Rovira i Virgili, Tarragona, Spain, 2 pages (Wednesday 29 June 2016).
27. **Invited Paper**, M.J. Deen, “*Low-cost Bio-imagers for Healthcare Screening and Diagnostics*,” **King Khalid University Medical City (KKUMC) International Conference -University Healthcare Systems: Identity and Mission**, King Khalid University, Abha, Saudi Arabia, 2 pages (30-31 March 2016).
28. **Opening Keynote Speaker**, M.J. Deen, “*Smart Sensors for the Grand Challenge in Health Applications*,” **Philippine Council for Health Research and Development (PCHRD) Conference: Going Global: Increasing International Partnerships in Research and Innovation for Health**, Manila, Philippines, 2 pages (17 March 2016).
29. **McMaster Plenary**, M.J. Deen, “*Smart Home Technologies Towards Elderly Ubiquitous Healthcare*,” **McMaster University and The McMaster Institute of Geroscience Symposium on the Plasticity of Aging – Living Long ... Living Well**, Hamilton, Canada, 1 page (29 September – 1 October 2015).
30. **Invited Paper**, M.J. Deen, “*Smart Home Technologies for Smart Cities*,” **International Workshop on Big Data for Petroleum Engineering**, China University of Petroleum, Qingdao, China, 1 page (16 August 2015).
31. **Invited Paper**, J.A. Jimenez Tejada, P. Lopez Varo, O. Marinov and M.J. Deen, “*Role of Metal-Organic Intefaces in*

- the Dark Current Characteristics of Organic Solar Cells,” 227th Meeting of the Electrochemical Society*, 2 pages, Chicago, Illinois (24-28 May 2015).
32. **Invited Paper**, M.J. Deen, “*IoT, Smart City and U-Health, U-Environment Smart Home*,” Walter Booth School of Engineering Practice “**Policy Matters in a Connected World**” Specialty Workshop, McMaster University, Hamilton, Canada, 1 page (5 May 2015).
 33. **Keynote Paper**, M.J. Deen, “*Smart Home Technologies Towards Better Healthcare*,” **5th Saudi eHealth Conference**, Riyadh, Saudi Arabia, 1 page (18-20 November 2014).
 34. **Keynote Paper**, M.J. Deen, “*Ubiquitous-Healthcare Smart Homes for the Elderly*,” **IEEE International Humanitarian Technology Conference (IHTC 2014)**, Montreal, Canada, 1 page (Sunday 1 June 2014).
 35. **Invited Paper**, Q. Fang, M.J. Deen and R. Selvaganapathy, “*Applications of Optoelectronics Sensor Technology in Environmental and Personal Health Monitoring*,” **Integrated Optoelectronics 7, 225th Meeting of the Electrochemical Society**, Orlando, Florida, 1 page (Tuesday 13 May 2014).
 36. **Invited Paper**, D. Palubiak and M.J. Deen, “*Single Photon Avalanche Diode Imaging Systems for Biomedical Applications*,” **Integrated Optoelectronics 7, 225th Meeting of the Electrochemical Society**, Orlando, Florida, 1 page (Monday 12 May 2014).
 37. **Keynote Paper**, M.J. Deen, “*Biosensors – Having Fun with Engineering and the Sciences*,” **IX Workshop on Semiconductors & Micro & Nano Technology (SEMINATEC 2014)**, Sao Paulo, Brazil, 1 page (Fri 25 April 2014).
 38. **Invited Paper**, M.J. Deen, “*Smarter Homes Towards Better Healthcare for the Elderly*,” **Canadian Conference on Electrical and Computer Engineering (CCECE 2014)**, Toronto, Ontario, 1 page (Tuesday 6 May 2014).
 39. **Invited Paper**, M.J. Deen, “*Smart Cities – ICT and Transportation*,” **APEC Smart City Innovation & Technology Cooperative Forum – Academician Sub-Forum**, Changzhou, China, 1 page (Wednesday 9 April 2014).
 40. **Keynote Paper**, M.J. Deen, “*Information and Communications Technologies for Ubiquitous-Healthcare*,” **APEC (Asia-Pacific Economic Cooperation) Smart City Innovation & Technology Cooperative Forum**, Changzhou, China, 1 page (Tuesday 8 April 2014).
 41. **Invited Paper**, M.J. Deen, “*Imaging and Sensing Devices for Medical and Environmental Applications*,” **Workshop for International Research Core for Advanced Manufacturing Science for Future Systems, International Symposium on Advanced Manufacturing Science for Future Systems**, University of Tokyo, Tokyo, 1 page (Thursday 20 March 2014).
