Manuel Quevedo-Lopez, Ph.D.

Dept. of Materials Science and Engineering
The University of Texas at Dallas
800 West Campbell, RL 10, NSERL 4.404
Richardson, Texas 75080-3021
Phone: 972 883 5714
mquevedo@utdallas.edu

EDUCATION

Ph.D.	Materials Science & Engineering	University of North Texas	06/02
M. S.	Materials Science & Engineering	Saltillo Institute of Technology	06/98
B. Sc.	Chemistry	University of Sonora	06/96

EXPERIENCE

Associate Professor	University of Texas at Dallas, USA	09/10 – Now
Adjunct Professor	University of North Texas, USA	07/03 – Now
Adjunct Professor	University of Sonora, Mexico	01/06 – Now
Research Professor	University of Texas at Dallas, USA	04/07 – 08/10
Member Technical Staff	Texas Instruments, Inc.	06/02 – 04/07
Member Technical Staff	SEMATECH	06/04 – 12/06
Research Assistant	University of North Texas	08/98 – 06/02

HONORS AND PROFESSIONAL MEMBERSHIPS

- Co-Editor of the February 2011 MRS Bulleting Issue “Contacts for Nanoelectronics”
- Chair of the XIX International Materials Conference in Flexible Electronics (2010, Cancun MX). Meeting organized by the MRS.
- Co-organizer of the 2007, 2008 and 2009 advanced materials workshop in organized by the Mexican Materials Society.
- Inventor Recognition award by the Semiconductor Research Corporation (SRC). Raleigh, N.C. USA. June 2003.
- Best Doctoral Dissertation award by the College of Arts and Sciences. University of North Texas. June 2002.
- Member of the Scientific Board. Nanoholdings LLC.
- SEMATECH “Corporate Excellence Award” 2005
- Top 1% student in the Materials Science master programs (Institutes of Technology) in Mexico, June 1998.
- Member: America Vacuum Society (AVS).
- Member: Materials Research Society (MRS).
- Member: Society of Mexican American Scientist and Engineers
- Member of Mexican National Research System (membership by invitation only)

SUMMARY OF ACADEMIC QUALIFICATIONS

- Citation impact factor of **17** Based on the Science Citation Index Database
- Teaching experience at the graduate and undergraduate level (3 courses)
- Invented/co-invented 5 issued US patents and 7 more pending
- More than 30 invited presentations at international conferences

- Liaison/Advisor for the US-Mexico student exchange program between Mexico and the Texas
- Author of one book chapter, one more in preparation

SUMMARY OF RESEARCH EXPERIENCE

- Materials and Devices for Flexible Electronics (University of Texas at Dallas)

  While at the University of Texas at Dallas I have been working on the development, modeling and physical, electrical and chemical characterization of new materials and devices for flexible electronics. I'm currently supervising 3 Post-docs and supervising/co-supervising 7 PhD and 4 M.S students. I'm also the main mentor for 1 visiting faculty and 3 visiting scholars (1 year).

- Advanced Materials for Silicon-based devices (Texas Instruments/SEMATECH)

  During my tenure at the Silicon Technology Development Group of Texas Instruments I was engaged in the development of alternate high-k gate dielectrics, alternative metal gate and shallow trench isolation technologies for complementary metal oxide semiconductor (CMOS).

- Dielectric and Oxide Thin Films (University of North Texas, USA and Universities in Mexico)

  During my graduate studies I was engaged in developing alternate gate dielectric materials for CMOS, including its growth as well as its physical and electrical characterization. I also developed II-VI semiconductor and transition metal oxides thin films for solar cells and thermo-chromic and electro-chromic applications.

STUDENT ADVISING

Students Graduated (as Advisor or Co-Advisor)

1. Rodrigo Miguel Ojeda Mota. ***M.S** Materials Science and Engineering.* Center for Applied Chemistry, Saltillo Mexico). Fall 2010
2. Gerardo Gutierrez Heredia. ***M.S**. In Physics*. University of Sonora, Mexico. Summer 2010
3. Victor Hugo Martinez Landeros. ***M.S** Materials Science and Engineering.* Center for Advanced Studies (CINVESTAV), MEXICO, Nov 2009. Thesis: Hybrid films for OLED encapsulation"
4. Liliana Elizabeth Romo Mendoza ***M.S**. In Materials Science and Engineering*. Center for Applied Chemistry. MEXICO. September 2008. Thesis: "Synthesis and characterization of PMMA doped with Nickel Oxide as Transparent Conductive Oxide"
5. Rodofo Ramos Gonzalez. ***M.S**. In Materials Science and Engineering*. University of Coahuila. MEXICO. Dec 2006. Thesis: "Synthesis and characterization of NiO thin films deposited by the sol-gel"
6. Edgar Omar Garcia Sanchez. ***M.S**. In Materials Science and Engineering*. Saltillo Institute of Technology. MEXICO. May 2003. Thesis: "Physical and electrical characterization of CdS films deposited in Si and Glass by Chemical bath deposition"
7. Mayela Ramos. ***B.S**. Chemical Engineering*. University of Coahuila. MEXICO. March 2009. Thesis: "Synthesis of HfO_2 and ZrO_2 nanoparticles using the Pechini Route"
8. Karla Bernal Ramos. ***B.S**. Chemical Engineering*. University of Coahuila. MEXICO. September 2008. Thesis: "Synthesis of NiO and Ni nanoparticles using the Pechini

Current Students (as Advisor or Co-Advisor)

(Ph. D.)

1. Ana Salas. *Materials Science and Engineering.* University of Texas at Dallas Expected Summer 2013. (ADVISOR)
2. Dewan Kabir. *Materials Science and Engineering.* University of Texas at Dallas Expected Summer 2014. (ADVISOR)
3. Martha Rivas. *Materials Science and Engineering.* University of Texas at Dallas Expected Summer 2014. (ADVISOR)
4. Adrian Avendano. *Materials Science and Engineering.* University of Texas at Dallas Expected Summer 2012. (ADVISOR)
5. Duo Mao. *Electrical Engineering.* University of Texas at Dallas Expected Summer 2012. (Co-ADVISOR)
6. Mike Perez. *Materials Science and Engineering.* University of Texas at Dallas Expected Summer 2012. (Co-ADVISOR)
7. John Murphy *Materials Science and Engineering.* University of Texas at Dallas Expected Summer 2013. (Co-ADVISOR)
8. Rodolfo Ramos Gonzalez. *Materials Science and Engineering.* Center for Applied Chemistry, Saltillo Mexico). Expected Fall 2011. (Co-ADVISOR)
9. María Isabel Medina Montes. *Materials Science and Engineering*. Center for Advanced Studies (CINVESTAV), Mexico. Expected Spring 2011 (Co-ADVISOR)
10. Mayra Daniela Morales Acosta. *Materials Science and Engineering.* Center for Advanced Studies (CINVESTAV), Mexico. Expected Spring 2011 (Co-ADVISOR)
11. Lazaro Falcon. *Materials Science and Engineering.* University of Michoacan, Mexico. Expected Summer 2010 (Co-ADVISOR)
12. Juan Carlos Ramos. *Materials Science and Engineering.* University of Ciudad Juarez, Mexico. Expected Summer 2013 (Co-ADVISOR)
13. Gerardo Gutierrez Heredia. *Materials Science and Engineering*. CIMAV, Mexico. Summer 2014
14. Victor Hugo Martinez Landeros. *Materials Science and Engineering*. CIMAV, Mexico. Summer 2014

(M.S.)

1. Julius Hovarth. *Materials Science and Engineering.* University of Texas at Dallas Expected Summer 2011.
2. Ana Salomon *Materials Science and Engineering.* Saltillo institute of Technology. Expected Summer 2011.

Dissertation Committees Member

- John Murphy, Co-advisor (Ph.D, MSE) University of Texas at Dallas
- Julius Hovarth, Co-advisor (MS, MSE) University of Texas at Dallas
- Ana Salas, Advisor (Ph.D, MSE) University of Texas at Dallas
- Adrian Avendano (Ph.D, MSE) University of Texas at Dallas
- Michael Perez, Co-advisor (Ph.D, MSE) University of Texas at Dallas

- Duo Mao, Co-advisor (Ph.D, EE) University of Texas at Dallas
- Karla Ramos, Committee member (Ph.D, MSE) University of Texas at Dallas
- Srikar Jandhyala (MS, MSE) University of Texas at Dallas
- Gaurang Pant, Committee member (Ph.D, MSE) University of Texas at Dallas
- Vaishaili Urkide, Committee member (Ph.D, MSE) University of North Texas

TECHNICAL JOURNAL REVIEW

Journal of Applied Physics, Applied Physics Letters, Applied Surface Science, Electrochemical and Solid-State Letters, Electron Device Letters, Transactions on Electron Devices, Organic Electronics, Journal of the Society for Information Display, Materials Chemistry and Physics

BOOK CHAPTERS

1. **M.A. Quevedo-Lopez** and H.N. Alshareef, "Thin Solid Films for Silicon Based Technology", edited by F. J. Espinoza-Beltrán, Research Signpost Publishers (in press, 2009).
2. **M.A. Quevedo-Lopez** and D. Mao, "Organic Ferroelectric Memory", Research Signpost Publishers (in press, 2010).

TUTORIALS

1. **M. A. Quevedo-Lopez**. "Materials Science of Sensor Fabrication". *ACM International Conference on Body Area Networks (BodyNets)*, Tempe AZ March 2008.
2. **M.A. Quevedo-Lopez.** "Applications of Flexible Electronics in Displays, Sensors and Photovoltaic Devices*". Center for Applied Chemistry*. Mexico November 2007.
3. **M.A. Quevedo-Lopez.** "IC Fabrication Tutorial", presented at *the 2nd International Conference on Novel Materials and Devices*, Saltillo Institute of Technology, Saltillo, Mexico (April, 2005).