 42. **Invited Paper**, M.J. Deen and M.R. Howlader, “*Future Nano- and Micro-Systems Using Nanobonding Technologies*,” **International Conference on Nanomaterials 2013**, London, Ontario, Canada, 1 page (Monday 12 August 2013).
 43. **Invited Paper**, J.A.J. Tejada, Pilar López Varo, Karam Awawdeh and M.J. Deen, “*Modeling of Charge Injection in Organic/Polymeric Diodes*,” **Organic Semiconductor Materials, Devices, and Processing 4, 223rd Meeting of the Electrochemical Society**, Toronto, Canada, 1 page (Tuesday 14 May 2013).
 44. **Invited Paper**, Ognian Marinov, Cong Feng, and M. Jamal Deen, “*Precise Parameter Extraction for Organic Thin-Film Transistors Operating in the Linear Regime*,” **Organic Semiconductor Materials, Devices, and Processing 4, 223rd Meeting of the Electrochemical Society**, Toronto, Canada, 1 page (Tuesday 14 May 2013).
 45. **Invited Paper**, M.J. Deen, “*Nanotechnology - Nanobonding a Key Enabling Technology Emerging Applications*,” **The 1st Int. Workshop on Advanced Materials and Devices (WAMD ‘13)**, Havana, Cuba, 1 page (13-15 March 2013).
 46. **Invited Paper**, M. Deen and Qiyin Fang, *Bioimagers – Life at the Intersection of Engineering and Sciences*, **The 4th International Symposium on IT Convergence Engineering (ISITCE)**, Seoul, Korea, 1 page (12-13 July 2012).
 47. **Invited Paper**, M. Deen, *Compact Modeling of Organic Thin Film Transistors*, **The 8th International Conference on Organic Electronics**, Tarragona, Spain, 1 page (25-27 June 2012).
 48. **Invited Paper**, M.M. Eldesouki, D. Palubiak, and M. Deen, *High-Speed Ultra-Sensitive CMOS SPAD Imagers*, **Sixth International Symposium on Integrated Optoelectronics, The 221st Meeting of the Electrochemical Society**, Seattle, Washington, 1 page (6-12 May 2012).
 49. **Invited Paper**, D. Palubiak, M. Deen, and H. Peng, *Characterization of a 130 nm CMOS SPAD Pixel*, **Sixth International Symposium on Integrated Optoelectronics, The 221st Meeting of the Electrochemical Society**, Seattle, Washington, 1 page (6-12 May 2012).
 50. **Invited Paper**, Q. Fang and M. Deen, *Recent Advances in Integrated Optoelectronics and their Applications in Endomicroscopy and Distributed Environment Sensing*, **Sixth International Symposium on Integrated Optoelectronics, The 221st Meeting of the Electrochemical Society**, Seattle, Washington, 1 page (6-12 May 2012).
 51. **Keynote Paper – Royal Society of Canada Keynote Address**, M.J. Deen, *Integrated Low-cost, High-sensitivity Biosensors for Water Quality Monitoring*, **23rd Canadian Congress of Applied Mechanics 2011 (CanCAM 2011)**, 1 page, Vancouver, BC, Canada (5-9 June 2011).
 52. **Invited Paper**, O. Marinov and M.J. Deen, *Transient Behavior of Variable Range Hopping*, **Organic Semiconductor Materials, Devices & Processing 3, 219th Meeting of the Electrochemical Society**, Montreal, Canada (3 May 2011).

53. **Invited Paper – Electronics and Photonics Division Award Talk**, M.J. Deen, *Organic/Polymeric Thin Film Transistors - Fabrication, Characterization and Modeling*, **Organic Semiconductor Materials, Devices, and Processing 3, 219th Meeting of the Electrochemical Society**, Montreal, Canada (Tuesday 3 May 2011).
54. **Invited Paper**, J. Jiménez Tejada, K. Awawdeh, P. López Varo, A. Ray, and M.J. Deen, *Contact Effects and Hysteresis in Organic Thin Film Transistors*, **Organic Semiconductor Materials, Devices, and Processing 3, 219th Meeting of the Electrochemical Society**, Montreal, Canada (Tuesday 3 May 2011).
55. **Invited Paper**, R. Datars, J. Tajik, and M.J. Deen, *Modeling of Organic Solar Cells*, **Organic Semiconductor Materials, Devices & Processing 3, 219th Meeting of the Electrochemical Society**, Montreal, Canada (3 May 2011).