JOURNAL PUBLICATIONS (Peer Reviewed)

(2010)

87. H. N. Alshareef, S.Mure, P, Majhi and **M. A. Quevedo-Lopez**, "Depth Profiling of La_2O3/HfO_2 Stacked Dielectrics for Nanoelectronic Device Applications" *Electrochemical and Solid State Letters* 14, 149-141, (2011)

86. E. Fuentes-Fernandez, W. Debray-Mechtaly, **M. Quevedo-Lopez**, and B. Gnade, A. Rajasekaran, A. Hande and P. Shah, H.N. Alshareef. "Fabrication and Characterization of $Pb(Zr_{0.53},Ti_{0.47})O_3$–$Pb(Nb_{1/3}\ Zn_{2/3})O_3$ thin films on planar substrates and cantilevers". Accepted. *Journal of Electronic Materials.* 40, 85-91, (2011)

85. D. Mao, I. Mejia, H. Stiegler, B. E. Gnade, and **M. A. Quevedo-Lopez**, "Polarization behavior of poly-vinylidene fluoride-trifluoroethylene copolymer ferroelectric thin film capacitors for nonvolatile memory application in flexible electronics" *Journal of Applied Physics*, **108**, 094102 (2010

84. G. Arreola-Jardón, L. A. González, L.A. García-Cerdac B. Gnade, **M.A. Quevedo-López**, and R. Ramírez-Bon "Ammonia-free chemically deposited CdS films as active layers in thin film transistors" *Thin Solid Films* **519**(1), 517-520 (2010)

83. S.M. Venugopal, D. R. Allee, **M. A. Quevedo-Lopez**, B. E. Gnade, E. Forsythe, D. Morton, Flexible electronics: What can it do? What should it do? *Reliability Physics Symposium (IRPS)*, ISSN 1541-7026, 644-649 (2010).

82. A. Apolinar- Iribe, M.C. Acosta-Enríquez, **M.A. Quevedo-López**, R. Ramírez-Bon, and S.J. Castillo "Acetylacetone as complexing agent for CdS thin films grow chemical bath deposition" Submitted. *Chalcogenide Letters* (2010).

81. M.C Acosta-Enriquez, A. Apolinar-Iribe, M.E. Alvarez-Ramos, **M.A. Quevedo-López**, R. Ramírez-Bon, A. F. Jalbout, A. De Leon, A. Duartemoller, R.P. Duarte-Zamorano, L.E. Regalado, M.R. Manzo-Valencia, and S.J. Castillo. "Nanometric layers of cadmium sulphide by CBD and a potential application" *Transactions on Circuits and Systems*, 9(3), 133-142 (2010)

80. A. L. Salas-Villasenor, I. Mejia, J. Hovarth, H. N. Alshareef, D. K. Cha, R. Ramirez-Bon, B. E Gnade, and **M.A. Quevedo-Lopez**. ": Impact of Gate Dielectric in Carrier Mobility in Low Temperature Chalcogenide Thin Film Transistors for Flexible Electronics" *Electrochemical and Solid State Letters* 13, 313-316, (2010)

79. D. Mao, **M.A. Quevedo-Lopez**, H. N. Alshareef, H. Stiegler and B. E. Gnade "Optimization of Poly(vinylidene fluoride-trifluoroethylene) Films as Non-volatile Memory for Flexible Electronics". Submitted. *Organic Electronics* . 11(5), 925-932 (2010)

78. I.E. Morales-Fernández, M.I. Medina-Montes, L.A. González, B. Gnade, **M.A. Quevedo-López** and R. Ramírez-Bon "Electrical behavior of p-type PbS-based metal-oxide-semiconductor thin film transistors. Submitted. *Thin Solid Films* 519, 512-520 (2010)

77 **M.A. Quevedo-Lopez**, W. T. Wondmagegn, H. N. Alshareef, R. Ramirez-Bon, and B. E Gnade "Thin Film Transistors for Flexible Electronics: Contacts, Dielectrics and Semiconductors". Accepted. *Journal of Nano science and Nanotechnology* (2010)

76 L. A. Baldenegro-Perez, W. Debray-Mechtaly, E. Fuentes-Fernandez, **M.A. Quevedo-Lopez**, H.N. Alshareef, Pradeep Shahf and B.E. Gnade "Study on the Microstructure and Electrical Properties of $Pb(Zr_{0.53}Ti_{0.47})O_3$ Thin-films " *Materials Science Forum* 97-100, 644 (2010)

75 M.D. Morales-Acosta, H. N. Alshareef, B. Gnade, R. Ramirez-Bon and **M.A. Quevedo-López** "Dielectric properties of PMMA-SiO_2 hybrid films" *Materials Science Forum* 25-28, 644 (2010)

74 L.A. García-Cerda, B.A. Puente-Urbina, **M.A. Quevedo-López**, B.E. Gnade, L. Baldenegro-Pérez, H.N. Alshareef, M.A. Hernández-Landaverde "Structural and morphological properties of $Hf_xZr_{1-x}O_2$ thin films prepared by Pechini route" *Materials Science Forum* 113-116, 644 (2010)

73 R. Ramos-González, L.A. Garcia-Cerda, H. N. Alshareef, B. E. Gnade and **M.A. Quevedo-Lopez** "Study of hafnium (IV) oxide nanoparticles synthesized by polymerized complex and polymer precursor derived sol-gel methods" *Materials Science Forum* 75-78, 644 (2010)

72 W. T. Wondmagegn, **M. A. Quevedo-Lopez** N. T. Satyala, R. J. Pieper, , S. Gowrisanker, H. N. Alshareef, H. J. Stiegler, and B. E. Gnade. "Simulation based performance comparison of transistors designed using standard photolithographic and coarse printing design specifications" Submitted. *Thin Solid Films* 519, 1943-1949 (2010)

71 G. Gutiérrez-Heredia, L.A. González, D. Berman, A. Avendaño, U. Bhansali, H. N. Alshareef, B. E. Gnade2, **and M.A. Quevedo-López** "Flexible Organic Active Matrix Circuit Fabricated Using Novel Organic Thin Film Transistors and Phosphorescent Organic light Emitting Diodes"

Semiconductor Science And Technology, 25, 115001 (2010)

(2009)

70 R. A. B. Devine, J. K. Mee, H. P. Hjalmarson, **M. A. Quevedo-Lopez**, and H. N. Alshareef "A simplified approach to estimating total trap contributions in negative bias temperature instability" *Journal of Applied Physics* 106, 024508 (2009)

69 **M.A. Quevedo-Lopez,** S Gowrisanker, H. N. Alshareef, B. Gnade. S. Venugopal, R. Krishna, K. Kaftanoglu, D. Allee; "Novel Materials and Integration Schemes for CMOS-Based Circuits for Flexible Electronics", *ECS Transactions* V25 (7) 503 (2009)

68 L. A. Garcıa-Cerda, **M. A. Quevedo-Lopez**, and L. E. Romo-Mendoza "Synthesis and characterization of NiO nanoparticles and their PMMA nanocomposites obtained by in situ bulk polymerization", *Journal of Materials Science*, 44, 4553–4556 (2009)

67 S Gowrisanker, **M.A. Quevedo-Lopez**, H. N. Alshareef, B. Gnade. S. Venugopal, R. Krishna, K. Kaftanoglu, D. Allee; "A Novel Low Temperature Integration of Hybrid CMOS Devices on Flexible Substrates Organic Electronics", *Organic Electronics*, 10, 1217–1222 (2009)

66 S. Gowrisanker, **M. A. Quevedo-Lopez**, H.N. Alshareef, and B. Gnade, "TDDB of Parylene gate dielectrics", *Organic Electronics*, V10 (5), 1024-1027, (2009)

65 U. S. Bhansali, **M.A. Quevedo Lopez**, H. Jia, H.N. Alshareef, D. K. Cha, M.J. Kim, B. E. Gnade "Characterization of organic thin films using transmission electron microscopy and Fourier Transform Infra Red spectroscopy". *Thin Solid Films.* 517(20), 5825-5829 (2009)

64 S. Gowrisanker,Y. Ai, H. Jia, **M. A. Quevedo-Lopez**, H. N. Alshareef, I. Trachtenberg, H. Stiegler, H. Edwards, R. Barnett, and B. E. Gnade, "Organic Thin-film Transistors with Low Threshold Voltage Variation on Low Temperature Substrates" *Electrochemical and Solid-State Letters*, 12(3) H50-H53 (2009)

63 U. S. Bhansali, H. Jia**, M. A. Quevedo Lopez**, B. E. Gnade, W-H. Chen and M. A. Omary. "Controlling the carrier recombination zone for improved color stability in White Organic Light Emitting Diodes" *Applied Physics Letters*. 94 (20), 203501 (2009)

62 K. Palaniappan, J.W. Murphy, N. Khanam, J. Horvath, H. N. Alshareef, **M. A. Quevedo-Lopez**, M. C. Biewer, S. Y. Park, M. J. Kim, B. E. Gnade, M. C. Stefan, "Poly(3-hexylthiophene)-CdSe Quantum Dot Bulk Heterojunction Solar Cells: The Influence of the Functional End-Group of the Polymer" *Macromolecules* 42(12), 3845-3848 (2009)

61 M. I. Medina-Montes, M. V. Selvidge, A. Herrera-Gomez, F. S. Aguirre-Tostado, **M.A. Quevedo-Lopez**, and R. M. Wallace. "Thermal stability of Lanthanum in hafnium-based gate stacks". Accepted. *Journal of Applied Physics*. 106, 053506 (2009)

60 T. S. Böscke, **M. A. Quevedo-Lopez**, PY Hung, P.D. Kirsch and R. Ramirez-Bon. "Increasing permittivity in HfZrO thin films by surface manipulation". *Applied Physics Letters* 95, 052904 (2009)

59 M.S. Rahman, T.H. Morshed, Z. Celik-Butler, **M.A. Quevedo-Lopez**, A. Shanware, and L. Colombo, "Hot-Carrier- and Constant-Voltage-Stress-Induced Low-Frequency Noise in Nitrided High-k Dielectric MOSFETs". *IEEE Transactions on device and materials reliability*. 9 (2), 203-208 (2009)

(2008)

58 **M. A. Quevedo-Lopez**, H. N. Alshareef, H. Jia, U. Bhansali, A. Avendaño, M.A. Omary and B.