56. **Plenary Paper**, M.J. Deen, *Low-cost, High-sensitivity Sensing Systems for Environmental and Biomedical Applications*, **IEEE Spanish Conference on Electron Devices (IEEE Conferencia De Dispositivos Electronicos)**, Mallorca, Spain, 1 page (9-11 February 2011).
57. **Invited Paper**, M.J. Deen, *Compact and Numerical Modeling of Organic Thin Film Transistors*, **3rd International Workshop on Compact Thin-Film Transistor Modeling for Circuit Simulation (C-TFT 2010)**, Tarragona, Spain, 1 page abstract (2 July 2010).
58. **Invited Paper**, J.A. Jiménez Tejada, J.A. López Villanueva, J. E. Carceller, M.J. Deen, N. B. Chaure and A. K. Ray, *Incorporation of Contact Effects in Compact Models of Organic/Polymeric Thin Film Transistors*, **3rd International Workshop on Compact Thin-Film Transistor Modeling for Circuit Simulation (C-TFT 2010)**, Tarragona, Spain, 1 page abstract (2 July 2010).
59. **Invited Paper**, M. A. Naser, M.J. Deen and D. Thompson, *Photocurrent Modeling of Resonant Tunneling Quantum Dot Infrared Photodetectors*, **Fifth International Symposium on Integrated Optoelectronics, The 217th Meeting of the Electrochemical Society**, Vancouver, BC, Canada, 1 page (Wednesday 26 April 2010).
60. **Invited Paper**, R. Wang, J. Deen and Q. Fang, *Wide Field Catadioptric System Design for Endoscopic Auto-Fluorescence Imaging*, **Fifth International Symposium on Integrated Optoelectronics, The 217th Meeting of the Electrochemical Society**, Vancouver, BC, Canada, 1 page (Tuesday 26 April 2010).
61. **Invited Paper**, L. M. Resendiz Mendoza, M. Estrada, A. Cerdeira, B. Iniguez and M.J. Deen, *Influence of P3HT Active Layer Thickness on the Electrical Characteristics of PTFTs*, **Second Int. Symposium on Organic Semiconductor Materials and Devices, The 216th Meeting of the Electrochemical Society**, Vienna, Austria, 1 page (Tuesday 6 October 2009).
62. **Invited Paper**, J. Jiménez Tejada, P. Lara Bullejos, M.J. Deen and O. Marinov, *Study of the Physical Mechanisms at the Contact Regions of Organic Transistors*, **Second Int. Symposium on Organic Semiconductor Materials and Devices, The 216th Meeting of the Electrochemical Society**, Vienna, Austria, 1 page (Monday 5 October 2009).
63. **Invited Paper**, O. Marinov, M.J. Deen and B. Iniguez, *Compact Modeling of Organic Thin Film Transistors* **Second Int. Symposium on Organic Semiconductor Materials and Devices, The 216th Meeting of the Electrochemical Society**, Vienna, Austria, 1 page (Monday 5 October 2009).
64. **Invited Paper**, M.J. Deen, *CMOS-based Photodetection Systems for Biological/Medical Application*, **2009 CMOS Emerging Technologies**, Vancouver, Canada, 1 page (23-25 September 2009).
65. **Invited Paper**, N. Faramarzpour, M.J. Deen, Q. Fang and S. Shirani, *Breakdown Mechanism in Silicon Avalanche Photodiodes*, **Integrated Optoelectronics 4, The 214th Meeting of the Electrochemical Society**, Honolulu, Hawaii, 1 page (Wednesday 15 October 2008).
66. **Invited Paper**, M. A. Naser, M. Deen and D. Thompson *Modeling and Optimization of Quantum Dot Infrared Photodetectors*, **Integrated Optoelectronics 4, The 214th Meeting of the Electrochemical Society**, Honolulu, Hawaii, 1 page (Tuesday 14 October 2008).
67. **Invited Paper**, M. Eldesouki, M. Deen, Q. Fang, F. Tse and L. W. Liu, *CMOS Camera-on-Chip Image Sensor for Biomedical Applications*, **Integrated Optoelectronics 4, The 214th Meeting of the Electrochemical Society**, Honolulu, Hawaii, 1 page (Tuesday 14 October 2008).