Gnade, "Organic Light Emitting Diodes for Flexible Electronics". *Future Fab International* V 26, July 10, (2008)

57 H. N. Alshareef, **M.A. Quevedo-Lopez,** S. Gowrisanker, Y. Ai, and B. E. Gnade. "Organic-Based Electronic Devices and Circuits". ". *Future Fab International* V25, April 30, **(2008)**

56 G. Srinivas, Y. Ai, **M. A. Quevedo-Lopez**, H.N. Alshareef, E. Vogel, and B.E. Gnade, "Impact of metal/semiconductor contact thickness ratio on organic thin film transistor performance", *Applied Physics Letters* 92, 153305(2008)

55 A. Herrera-Gomez, F. S. Aguirre-Tostado, **M. A. Quevedo-Lopez**, P. D. Kirsch, M. J. Kim, and R. M. Wallace, "Thermal stability of nitrogen in nitrided HfSiO2/SiO2/Si(001) ultrathin films". *Journal of Applied Physics*. 104, 103520 (2008)

54 R.A.B Devine, **M.A. Quevedo-Lopez**, H. Alshareef, H. "Radiation response of nanometric HfSiON/ SiO2 gate stacks ". *Journal of Applied Physics* 103 (6), art. no. 064104 (2008)

53 H.N. Alshareef, **M. Quevedo-Lopez**, H.C. Wen, C. Huffman, M. El-Bouanani and B.E. Gnade, "Metal Gate Work Function Tuning Using Plasma Incorporated Carbon", *Electrochemical & Solid State Letters* **11**, H182 (2008)

52 P. Kirsch, **M.A. Quevedo-Lopez**, "Dipole Model Explaining High-k/metal gate Field Effect Transistor Threshold Voltage Tuning", *Applied Physics Letters* 92, 092901(2008)

51 R. A. Devine, H. Hjalmarson, H.N. Alshareef, **M. A. Quevedo-Lopez**, "Negative Bias Temperature Instability and Relaxation in HfSiON Gate Stack Field Effect Devices", *Applied Physics Letters* 92**,** 153512(2007).

50 M. Shahriar Rahman, Tanvir Morshed, S. P. Devireddy, Zeynep Çelik-Butler, **M. A. Quevedo-Lopez**, A. Shanware, and L. Colombo. "Effect of nitrogen incorporation on 1/f noise performance of metal-oxide-semiconductor field effect transistors with HfSiON dielectric " *Journal or Applied Physics*. 103, 033706 (2008)

49 R. A. B. Devine, T. Busani, **M. A. Quevedo-Lopez**, H.N. Alshareef. "Electrical bias stressing and radiation induced charge trapping in HfO2/SiO2 dielectric stacks" *Journal of Applied Physics* 101, 104101 (2008)

48 R.A.B Devine, **M.A. Quevedo-Lopez**, H. Alshareef, H. "Slow trap charging and de-trapping in the negative bias temperature instability in HfSiON dielectric based field effect transistors" *Journal of Applied Physics*. 104, 124109 (2008)

47 J. Huang, P.D. Kirsch, D. Heh, C.Y. Kang, G. Bersuker, M. Hussain, P. Majhi, P. Sivasubramani, D.C. Gilmer, N. Goel, **M.A. Quevedo-Lopez**, C. Young, C.S. Park, C. Park, P. Y. Hung, J. Price, H.R. Harris, B .H. Lee, H.-H. Tseng, R. Jammy "Device and Reliability Improvement of HfSiON+LaOx/Metal Gate Stacks for 22nm Node Applications" *IEDM Tech. Dig*. art. no. 4796609 (2008)

(2007)

46 D. A. Mazón-Montijo, Sotelo-Lerma, **M. A. Quevedo-López**, El-Bouanani, M., Alshareef, H.N., Espinoza-Beltrán, F.J., Ramírez-Bon, R. "Morphological and chemical study of the initial growth of CdS thin films deposited using an ammonia-free chemical process" *Applied Surface Science* 254 (2), pp. 499-505 (2007).

45 T. Morsheda, S. Prasad Devireddya, M. Shahriar, Z. Çelik-Butlera, H. Tseng, A. Zlotnickac, A. Shanware, K. Greend, J. J. Chambers, M. R. Visokay, **M. A. Quevedo-Lopez** and L. Colombo. "A New Model for 1/f Noise in High-k MOSFETs. *Technical Digest - International Electron Devices Meeting, IEDM, art. no. 4419000, pp. 561-564* (2007)

44 P. Sivasubramani, T. S. Böscke, J. Huang, C. D.Young, P. D. Kirsch, S. A. Krishnan, **M. A. Quevedo-Lopez**, S. Govindarajan, B. S. Ju, H. R. Harris, D. J. Lichtenwalner, J. S. Jur, A. I. Kingon, J. Kim, B. E. Gnade, R. M. Wallace, G. Bersuker, B. H. Lee, and R. Jammy. "Dipole Moment Model Explaining nFET Vt Tuning Utilizing La, Sc, Er, and Sr Doped HfSiON Dielectrics" *Digest of Technical Papers - Symposium on VLSI Technology, art. no. 4339730, pp. 68-69* (2007).

43 H. –C. Wen, S. C. Song, C. S. Park, C. Burham, G. Bersuker, K. Choi, **M. A. Quevedo-Lopez**, B. S. Ju, H. N. Alshareef, H. Niimi, H. B. Park., P. S. Lysaght, P. Majhi3., B. H. Lee. and R. Jammy. "Gate First Metal-Aluminum-Nitride PMOS Electrodes for 32nm Low Standby Power Applications". *Digest of Technical Papers - Symposium on VLSI Technology, art. no. 4339766, pp. 160-161*, (2007)

(2006)

42 P. D. Kirsch, **M. A. Quevedo-Lopez**, S. A. Krishnan, C. Krug, H. AlShareef, C. S. Park, R. Harris, N. Moumen, A. Neugroschel, G. Bersuker, B .H. Lee, J.G. Wang, G. Pant1, B. E. Gnade, M. J. Kim, R. M. Wallace, J. S. Jur, D. J. Lichtenwalner, A. I. Kingon, and R. Jammy. "Band Edge n-MOSFETs with High-k/Metal Gate Stacks Scaled to EOT=0.9nm with Excellent Carrier Mobility and High Temperature Stability". *Technical Digest - International Electron Devices Meeting, IEDM, art. no. 4154281* pp. 629 (2006).

41 Siddarth A. Krishnan , H. Rusty Harris, Paul D. Kirsch, Cristiano Krug, **M. Quevedo-Lopez**,Chadwin Young, Byoung Hun Lee, Rino Choi, Naser Chowdhury, Sagar Suthram, Scott Thompson, Gennadi Bersuker, and Rajarao Jammy" High performing pMOSFETs on Si(110) for application to hybrid orientation technologies - Comparison of HfO2 and HfSiON" *Technical Digest - International Electron Devices Meeting, IEDM, art. no. 4154177* (2006).

40 P. D. Kirsch, **M. A. Quevedo-Lopez**, S. A. Krishnan, B. H. Lee, G. Pant, M. J. Kim, R. M. Wallace, and B. E. Gnade, "Mobility and charge trapping comparison for crystalline and amorphous HfON and HfSiON gate dielectrics" *Applied Physics Letters.* 89, 242909 (2006)

39 Alshareef HN, **M. A. Quevedo-Lopez** , Wen H. C, Harris R, Kirsch P, Majhi P, Lee B. H., Jammy R, Lichtenwalner D. J., Jur J. S., Kingon A. I. "Work function engineering using lanthanum oxide interfacial layers "*Applied Physics Letters.*, 89 (23), 232103, (2006)

38 Hussain MM, **M. A. Quevedo-Lopez**, Alshareef H. N., Wen H. C., Larison D., Gnade B., El-Bouanani M. "Thermal annealing effects on a representative high-k/metal film stack" *Semiconductor Science And Technology*, 21 (10): 1437-1440, (2006)

37 Hussain MM, **M. A. Quevedo-Lopez**, Alshareef HN, Larison D, Mathur K, Gnade BE. "Deposition method-induced stress effect on ultrathin titanium nitride etch characteristics" *Electrochemical And Solid State Letters,* 9 (12): G361-G363 (2006)

36 Bennett J, **M. A. Quevedo-Lopez**, Satyanarayana S. "Characterizing high-k and low-k dielectric materials for semiconductors: Progress and challenges" *Applied Surface Science*, 252 (19), 7167-7171, (2006)

35 Agustin MP, Alshareef H**, M. A. Quevedo-Lopez**, Stemmer S. "Influence of AlN layers on the interface stability of HfO2 gate dielectric stacks" *Applied Physics Letters*, 89 (4), 041906 (2006)

34 Pant G, Gnade A, Kim MJ, Wallace RM, Gnade BE, **M. A. Quevedo-Lopez**, Kirsch PD, Krishnan S. "Comparison of electrical and chemical characteristics of ultrathin HfON versus HfSiON dielectrics" *Applied Physics Letters*, 89 (3) 032904 (2006)

33 **M.A. Quevedo-Lopez**, S. Krishnan, P. Kirsch, H.N. Alshareef, B.E. Gnade, M.J. Kim, Robert Wallace, B. H. Lee,R. Jammy. "Structure-Property Relationships in Ultrathin Hf-Based Gate Dielectrics" *Future Fab Intl*. Vol 21, July 01, (2006)

32 Alshareef HN, Luan HF, Choi K, Harris HR, Wen HC, **M. A. Quevedo-Lopez**, Majhi P, Lee BH. "Metal gate work function engineering using AlN_x interfacial layers" *Applied Physics Letters*, 88 (11), 112114 (2006).

31 Z. Zhang, S.C. Song, **M. A. Quevedo-Lopez**, K. Choi, P. Kirsch, P. Lysaght, and B.H. Lee. "Co-optimization of Metal Gate/High-k Stack to Achieve High-Field Mobility > 90% of SiO_2 Universal with EOT = ~1 nm". *IEEE Electron Device Letters*, 27 (3): 185-187, (2006).