68. **Invited Paper**, Q. Fang, M. Kfoury, T. Huang, F. Tse, L. W. Liu and M. Deen, *Towards a Lab-in-a-Pill for Wireless GI Endoscopy*, **Integrated Optoelectronics 4, The 214th Meeting of the Electrochemical Society**, Honolulu, Hawaii, 1 page (Monday 14 October 2008).
69. **Invited Paper**, M.J. Deen, *Compact Modeling of Silicon-based, Low-cost, Highly Integrated Biosensors*, **IEEE EDS Mini-Colloquium on Advanced Electron Devices Technology and Modeling**, The Møller Centre, Cambridge, UK, 1 page (Friday 12 September 2008).
70. **Invited Paper**, M.J. Deen, *Modeling Organic/Polymeric Thin-film Transistors*, **First IEEE EDS International Workshop on Compact Thin-Film Transistor Modeling for Circuit Simulation**, The Møller Centre, Cambridge, UK, 1 page (Thursday 11 September 2008).
71. **Invited Paper**, M.J. Deen, *Silicon-based High-sensitivity Integrated Biosensors*, **NanoTr IV – Nanoscience and Nanotechnology Conference**, Istanbul, Turkey, page 87 (9-13 June 2008).

72. **Invited Paper**, M.J. Deen, *Contacts Effects on the Charge Transport in Polymeric Thin-film Field-effect Transistors*, **International Symposium on Flexible Electronics (ISFE)** (First Int. Symposium on Organic Semiconductor Materials and Devices), Tarragona, Spain, 1 page (6-9 April 2008).
73. **Invited Paper**, J.A. Jiménez Tejada, P. Lara Bullejos M.J. Deen and W. Datars, *Compact Model for the Injection and Transport of Charge in Organic Diodes*, **The 212th Meeting of the Electrochemical Society** (First Int. Symposium on Organic Semiconductor Materials and Devices), Washington, DC, 1 page (7 - 12 October 2007).
74. **Invited Paper**, M.J. Deen, M. Kazemeini and S. Holdcroft, *The Influence of the Contacts in Charge Transport in Polymer Thin- Film Field-Effect Transistors*, **The 212th Meeting of the Electrochemical Society** (First Int. Symposium on Organic Semiconductor Materials and Devices), Washington, DC, 1 page (7 - 12 October 2007).
75. **Plenary Paper**, M.J. Deen, *Highly Sensitive, Low-cost Integrated Biosensors*, **SBMicro2007 - 22nd Symposium on Microelectronics Technology and Devices**, Rio de Janeiro, Brazil, 1 page (3-6 September 2007).
76. **Tutorial Paper**, M.J. Deen, *Noise in Advanced Electronics Devices and Circuits*, **SBMicro2007 - 22nd Symposium on Microelectronics Technology and Devices**, Rio de Janeiro, Brazil, 1 page (Monday 3 September 2007).
77. **Invited Paper**, M.J. Deen, *Noise Issues in CMOS Devices and Circuits*, **2007 IEEE Workshop on Microelectronics and Electron Devices (WMED) - Fifth Regional Meeting**, Boise Center on the Grove, Boise, Idaho (20 April 2007).
78. **Plenary Paper**, M.J. Deen, *Highly Sensitive, Low-cost Integrated Biosensors*, **The IEEE International Conference on Computers and Devices for Communications (CODEC'06)**, Kolkata, India., 1 page (18-20 December 2006).
79. **Invited Paper**, Q. Fang, M.J. Deen and J. Lo, *Time- and Spectra-Resolved MOEMS Device for Sensing and Imaging in Clinical Diagnosis*, **The 210th Meeting of the Electrochemical Society** (Third Int. Symposium on Integrated Optoelectronics), Cancun, Mexico, 1 page (29 October – 3 November 2006).
80. **Invited Paper**, M.J. Deen, N. Faramarzpour, F. Campos, S. Shirani, Q. Fang, L. Liu and J. W. Swart, *High-Sensitivity Photodetector Systems for Fluorescence Imaging*, **The 210th Meeting of the Electrochemical Society** (Third Int. Symposium on Integrated Optoelectronics), Cancun, Mexico, 1 page (29 October – 3 November 2006).
81. **Invited Paper**, M.J. Deen, *Integrated Biosensors*, **The IEEE EDS International Electron Device and Materials Colloquium**, Orlando, Florida, 1 page (24-25 February 2006).