30 P. D. Kirsch, **M. A. Quevedo-Lopez**, H.-J. Li, Y. Senzaki, S. C. Song, J. J. Peterson, N. Moumen, J. Barnett and B. H. Lee. "Growth Initiation of Atomic Layer Deposited HfO2 Gate Dielectrics with TEMAHf and O3 and Implications for Transistor Scaling and Performance". *Journal of Applied Physics* 99, 023508 (2006).

29 Husam N. Alshareef, P. Majhi, **M.A. Quevedo-Lopez**, Rajarao Jammy, B.H. Lee, P. Kirsch. "Work Function Engineering Using Interfacial Layers on Hf-Based Gate Dielectrics". *Future Fab International.* Vol 21, July 01, (2006)

28 Siddarth A. Krishnan, **M. A. Quevedo-Lopez**, Rusty Harris, Paul D. Kirsch, Rino Choi, Byoung Hun Lee, Gennadi Bersuker and Jack C. Lee, "NBTI Dependence on Dielectric Thickness and Nitrogen concentration in Ultra-scaled HfSiON Dielectric/ ALD-TiN Gate Stacks", *Japanese Journal of Applied Physics, Part 1: Regular Papers and Short Notes and Review Papers 45 (4 B), pp. 2945-2948* (2006).

27 G. Pant, A. Gnade, M. J. Kim, R. M. Wallace, B. E. Gnade, **M. A. Quevedo-Lopez**, and P. D. Kirsch, "Effect of thickness on the crystallization of ultrathin HfSiON gate dielectrics". *Applied Physics Letters* 88 (2006).

26 Patrick Lysaght, Joel Barnett, **M. A. Quevedo-Lopez**, Paul D. Kirsch, Gennadi Bersuker, Mark Gardner, and Byoung Hun Lee. "The Influence of N Incorporation on the Crystallization Kinetics of Hf Based Gate Dielectric Films" *Electrochem. Soc Trans*. 502, 520 (2006)

(2005)

25 S. Sayan, N. V. Nguyen, J. Ehrstein, J. J. Chambers, M. R. Visokay, **M. A. Quevedo-Lopez**, L. Colombo, D. Yoder, I. Levin, D. A. Fischer, M. Paunescu, O. Celik, and E. Garfunkel "Effect of nitrogen on band alignment in HfSiON gate dielectrics". *Applied Physics Letters* 87 (2005).

24 **M. A. Quevedo-Lopez**, K. S.A., P. D. Kirsch, H. J. Li, H. S. Sim, C. Huffman, J. J. Peterson, B. H. Lee, G. Pant, B. E. Gnade, M. J. Kim, R. M. Wallace, D. Guo, H. Bu, and T. P. Ma. "High Performance Gate First HfSiON Dielectric Satisfying 45nm Node Requirements*". Technical Digest - International Electron Devices Meeting* Art. no. 1609369, pp. 425-428 (2005).

23 **M. A. Quevedo-Lopez**, M. R. Visokay, J. J. Chambers, M. J. Bevan, A. LiFatou, L. Colombo, M. J. Kim, B. E. Gnade, and R. M. Wallace. "Dopant penetration studies through Hf silicate". *Journal of Applied Physics* 97 (2005).

22 **M. A. Quevedo-Lopez**, J. J. Chambers, M. R. Visokay, A. Shanware, and L. Colombo. "Thermal stability of hafnium-silicate and plasma-nitrided hafnium silicate films studied by Fourier transform infrared spectroscopy". *Applied Physics Letters* 87 (2005).

21 **M. A. Quevedo-Lopez**, S. A. Krishnan, P. D. Kirsch, G. Pant, B. E. Gnade, and R. M. Wallace. "Ultrascaled hafnium silicon oxynitride gate dielectrics with excellent carrier mobility and reliability" *Applied Physics Letters* 87 (2005).

(2004)

20 A. Chatterjee, J. Yoon, S. Zhao, S. Tang, K. Sadra, S. Crank, H. Mogul, R. Aggarwal, B. Chatterjee, S. Lytle, C. T. Lin, K. D. Lee, J. Kim, Q. Z. Hong, T. Kim, L. Olsen, **M. A. Quevedo-Lopez**, K. Kirmse, G. Zhang, C. Meek, D. Aldrich, H. Mair, M. Mehrotra, L. Adam, D. Mosher, J. Y. Yang, D. Crenshaw, B. Williams, J. Jacobs, M. Jain, J. Rosal, T. Houston, J. Wu, N. S. Nagaraj, D. Scott, S. Ashburn, A. Tsao. "A 65 NM CMOS Technology for mobile and digital signal processing applications, *IEDM Tech. Dig*., pp. 665 - 668, 2004.

19 L. Miotti, K.P. Bastos, G.V. Soares, C. Driemeier, R. Pezzi, J. Morais, and I.J. R. Baumvol, A.L.P. Rotondaro, M.R. Visokay, J.J. Chambers, **M. A. Quevedo-Lopez** and L. Colombo "Exchange-diffusion reactions in HfSiON during annealing studied by Rutherford backscattering spectrometry, nuclear reaction analysis and narrow resonant nuclear reaction profiling. *Applied Physics Letters* 85, 4460 (2004)

18 P. Punchaipetch, G. Pant, **M. A. Quevedo-Lopez**, C. Yao M. El-Bouanani, M. J. Kim, R. M. Wallace and B.E. Gnade. "Low temperature deposition of hafnium silicate gate dielectrics". *Journal of Selected Topics in Quantum Electronics on Organic Light Emitting Diodes* **10**, 1 (2004)

(2003)

17 **M. A. Quevedo-Lopez**, M. El-Bouanani, M. J. Kim, B. E. Gnade, R. M. Wallace, M. R. Visokay, A. LiFatou, J. J. Chambers, and L. Colombo. "Effect of N incorporation on boron penetration from p^+ polycrystalline-Si through HfSixOy films". *Applied Physics Letters*. 82, 4669 (2003).

16 M.J. Kim, J. Huang, D.K. Cha, **M.A. Quevedo-Lopez**, R.M. Wallace, and B.E. Gnade, "Thermal Stability of Hf-based High-k Dielectric Films on Si(100)," *Microscopy and Microanalyses*. 9 (Suppl 2), (2003) 506.

15 H. G. Zhang, P. Gurang, N. Sigh, **M. A. Quevedo-Lopez**, R. Wallace, B. Gnade, and K. Stokes. The effect of small-signal AC voltages on C-V characterization and parameter extraction of SiO2 thin films". *Microelectronics Reliability* 43, 1981-1985 (2003).

14 Prakaipetch Punchaipetch, Gaurang Pant, **M. A. Quevedo-Lopez**, Chun Yao, Hongguo Zhang, Mohamed El-Bouanani, Moon J. Kim, Robert M. Wallace and Bruce E. Gnade, "Hafnium silicate formation by UV- Ozone oxidation of hafnium silicides." *Thin Solid Films* **425**, 68 (2003).

(2002)

13 **M. A. Quevedo-Lopez**, M. El-Bouanani, B. E. Gnade, and R. M. Wallace. "Etching studies of Zr and Hf silicates gate dielectrics." *Journal of Vacuum Science and Technology. A* **20(6),** 1891 (2002).

12 **M. A. Quevedo-Lopez**, M. El-Bouanani, J. L. Duggan, B. E. Gnade, R. M. Wallace, M. R. Visokay, M. Douglas, M.J. Bevan, and L. Colombo. "Inter-diffusion studies for $HfSi_xO_y$ and $ZrSi_xO_y$ on Si." *Journal of Applied Physics*. **92**, 3540 (2002).

11 **M. A. Quevedo-Lopez**, M. El-Bouanani, B. E. Gnade, R. M. Wallace M. R. Visokay, M. Douglas, M.J. Bevan, and L. Colombo. "Phosphorus and arsenic penetration through $HfSi_xO_y$ films." *Applied Physics Letters* **81**, 1609 (2002).

10 **M. A. Quevedo-Lopez**, M. El-Bouanani, M.J. Kim, B. E. Gnade, R. M. Wallace M. R. Visokay, M. Douglas, M.J. Bevan, and L. Colombo. "Boron penetration from p^+ polycrystalline-Si $HfSi_xO_y$ films." *Applied Physics Letters* **81**, 1074 (2002).

(2001)

9 **M. A. Quevedo-Lopez**, M. El-Bouanani, S. Addepalli, J. L.Duggan, B. E. Gnade R. M. Wallace M.R.Visokay, M. Douglas, M.J. Bevan, and L. Colombo. "Hafnium inter-diffusion studies from hafnium silicate into Silicon." *Applied. Physics Letters* **79,** 4192 (2001).

8 **M. A. Quevedo-Lopez**, M. El-Bouanani, S. Addepalli, J. L.Duggan, B. E. Gnade R. M. Wallace M.R.Visokay, M. Douglas, M.J. Bevan, and L. Colombo. "Thermally induced Zr incorporation into Si from zirconium silicate thin films." *Applied Physics Letters* **79,** 2958 (2001).

(2000)

7 **M. A. Quevedo-Lopez**, O. Mendoza-Gonzalez, Richard F. Reidy, R. Ramirez-Bon, and R.A. Orozco-Teran. "Enhancement of the photo and thermochromic properties of molybdenum oxide by a CdS underlayer." *Journal of Materials Science: Materials in Electronics* **2,** 151 (2000).

6 **M. A. Quevedo-Lopez**, O. Mendoza-Gonzalez, Richard F. Reidy, R. Ramirez-Bon, and R.A. Orozco-Teran. "Effect of energetic treatments on structure and resistivity of evaporated MoO_3 films on cadmium sulfide substrates." *Journal of Physics and Chemistry of Solids* **61,** 727 (2000).

5 Richard F. Reidy, **M. A. Quevedo-Lopez**, R.L. Howard, R.A. Orozco-Teran, A. Hernandez-Luna, R.Upadhyay, O. Mendoza-Gonzalez, and H. Dong. "The effect of nanostructure on the thermal behavior of aerogels" *Advances in cryogenic engineering Vol. 46 (A) pp. 345-352* (2000).

(1999)

4 R.A. Orozco-Teran, M. Sotelo-Lerma, R. Ramirez-Bon, O. Medoza-Gonzalez, **M. A. Quevedo-Lopez**, and O. Zelaya-Angel. "Synthesis and characterization of CdS/PbS bilayers obtained using the chemical bath deposition technique". *Thin Solid Films* **343:344**, 587 (1999).

3 **M. A. Quevedo-Lopez**, R. Ramirez-Bon, O. Mendoza-Gonzalez, and O. Zelaya-angel. "Effect of a cadmium sulfide interlayer in themochromism and photochromism of molybdenum and tungsten oxide". *Thin Solid Films* **343:344**, 202 (1999).

2 O. Mendoza-Gonzalez, **M. A. Quevedo-Lopez**, Richard F. Reidy, H. de la Garza. "México en el contexto de las tendencies del Mercado de la industria ceramica para el siglo XXI" *Revista Informacion Tecnologica* **10**, 145 (1999).

(1998)

1 M. Sotelo-Lerma, **M. A. Quevedo-Lopez**, R.A. Orozco-Teran, R. Ramirez-Bon and F. J. Espinoza-Beltran. "Characterization of CdS-NaX material synthesized in alkaline solution". *Journal of Physics and Chemistry of Solids* **59,** 145 (1998).

CONFERENCE PROCEEDINGS (Peer Reviewed)

17 M.S. Rahman, Zeynep Çelik-Butler, **M.A. Quevedo-Lopez**, A. Shanware, A. and L. Colombo. "Low frequency noise degradation in 45 nm high-k nMOSFETs due to hot carrier and constant voltage stress" *AIP Conference Proceedings* 1129, pp. 263-266 (2009)

16 D. Allee, **M. Quevedo-Lopez**, S. Venugopal, C. Balanis, B. Gnade, T. Jackson, H. McHugh, K. Baugh, E. Forsythe, D. Morton, "Flexible Integrated Sensor Systems" SOFIC 2009 Paper No. 3403 pp.1- 9. *Proceedings of the Special Operations Forces Industry Conference*. Tampa Florida. May 2009

15 S. Gowrisanker, **M.A. Quevedo-Lopez**, H. N. Alshareef, B. Gnade. S. Venugopal, R. Krishna, K. Kaftanoglu, D. Allee "Low Temperature Integration of Hybrid CMOS Devices on Plastic Substrates" *Proceedings of the 2009 Flexible Electronics and Displays*. (2009)

14 D.R. Allee, **M.A. Quevedo-Lopez**, S. Gowrisanker, A. E. Avendano-Bolivar, H. N. Alshareef, B. 72 Gnade S. Venugopal, R. Krishna, K. Kaftanoglu "Flexible CMOS and Electrophoretic Displays" Accepted. *Society of Information Display International Symposium* (2009)

13 J. Huang, D. Heh, P. Sivasubramani, P. D. Kirsch, G. Bersuker, D. C. Gilmer, **M.A. Quevedo-Lopez**, M. M. Hussain, P. Majhi, P. Lysaght, H. Park, N. Goel, C. Young, C.S. Park, C. Park, M. Cruz, V. Diaz, P. Y. Hung, J. Price, H.-H. Tseng and R. Jammy "Gate First High-k/Metal Gate Stacks with Zero SiOx Interface Achieving EOT=0.59nm for 16nm Applications" Accepted. *Proceedings of the 2009 VLSI Technology Symposium*. (2009)

12 Gowrisanker, S. Ai, Y., **M.A. Quevedo-Lopez**, M.A., Jia, H., Vogel, E., Gnade, B. E. "A gate dielectric last approach to integrate organic based devices on plastic substrates" *Proceedings of the Academic Track of the 2008 Flexible Electronics and Displays art. no. 4483882* (2008)

11 Govindarajan, S.; Boscke, T.S.; Kirsch, P.D.; **M. A. Quevedo-Lopez**.; Sivasubramani, P.; Song, S.C.; Wallace, R.W.; Gnade, B.E.; Hung, P.Y., Price, J.; Schroder, U.; Ramanathan, S.; Lee, B.H.; Jammy, R. "Higher Permittivity Rare Earth-Doped HfO2 and ZrO2 Dielectrics for Logic and Memory Applications" *International Symposium on VLSI Technology, Systems, and Applications, Proceedings, art. no. 4239480* (2007

10 **M. A. Quevedo-Lopez**, P.D. Kirsch, S. Krishnan, H.N. Alshareef, J. Barnett, H.R. Harris, B.H. Lee, A. Neugroschel. "Systematic Gate Stack Optimization to Maximize Mobility with HfSiON EOT Scaling" Solid-State Device Research Conference, 2005. ESSDERC 2005. *Proceedings of 35th European solid State Meeting* Page(s):113-116 18-22 Sept. (2006)

09 Kirsch, P.D, **M.A. Quevedo-Lopez**.; Pant, G.; Krishnan, S.; Song, S.C.; Li, H.J.; Peterson, J.J.; Lee, B.H.; Wallace, R.W.; Kim, M.; Gnade, B.E., "Relationship of HfO2 Material Properties and Transistor Performance," *VLSI Technology, Systems, and Applications*, 2006 International Symposium on , vol., no.pp.1-2, April 2006

08 R. M. Wallace, P. Sivasubramani, **M. A. Quevedo Lopez**, M. J. Kim, and B. E. Gnade. Interdiffusion studies of high-k gate stack constituents with silicates, aluminates and oxides" *NATO Science Series*. Volume 220 pp.135-146, St. Petersburg, Russia. (2006)

07 Krishnan, S.A.; **M. A. Quevedo-Lopez**.; Hong-Jyh Li; Kirsch, P.; Rino Choi; Young, C.; Peterson, J.J.; Byoung Hun Lee; Bersuker, G.; Lee, J.C.. "Impact of Nitrogen on PBTI Characteristics of HfSiON/TiN Gate Stacks" *IEEE International Reliability Physics Symposium Proceedings*, pp 325 – 328 (2006)

06 P. D. Kirsch, **M. A. Quevedo-Lopez**, S. A. Krishnan, B. H. Lee, G. Pant, M. J. Kim, R. M. Wallace, and B. E. Gnade. "Atomic Layer Deposited HfO2 and HfSiO to Enable CMOS Gate Dielectric Scaling, Mobility, and VTH Stability" *Electrochem. Soc Trans*. 1, (10) 15 (2006)

05 Jeff Peterson, Paul Kirsch, Gennadi Bersuker, Siddarth Krishnan, **M. A. Quevedo-Lopez** , Prashant Mahji, and Pat Lysaght. "Technology and Reliability Challenges of Sub-nm High EOT High-k/ Metal Gate Electrode Transistors". *Electrochem. Soc Trans* 501, 391 (2006)

04 Krishnan, S.A. **M. A. Quevedo-Lopez**, M.A.; Choi, R.; Kirsch, P.D.; Young, C.; Harris, R.; Peterson, J.J.; Hong-Jyh Li; Byoung Hun Lee; Lee, J.C. "Charge trapping dependence on the physical structure of ultra-thin ALD-HfSiON/TiN gate stacks". *Integrated Reliability Workshop Proceeedings* 2006.

03 Kirsch, P.D.; Sim, J.H.; Song, S.C.; Krishnan, S.; Peterson, J.; Li, H.-J.; **M. A. Quevedo-Lopez**.; Young, C.D.; Choi, R.; Moumen, N.; Majhi, P.; Wang, Q.; Ekerdt, J.G.; Bersuker, G.; Lee, B.H.. Mobility enhancement of high-k gate stacks through reduced transient charging Solid-State Device Research Conference, 2005. ESSDERC 2005. *Proceedings of ESSDERC 2005: 35th European Solid-State Device Research Conference* art. no. 1546661, pp. 367-370 (2005)

02 Siddarth A. Krishnan, **M.A. Quevedo-Lopez**, Rino Choi, Paul D.Kirsch, Chadwin Young, Rusty Harris, Jeff J. Peterson, Hong-Jyh Li, Byoung Hun Lee and Jack C. Lee, "Charge Trapping Dependence on the Physical Structure of Ultra-thin ALD-HfSiON/TiN Gate Stacks", *IEEE International Integrated Reliability Workshop Proceedings.* art. no. 1609570, pp. 89-90 (2005)

01 **M. A. Quevedo-Lopez**, M. El-Bouanani, B. E. Gnade R. M. Wallace M.R.Visokay, M. Douglas, M.J. Bevan, and L. Colombo. "Interfacial Diffusion Studies of Hf and Zr into Si from Thermally Annealed Hf and Zr Silicate". *Materials Research Society Symposium Proceedings*. **(686)** 223 (2002).