82. **Invited Paper**, J.C. Ranuarez and M.J. Deen, *Highly Sensitive Integrated Biosensors*, **The 208th Meeting of the Electrochemical Society** (Dielectrics and the Dielectric-Electrolyte Interface in Biological and Biomedical Applications) Los Angeles, California, 1 page (17-21 October 2005).
83. **Invited Paper**, N.R. Das and M.J. Deen, *Quantum Dot Infrared Photodetector and its Applications*, **Thirteenth Int. Workshop on the Physics of Semiconductor Devices (IWPSD 2005)**, New Delhi, India, 1 page, (13-17 Dec. 2005).
84. **Invited Paper**, M.J. Deen, *Plastic Microelectronics with Organic and Polymeric Thin-Film Transistors*, **The 1st International Workshop of NANO Systems Institute**, Seoul National University, Korea, p. 35 (30-31 May, 2005).
85. **Invited Paper**, M.J. Deen and O. Marinov, *The Importance of the Gate Dielectric in Organic and Polymeric Thin-Film Transistors*, **The 207th Meeting of the Electrochemical Society** (Second International Symposium on Science and Technology of Dielectrics in Emerging Fields), Quebec City, Quebec, Canada, 1 page (15-20 May, 2005).
86. **Invited Paper**, Y. Ardeshirpour and M.J. Deen, *CMOS Image Sensors for Fluorescent Detection from DNA Microarray*, **The 206th Meeting of the Electrochemical Society** (Second International Symposium on Integrated Optoelectronics), Honolulu, Hawaii, 1 page (3-8 October, 2004).
87. **Invited Paper**, Y. El-Batawy and M.J. Deen, *High Speed Photodetectors: Modeling Issues*, **The 206th Meeting of the Electrochemical Society** (2nd Int. Sym. on Integrated Optoelectronics), Honolulu, Hawaii, 1 page (Oct. 2004).
88. **Plenary Paper**, M.J. Deen, *Low Power RFICs for Transceiver Applications*, **IEEE Nanoelectronic and Photonic Systems Workshop**, Tarragona, Spain (21-22 June 2004).
89. **Invited Paper**, N. Faramarzpour, S. Shirani, M.J. Deen, *DNA Microarrays and Applications in Testing for Bio-hazardous Materials in the Environment*, **The 5th Biennial International Conference on Chemical Measurement and Monitoring of the Environment**, Toronto, Canada (May 2004).
90. **Invited Paper**, F.J. De la Hidalga-W., F.J. Cortes-P and M.J. Deen, *New Insights on the Cryogenic Self-Heating of Silicon MOSFETs: Thermal Resistance of the Ceramic Package*, **The 204th Meeting of the Electrochemical Society** (Sixth Symposium on Low Temperature Electronics), Orlando, Florida, p. 1404 (12-16 October 2003).
91. **Plenary Paper**, M.J. Deen, *Non-Conventional Operation of FETs and FET Circuits, and Non-conventional FETs - How Much can we Gain and What are the Applications*, **IEEE Conferencia Internacional de Dispositivos, Circuitos y Sistemas Veracruz 2003 (CIDCSVER)**, Veracruz, Mexico (25-27 June 2003).
92. **Keynote Paper**, M.J. Deen, *Electrical Characterization of Si-SiO₂ and Semiconducting Polymer- SiO₂ Interfaces*, **The 203rd Meeting of the Electrochemical Society**, Paris, France, p. 452 (27 April-2 May 2003).
93. **Invited Paper – T.D. Callinan Award Talk**, M.J. Deen, *Electrical Characterization Techniques for Semiconductors and Semiconductor- Dielectric Interfaces - A Review*, **The 201st Meeting of the Electrochemical Society** (Progress, Opportunities in Dielectric Science and Technology Over the Last 25 Years: A Retrospective), Philadelphia, PA, p. 370

(12- 17 May 2002).

94. **Invited Paper**, N. Das, Y. El-Batawy, and M.J. Deen, *Optoelectronic Integrated Circuit Photoreceivers for Fiber-Optic Telecommunication*, **The 201st Meeting of the Electrochemical Society** (First International Symposium on Integrated Optoelectronics), Philadelphia, Pennsylvania, p. 659 (12-17 May 2002).
95. **Invited Paper**, F.J. De la Hidalga-W. and M.J. Deen, *Transient Phenomena During Self-Heating of Silicon Devices Operating at Low Temperatures*, **The 200th Meeting of the Electrochemical Society** (Sixth Symposium on Low Temperature Electronics), San Francisco, California, p. 1404 (2-7 September 2001).