CONFERENCE PRESENTATIONS (INVITED)

1. **M.A. Quevedo-Lopez**. "Inorganic Chalcogenide Materials as Semiconductors for Flexible Electronics", IUMRS, Seoul Korea, Ausgust *2010*.
2. **M.A. Quevedo-Lopez**. "Materials and devices for flexible Electronics". C*hemindix 2010. Bahrain, Kingdom of Bahrain, October 2010*.
3. **M.A. Quevedo-Lopez**. "Advanced nano-materials for flexible electronics" ICNS, Seoul Korea, *October 2010*.
4. **M.A. Quevedo-Lopez**. "Metals contacts, dielectrics and alternate semiconductors for flexible Electronics". *Nanomex 2009. Ensenada, Mexico*. November 2009.
5. **M.A. Quevedo-Lopez**. "Novel Integration and Devices for Flexible Electronics". *Emerging Technologies: ULSI Process Integration Symposium 216th ECS Meeting*. Vienna. October 2009.
6. **M.A. Quevedo-Lopez**. "Flexible Electronics". *Nano-Tech 2009.San Carlos, Mexico*. September 2009.
7. **M. A. Quevedo-Lopez**. "Flexible Electronics". *Mexican Physical Society Nanotechnology Workshop*. Monterrey Mexico May 19-23 2009.
8. D.R. Allee, **M.A. Quevedo-Lopez**, S. Gowrisanker, A. E. Avendano-Bolivar, H. N. Alshareef, B. 72 Gnade S. Venugopal, R. Krishna, K. Kaftanoglu "Flexible CMOS and Electrophoretic Displays". *Society of Information Display International Symposium*. San Antonio Texas. (2009)
9. **M. A. Quevedo-Lopez**. "Materials Science of Flexible Electronics". *IEEE meeting, Texas Section.* Austin TX. USA. February 2009
10. **M. A. Quevedo-Lopez. A**pplications of Flexible Electronics in Displays, Sensors and Photovoltaic Devices. *30th international Materials Congress*. Saltillo, Coahuila Mexico. October 25-27 2007.
11. **M.A. Quevedo-Lopez.** "Applications Flexible Electronics Research at UT-Dallas". *Center for Advanced Studies (CINVESTAV)*. Mexico. October 2007.
12. **M. A. Quevedo-Lopez.** "Challenges and current perspectives of Si-based technology" Third Conference in Mecatronics*. University of Piedras Negras*. Coahuila. Mexico March 2007.
13. **M. A. Quevedo-Lopez**. "High-k/Metal Gate Stacks Deposited by Atomic Layer Deposition for High Performance MOS Devices". Semiconductor Processing Users Group (SPUG) Meeting. Dallas Texas. March 2007.
14. **M. A. Quevedo-Lopez**. "High-k/Metal Gate Stacks Scaling for High Performance MOS Devices". University of Texas at Dallas. Dallas Texas. April 2006.

15. **M. A. Quevedo-Lopez**, P D kirsch, S A Krishnan, H J. Li and J J Peterson. “High-k/Metal Gate Stacks Scaling for High Performance MOS Devices. *Materials Research Society*. Spring 2006 meeting. San Francisco, CA. April. 2006.

16. **M.A. Quevedo-Lopez**, P.D. Kirsch, S. A. Krishnan,cH.-J Li, and J. J. Peterson. Scaling Limits Of Atomic Layer Deposited Hf-Based Gate Dielectrics. *2nd International Workshop on Advanced Gate Stack Technology.* Sep 28-30. Austin TX, 2005.

17. Jeff J. Peterson, Paul Kirsch a, Gennadi Bersuker, Siddarth Krishnan, Prashant Majhi, Pat Lysaght, **M. A. Quevedo-Lopez**, Hong-Jyh Li c, Yoshi Senzaki, Rusty Harris, Chadwin D. Young, Rino Choi, Johnny Sim, Joel Barnett, Naim Moumen, Craig Huffman. *Electrochemical Society (ECS) Meeting*. Los Angeles, Ca. 2005.

18. P. Lysaght, J. Barnett, **M. A. Quevedo-Lopez**, P. Kirsch, G. Bersuker, M. Gardner and B. Lee. The Influence of N Incorporation on the Crystallization Kinetics of Hf Based Gate Dielectric Films. *Electrochemical Society (ECS) Meeting*. Los Angeles, Ca. 2005.

19. Patrick S. Lysaght, Joel Barnett, Manuel Quevedo-Lopez, Paul D. Kirsch , Gennadi Bersuker, Byoung-Hun Lee, Joseph Woicik, Daniel Fischer. “Spectroscopic analysis of thin HfO2 and HfSiOx gate dielectric thin films exposed to NH3 anneals processing”. *E-MRS Fall Meeting 2005*.

20. **M. A. Quevedo-Lopez**. Challenges in FEP processes: Advanced gate dielectric. *Reunion Universitaria de Investigacion en Materiales.* Universidad de Sonora. Hermosillo, Sonora Mexico. Nov 23 – 24 2004.

21. Paul D. Kirsch, **M. A. Quevedo-Lopez**, Siddarth A. Krishnan, S. C. Song, Rino Choi, Prashant Majhi, Yoshi Senzaki, Gennadi Bersuker, and Byoung Hun Lee. Atomic Layer Deposited HfO2 and HfSiO to Enable CMOS Gate Dielectric Scaling, Mobility, and VTH Stability. *Electrochemical Society (ECS) Meeting*. Los Angeles, Ca. 2005.

22. Joe Bennett, **M. A. Quevedo-Lopez** and Sri Satyanarayana. Characterizing high-k and low-k dielectric materials for semiconductors: progress and challenges. *SIMS 2005.*

23. Paul D. Kirsch, Jeff Peterson, Hong-Jyh Li, Jim Gutt, Siddarth Krishnan, **M. A. Quevedo-Lopez**, Byoung Hun Leea, Naim Moumena, Joel Barnett, Prashant Majhib , Seungchul Song and Chuck Ramillera. “High-k Dielectric Process Development for Enhanced Electron Mobility in High Performance Field Effect Transistors”. *ISTC* 2004.

24. **M. A. Quevedo-Lopez**. Current Challenges in FEP processes. *Universidad de Coahuila*. Saltillo Coahuila Mexico. Nov 12 2004.

25. **M. A. Quevedo-Lopez**. Retos y perspectivas de la tecnologia de Silicio. *IV Congreso de Mecatronica.* Saltillo, Coahuila. Sep 23 2004.

26. **M. A. Quevedo-Lopez,** L. Colombo, J.J. Chambers , M.R. Visokay, H. Bu, A. Shanware, A.L.P. Rotondaro, and H. Niimi. Physical and Electrical Properties of Poly Si Gated HfSiON Dielectrics. *Mexican Society of Vacuum and Surface Science*. September 23-27 2004. Cancun Mexico.

27. J. J. Chambers, M. R. Visokay, A. Shanware, **M. A. Quevedo-Lopez**, A. L. P. Rotondaro and L. Colombo. Charge Trapping and Mobility Evaluation of HfSiON. *INMP Workshop on Mobility and Interface Issues in High K Dielectrics.* Stanford CA. Sep 2004.

28. L. Colombo, J.J. Chambers**, M. A. Quevedo-Lopez**, M.R. Visokay, H. Bu, A. Shanware, A.L.P. Rotondaro. A Review of HfSiON Gate Dielectrics. *Spring Materials Research Society Meeting*. San Francisco 2004.

29. L. Colombo, J.J. Chambers**, M. A. Quevedo-Lopez**, M.R. Visokay, H. Bu, A. Shanware, A.L.P. Rotondaro, and H. Niimi. Physical and Electrical Properties of Poly Si Gated HfSiON Dielectrics. *International Workshop in Gate insulators(IWGI)* 2003 November 6-7, 2003, Tokyo, Japan

30. J.J. Chambers, **M. A. Quevedo-Lopez**, M.R. Visokay, H. Bu, A. Shanware, and L. Colombo. Physical and Electrical Stability of HfSiON Dielectrics. *204th Meeting of The Electrochemical Society*. October 12-October 16, 2003. USA.

31. J. J. Chambers, **M. A. Quevedo-Lopez**, M. R. Visokay, A. Shanware, A.L.P. Rotondaro, and L. Colombo. HfSiON gate dielectric for advanced CMOS devices. *Gate Stack Engineering Working Group Symposium*. Austin TX. USA. Oct 2002.

CONFERENCE PRESENTATIONS (Contributed)

1. I. Mejia; A. L. Salas-Villasenor; J. Horvath; A. Avendano; H. Stiegler; B. E. Gnade; **M. A. Quevedo-Lopez** "Demonstration of Fully Patterned Hybrid CdS/Pentacene CMOS Circuits" *2010 MRS Fall Meeting*, Boston MA. 2010
2. D. Mao, **M.A. Quevedo-Lopez**, H. Stiegler, H. N. Alshareef, B.E. Gnade, "Low Voltage Flexible Ferroelectric Non-Volatile Memory based on Poly(vinylidenefluoride-trifluoroethylene)", FlexTech conference, Feb. 2010 (Phoenix AZ)
3. D. Mao, I. Mejia, H. Stiegler, B.E. Gnade, **M.A. Quevedo-Lopez**, "Polarization behavior of Poly(vinylidene fluoride-trifluoroethylene) copolymer ferroelectric thin film capacitors for non–volatile memory application in flexible electronics", Organic Microelectronics & optoelectronics Workshop VI, MRS, ACS, IEEE, Jul. 2010 (San Francisco CA)
4. **M. A. Quevedo-Lopez**, A. Avendano, D. Mao, B. E. Gnade, S. Venugopal, K. Kaftanoglu, A. Dey, D. Allee, "Reliability Improvement in Integrated Devices Using Low Temperature Hybrid Gate Dielectrics" *Flextech 2010* Feb 2010 (Phoenix AZ) 2010.
5. E. Fuentes-Fernandez, **M.A. Quevedo-Lopez**, B.A. Gnade, A. Hande, P. Shah, H.N. Alshareef. Development of d33 Cantilevers for Energy Harvesting Applications, ISIF, Puerto Rico (2010)
6. E. Fuentes-Fernandez, L. A Baldenegro-Perez, W. Debray-Mechtaly, M.A. Quevedo-Lopez, B.A. Gnade, and H.N. Alshareef , P. Shah, A. Hande, A. Rajasehkran, and M. Shih "Ferroelectric Thin Film and Cantilever Development for Energy Harvesting Applications in Flexible Electronics". *MRS summer Meeting*, August (Cancun) 2010
7. A. Avendano, M. R. Perez, H. J. Stiegler, B. E. Gnade, **M. A. Quevedo-Lopez** "Characterization of semiconductor/hybrid gate dielectric interfaces for improved reliability organic thin film transistors" *Flextech 2010* Feb 2010 (Phoenix AZ) 2010.
8. E. Fuentes-Fernandez, L. A Baldenegro-Perez, W. Debray-Mechtaly, M.A. Quevedo-Lopez, B.A. Gnade, and H.N. Alshareef , P. Shah, A. Hande, A. Rajasehkran, and M. Shih "Integrated PZT Thin Films and Cantilevers for Energy Harvesting Applications". *MRS Boston Meeting*, Fall 2009
9. D. Mao, **M. A. Quevedo-Lopez**, H. J. Stiegler, H. N. Alshareef and B. E. Gnade." Impacts of Thickness and Thermal Treatments on the Materials and Electrical Properties of Poly(vinylidene fluoride-trifluoroethylene) Films. MRS Fall Meeting, Dec 2009 (Boston MA) 2009.
10. **M. Quevedo-Lopez**, Srinivas Gowrisanker, Husam Alshareef, Adrian Avendaño, Bruce Gnade, Sameer Venugopal, Korhan Kaftanoglu, Roshith Krishna and David Allee. "Reliability Studies of Fully Integrated Complementary Thin film Transistor Devices: Gate Dielectric Failure Mechanism". Reliability Studies of Fully Integrated Complementary Thin film Transistor Devices: Gate Dielectric Failure Mechanism San Francisco Ca 2009.

11. L. Baldenegro-Perez, E. Fuentes-Fernandez, **M. Quevedo-Lopez**, H. N. Alshareef, B. E. Gnade and P. Shah "Characterization of PZT Thin Films Deposited on Non-Conducting Layers for Energy Harvesting Applications". *MRS Fall Meeting*, Nov 2008 (Boston MA.). 2008.
12. M. Al Ahrnadl, Erika Fuentes, Leo Baldenegro, **M. Quevedo-Lopez**, H. N. Alshareef, Bruce E Gnade and Robert Plana "Estimation of Piezoelectric PZT Thin Film Coefficients" *MRS Fall Meeting*, Nov 2008 (Boston MA.). 2008.
13. M. C Stefan, K. Palaniappan, J. Murphy, J. Horvat, **M. A. Quevedo-Lopez**, H. N. Alshareef and B. E. Gnade "Polythiophene-quantum Dot Hybrid Nanomaterials for Bulk Heterojunction Solar Cells" *MRS Fall Meeting*, Nov 2008 (Boston MA.). 2008.
14. R. Devine, H. hjalmarson, H Alshareef and **M. A. Quevedo-Lopez** "Charge Buildup under Negative Bias Stressing in HfSiON Dielectric Gate Based Field Effect Transistors" *50th Electronic material conference*, June 2008, Santa Barbara Ca 2008.
15. G. Srinivas, Y. Ai, **M. A. Quevedo-Lopez**, H.N. Alshareef, E.Vogel, and B.E. Gnade, "Thickness Effects in Pentacene Organic Thin Film Transistors", presented at *US Display Conference (USDC),* Tucson, AZ (Jan. 2008).
16. 4. G. Srinivas, Y. Ai, **M. A. Quevedo-Lopez**, H.N. Alshareef, and B.E. Gnade, "Time Dependent Dielectric Breakdown in Parylene Thin Films", presented at *MRS Spring Meeting*, March 23-28, 2008 (San Francisco, CA).
17. P. D. Kirsch, **M. A. Quevedo-lopez**, S. A. Krishnan, C. Krug, F. S. Aguirre, R. M. Wallace, B. H. Lee and R. Jammy. "Plasma Nitridation of HfO2 Enabling a 0.9 nm EOT with High Mobility for a Gate First MOSFET. *Proceedings of the Solid State Device Meeting*. Yokohama, Japan. (2006).
18. H.C. Wen, K. Choi, C. S. Park, H. Luan, H. Alshareef, H. R. Harris H.B. Park, **M. A. Quevedo-lopez**, G. Bersuker, P. Lysaght, P. Majhi, S.C. Song and B.H. Lee, "Fermi-level pinning and threshold voltage roll-off phenomena at low effective oxide thicknesses for p-MOS work function metal gates" *3rd International Symposium on Advanced Gate Stack Technology*, September 27~29, 2006.
19. M. M. Hussain, S. -. Song, C. Y. Kang, **M. A.Quevedo-lopez**, H. Alshareef, B. Sassman, R. Choi and B. H. Lee. Compatibility of ALD Hafnium Silicate with Dual Metal Gate CMOS Integration. *Proceedings of the Solid State Device Meeting*. Yokohama, Japan. (2006).
20. Siddarth A. Krishnan, **M. Quevedo-Lopez**, Hong-Jyh Li, Paul Kirsch, Rino Choi, Byoung Hun Lee, Jack C. Lee and Gennadi Bersuker, "Impact of Nitrogen on PBTI Characteristics of HfSiON/TiN Gate Stacks," *Reliability Physics Symposium Proceedings*, 2006. 44th Annual., IEEE International , vol., no.pp.325-328, March 2006
21. Siddarth A. Krishnan**, M.A. Quevedo-Lopez**, Rino Choi, Paul D.Kirsch, Chadwin Young, Rusty Harris, Jeff J. Peterson, Hong-Jyh Li, Byoung Hun Lee and Jack C. Lee, "Charge Trapping Dependence on the Physical Structure of Ultra-thin ALDHfSiON/ TiN Gate Stacks", *International Integrated Reliability Workshop*, October 20th, California. 2006.
22. Vaishali Ukirde, ChangDuk Lim, Mohamed El Bouanani and **M. A. Quevedo-Lopez**. Carbon Impurity Defects and Hydrogen Trapping in HfON High-k Dielectrics. *Materials Research Society*. Spring 2006 meeting. San Francisco, CA. April. 2006.
23. Gennadi Bersuker, Chadwig Young, Patrick Lysaght, Rino Choi, **M. Quevedo-Lopez**, Paul Kirsch and Byoung Hun Lee. "Electron Trapping in N Incorporated Hf-based Gate Stacks" *Materials Research Society*. Spring 2006 meeting. San Francisco, CA. April. 2006.

24. **M. Quevedo-Lopez**, S. A. Krishnan, P.D. Kirsch, J Peterson, H-J. Li, M Kim, C Huffman. Effect Of Starting Interface in Scalability/Device Performance of Ultra-Scaled ALD HfSiON/TiN Gate Stacks. *Proceedings of the Solid State Device Meeting*. Kobe, Japan. 2005.

25. R. M. Wallace, P. Sivasubramani, **M. A. Quevedo Lopez**, M. J. Kim, and B. E. Gnade. Interdiffusion studies of high-k gate stack constituents with silicates, aluminates and oxides" *Proceedings of the Advanced Research workshop in defects in Advanced High-k Dielectrics*, St. Petersburg, Russia. 2005.

26. S.A. Krishnan, **M. A. Quevedo-Lopez**, R. Harris, P. D. Kirsch, R. Choi, B.H. Lee, G. Bersuker, J. Peterson, H-J. Li, C. Young and J.C. Lee. NBTI Dependence on Dielectric Thickness in Ultra-scaled HfSiO Dielectric/ ALD-TiN Gate Stacks. *Proceedings of the Solid State Device Meeting*. Kobe, Japan. 2005.

27. H.N. Alshareef, K. Choi, H.C. Wen, R. Harris, H.F. Luan, **M. Quevedo-Lopez**, P.Majhi, and B.H. Lee. Process-Induced Work Function Modulations of TaxAl1-xNy Metal Gate Electrodes. *Proceedings of the 36nd IEEE SISC 2002 conference*. Washington DC (2005)

28. **M. A. Quevedo-Lopez**, S. A. Krishnan, P. D. Kirsch, H. J. Li, J. J. Peterson, B .H. Lee. Enhanced Reliability In Ultra-Scaled HfSiON Gate Dielectrics Through Suppressed Crystallization. *Proceedings of the 36nd IEEE SISC 2002 conference*. Washington DC (2005)

29. H.N. Alshareef, K. Choi, H.C. Wen, R. Harris, H.F. Luan, **M. Quevedo-Lopez**, P.Majhi, and B.H. Lee. Process-Induced Work Function Modulations of TaxAl1-xNy Metal Gate Electrodes. *Proceedings of the 36nd IEEE SISC 2002 conference*. Washington DC (2005)

30. **M. A. Quevedo-Lopez**, S. A. Krishnan, P. D. Kirsch, H. J. Li, J. J. Peterson, B .H. Lee. Enhanced Reliability In Ultra-Scaled HfSiON Gate Dielectrics Through Suppressed Crystallization. *Proceedings of the 36nd IEEE SISC 2002 conference*. Washington DC (2005)

31. P. D. Kirsch, H.-J. Li, J. Peterson, **M. A. Quevedo-Lopez**, Y. Senzaki, N. Moumen, S. C. Song and B. H. Lee. Material Characterization of TEMAHf and HfCl4 HfO2 ALD to Enable Dielectric Scaling, Improved Electron Mobility and Vth Stability. *Atomic Layer Deposition Conference*. Santa Clara CA, 2005.

32. Mohamed El Bouanani, Vaishali Ukirde, Lim ChangDuck, Jennifer Feng and **M. A. Quevedo-Lopez**. "ERDA Characterization of Hydrogen Incorporation and Release in CVD HfxSi1-xO2/Si Structures". *Materials Research Society*. Fall 2005 meeting. Boston MA. November 2005.

33. M. El Bouanani, V. Ukirde, C. Duk Lim, **M. A. Quevedo-Lopez** and M. El Bouanani. Thermal Stability of Ru and RuO2/ HfSiO/Si Structures. *Materials Research Society* Fall 2004 meeting. Boston MA. November 2005

34. M. El Bouanani, V. Ukirde, C. Duk Lim, J. Feng and **M. A. Quevedo-Lopez**. Hydrogen Incorporation and Release in CVD HfSiO/Si Structures. *Materials Research Society* Fall 2004 meeting. Boston MA. November 2005

35. V. Ukirde, C. Duk Lim, J.C. Feng, **M. A. Quevedo-Lopez** and M. El Bouanani. "Effects of Oxygen Anneal on Hydrogen Trapping in HfO2/Si structures". *International CAARI Conference*, 10-15 October, 2004.