96. **Invited Paper**, F.J. De la Hidalga-W., M.J. Deen and E.A. Gutierrez-D., *Analytical and Experimental Study of the Cryogenic Self-Heating of Silicon Integrated Devices*, **The 196th Meeting of the Electrochemical Society** (Fifth Symposium on Low Temperature Electronics), Honolulu, Hawaii (17-22 October 1999).
97. **Invited Paper**, S. An, M.J. Deen, A. Bandyopadhyay, W.R. Clark, A.S. Vetter, J. Yu, J.-P. Noel and M. Svilans, *Characterization of InP/InGaAs Avalanche Photodiodes for 2.5 GHz Optical Fiber Communications*, **The 193rd Electrochemical Society Meeting** (Twenty-Eight Symposium on State-of-the-Art Program on Compound Semiconductors), San Diego, California, pp. 405-1 to 405-3 (3-8 May 1998).
98. **Invited Paper**, A. Raychaudhuri, W.S. Kwan, M.J. Deen and M.I.H. King, *Hot-Carrier Defect Length Propagation in LDD NMOSFET*, **The 191st Electrochemical Society Meeting** (Fourth Symposium on Silicon Nitride and Silicon Dioxide Thin Insulating Films), Montreal, Canada, pp. 340-341 (4-9 May 1997).
99. **Invited Paper**, E.A. Gutierrez-D., M.J. Deen and A. Torres-J., *Silicon Radiation Detectors for Low Temperature Electronics* **The 191st Electrochemical Society Meeting** (Fourth International Symposium on Low Temperature Electronics and High Temperature Superconductivity), Montreal, Canada, pp. 722-723 (4-9 May 1997).
100. **Invited Paper**, M.J. Deen *Modeling of Avalanche Photodiodes*, **Progress in Electromagnetics Research Symposium (PIERS 1997)**, Kowloon, Hong Kong, Proc. PIERS '97, p. 117 (6-9 January 1997).
101. **Invited Paper**, M.J. Deen and Z.X. Yan, *Low Temperature Characteristics of Gated LPNP Transistors*, **The 187th Electrochemical Society Meeting** (Third Symposium on Low Temperature Electronics and High Temperature Superconductivity), Reno, Nevada, 1 page abstract and 2 journal pages of extended summary (21-26 May 1995).
102. **Invited Paper**, M. Murowinski and M.J. Deen, *Charge Transfer Efficiency in Low Temperature CCDs*, **The 187th Electrochemical Society Meeting** (Third Symposium on Low Temperature Electronics and High Temperature Superconductivity), Reno, Nevada, 1 page abstract and 1 journal page of extended summary (21-26 May 1995).
103. **Invited Paper**, M.J. Deen and A. Raychaudhuri, *Charge Pumping, Low Frequency Noise and Floating Gate Characterization Techniques of SiO₂ gate Insulators in MOSFETs*, **The Electrochemical Society Spring Meeting**, San Francisco, California, Vol. 94-1, pp. 245-6 (22-27 May 1994).
104. **Invited Paper**, M.J. Deen, *D.C. and Low Frequency Noise Characteristics of Resonant Tunneling Diodes*, **The Electrochemical Society Spring Meeting**, Honolulu, Hawaii, 1 page abstract and two journal pages of extended summary, (16-21 May 1993).
105. **Invited Paper**, M.J. Deen, *Low Temperature Microelectronics: Opportunities and Challenges*, **Electrochemical Society**, Vol. 91-1, pp. 384-385, (May 1991).

Contributed Conference Abstracts

● Total Contributed Conference Abstracts – 115

106. Z. Cheng, H. Peng, M.J. Deen, “*Performance Integrated Circuits for Biomedical Imaging Applications*,” **Integrated Optoelectronics 7, 225th Meeting of the Electrochemical Society**, Orlando, Florida, 1 page (Wed 13 May 2014).
107. X. Zheng, M.J. Deen, and H. Peng, “*Performance Characteristics of CZT Detectors for PET Imaging Applications*,” **Integrated Optoelectronics 7, 225th Meeting of the Electrochemical Society**, Orlando, Florida, 1 page (Wednesday 13 May 2014).
108. H. Alhemi and M.J. Deen, “*MOS Time-Domain Imager for Functional Brain Imaging Using Gated Near-Infrared Spectroscopy*,” **Integrated Optoelectronics 7, 225th Meeting of the Electrochemical Society**, Orlando, Florida, 1 page (Tuesday 13 May 2014).
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