36. V. Ukirde, C. Duk Lim, J.C. Feng, F. Naab, **M. A. Quevedo-Lopez** and M. El Bouanani. "Thermal Stability of RuO2/HfO2/Si nano-structures*". International CAARI Conference*, 10-15 October, 2004.

37. C. Duk Lim, V. Ukirde, W. Gustafson, L. Mitchell, **M. A. Quevedo-Lopez** and M. El Bouanani. "Carbon ion modification of thin Ruthenium Oxide Layers". *International CAARI Conference*, 10-15 October, 2004.

38. C. Duk Lim, V. Ukirde, W. Gustafson, L. Mitchell, **M. A. Quevedo-Lopez** and M. El Bouanani. "Four point probe and XPS analysis of Carbon Irradiated RuO2 thin layers". *American Physics Society meeting*, Texas section, Waco, October 8, 2004.

39. M. El Bouanani, V. Ukirde, C. Duk Lim, and **M. A. Quevedo-Lopez**. "Irradiation induced defects and hydrogen trapping in Hf-based dielectrics". *IBMM Conference*, Sept-5-10, 2004, Pacific Grove, CA.

40. V. Ukirde, C. Duk Lim, **M. A. Quevedo-Lopez** and M. El Bouanani. "Effects of Ion irradiation on the electrical properties of RuO2 thin films". *IBMM Conference*, Sept-5-10, 2004, Pacific Grove, CA.

41. C. Duk Lim, V. Ukirde, **M. A. Quevedo-Lopez** and M. El Bouanani. "Interfacial Stability Studies of annealed Ru and RuO2/HfO2/Si structures". *American Physics Society meeting*, Texas section, Tarleton, April 2, 2004.

42. V. Ukirde, C. Duk Lim, **M. A. Quevedo-Lopez** and M. El Bouanani , "Thermal stability of $Mo/HfO_2/Si$ and $MoN_x/HfO_2/Si$ structures". *American Physics Society meeting*, Texas section, Tarleton, April 2, 2004.

43. M.J. Kim, J Huang, DK Cha, **M. A. Quevedo-Lopez**, R. M. Wallace, and B. E. Gnade. Thermal Stability of Hf-based High-k Dielectric. *Microscopy and Microanalysis 2003*. San Antonio Texas. August 2003.

44. M. El Bouanani, **M. A. Quevedo-Lopez**, V. Ukirde, B.E. Gnade, R.M. Wallace and J.L. Duggan, "ERDA study of hydrogen trapping at the $Hf_xSi_{1-x}O_2/Si$ interface", *IBA-16 Conference*, Albuquerque, NM, June 29-July 4th, 2003

45. **M.A. Quevedo-Lopez**, H. Zhang, M.J. Kim, M. El -Bouanani, B.E. Gnade, R.M. Wallace, M.R. Visokay, A. Li-Fateau, J.J. Chambers, A.L.P. Rotondaro, and L. Colombo, "Dopant Penetration Studies in Hf Based Gate Dielectrics from Doped Polysilicon Films: Effect of Nitrogen in Penetration Robustness," *American Vacuum Society National Symposium*, Denver CO, USA November 4 - 8, 2002,.

46. J. J. Chambers, M. R. Visokay, A. Shanware, A.L.P. Rotondaro, **M. A. Quevedo-Lopez**, and L. Colombo. HfSiON gate dielectric for advanced CMOS devices. *Gate Stack Engineering Working Group Symposium*. Austin TX. USA. Oct 2002.

47. Prakaipetch Punchaipetch, Gaurang Pant, **M. Quevedo-Lopez**, Chun Yao, Hongguo Zhang, Moon J. Kim, Mohemed El-Bouanani, Robert M. Wallace, and Bruce E. Gnade, "Ultrathin hafnium silicon-oxynitride films grown by UV/ozone oxidation", *Materials Research Society* Fall Meeting 2002.

48. Prakaipetch Punchaipetch, Gaurang Pant, **M. A. Quevedo-Lopez**, Chun Yao, Hongguo Zhang, Moon J. Kim, Mohemed El-Bouanani, Robert M. Wallace, and Bruce E. Gnade, "Stacked structure of hafnium silicate gate dielectrics from UV ozone oxidation of hafnium silicide and reactive sputtering", IEEE *Semiconductor Interface Specialists Conference* 2002.

49. **M. A. Quevedo-Lopez**, B. E. Gnade, and R. M. Wallace. Challenges for the integration of high-k gate dielectrics. *Proceedings of the J. Electrochem. Soc.* Denver Co. (2002).

50. **M. A. Quevedo-Lopez**, M. El-Bouanani, M. J. Kim, B. E. Gnade R. M. Wallace M.R.Visokay, A. Rotondaro, J. J. Chambers and L. Colombo; "Effect of nitrogen on B penetration through HfSiO films." *Proceedings of the 33nd IEEE SISC 2002 conference* San Diego. CA. (2002)

51. Hongguo Zhang, Gaurang Pant, **M. A. Quevedo-Lopez**, Prakaipetch Punchaipetch, Bruce E. Gnade, Robert M. Wallace. Flat Band Voltage, Hysteresis And Breakdown Of Hafnium Silicate

Prepared By PVD Technique. *Materials Research Society*. Spring 2002 meeting. San Francisco, CA. April. 2002.

52. **M. A. Quevedo-Lopez**, P. Punchaipetch, G. Pant, M. El-Bouanani, M. Kim, B.E. Gnade, and R.M. Wallace. "Dopant Diffusion Studies From As-, B- And P-Doped Polysilicon Through CVD Deposited Hf Silicate Thin Films." *Materials Research Society*. Spring 2002 meeting. San Francisco, CA. April. 2002.

53. G. Pant, P. Punchaipetch, **M. A. Quevedo-Lopez**, M. El Bouanani, R.M. Wallace and Bruce Gnade. "Hafnium Silicate Formation By The Uv-Ozone Oxidation Of Hafnium Silicide." *Materials Research Society*. Spring 2002 meeting. San Francisco, CA. April. 2002.

54. P. Punchaipetch, G. Pant, **M. A. Quevedo-Lopez,** M. El Bouanani, H. Zhang, R.M. Wallace and Bruce E. Gnade. "Low Temperature Deposition Of Zirconium And Hafnium Silicate Gate Dielectrics For Flexible Display Applications." *Materials Research Society* Spring 2002 meeting. San Francisco, CA. April. 2002.

55. **M. A. Quevedo-Lopez**, M. El-Bouanani, B. E. Gnade R. M. Wallace M.R.Visokay, M. Douglas, M.J. Bevan, and L. Colombo. "Interfacial Diffusion Studies of Hf and Zr into Si from Thermally Annealed Hf and Zr Silicate". *Materials Research Society* Fall meeting. Nov. 2001. Boston MA. Nov 2001.

56. **M. A. Quevedo-Lopez**, M. El-Bouanani, S. Addepalli, J. L.Duggan, B. E. Gnade R. M. Wallace, L. Colombo, M.J. Bevan, M. Douglas, H.-Y. Liu, and M.R.Visokay "Diffusion studies of High-k Gate dielectric Candidates Hafnium and Zirconium Silicates." *American Vacuum Society National Symposium*, San Fco. CA, USA. October 2001.

57. **M. A. Quevedo-Lopez**, M. El-Bouanani, S. Addepalli, J. L.Duggan, B. E. Gnade R. M. Wallace M.R.Visokay, M. Douglas, M.J. Bevan, A. Rotondaro and L. Colombo; "Thermal Stability of High-k gate dielectrics on Si: Studies of metal incorporation from silicates into Silicon*." 32nd IEEE SISC 2001 (extended abstract).* Washington DC. 2001.

58. **M. A. Quevedo-Lopez,** M. El-Bouanani, S. Addepalli, J. L.Duggan, B. E. Gnade R. M. Wallace, L. Colombo, M.J. Bevan, M. Douglas, H.-Y. Liu, and M.R.Visokay "Interfacial diffusion studies of Hf and Zr into Si from thermally annealed Hf and Zr silicates." *International Workshop on Device Technology*, Porto Allegre, Brazil. 2001.

59. **M. A. Quevedo-Lopez**, M. El-Bouanani, R.M. Wallace, L. Colombo, M. Bevan, M. Douglas, H.-Y. Liu, D. Mercer, A. Rotondaro, and M. Visokay. "Zirconium diffusion measurement into Si from Zr-based gate dielectrics"*. 31st IEEE Semiconductor Interface Specialists Conference (Extended Abstract)*, San Diego, CA. 2000.

60. **M. A. Quevedo-Lopez,** R. Ramirez-Bon, F.J. Espinoza-Beltran, O. Mendoza, O. Zelaya-Angel and J. Gonzalez. "Effect of a cadmium sulfide interlayer in thermochromism and photochromism on molybdenum and tungsten oxide." *14th International Vacuum Conference*. Birmingham, England Sep 1999.

61. M. Sotelo-Lerma, R. Ramirez-Bon, **M. A. Quevedo-Lopez**, and R.A. Orozco. "Effect of the reaction temperature in the synthesis of intrazeolitic CdS film." *XVII congress of the Mexican Society of Vacuum and Surface Science*. Mazatlan, Mexico. Sep 1997

62. **M. A. Quevedo-Lopez**, R. Ramirez-Bon, F.J. Espinoza-Beltran, O. Mendoza, O. Zelaya-Angel and J. Gonzalez. "Opto-electronic characterization of MoO_3/CdS bilayers". *IV international Congress of Research in Materials.* Saltillo, Mexico. Oct. 1997.

63. M. Sotelo-Lerma, R. Ramirez-Bon**, M. A. Quevedo-Lopez**, and R.A. Orozco-Teran. "Structural and optical characterization of CdS-NaX composite materials." *5th European Vacuum Conference*. Salamanca. Spain. Sep 23 1996

64. **M. A. Quevedo-Lopez**, M. Sotelo-Lerma, R. Ramirez-Bon, and R.A. Orozco-Teran. "Synthesis and characterization of cadmium sulfide in zeolites." *III International Congress of Research in Materials*. Mexico. October 23 1996.

65. J.G. Mares, **M. A. Quevedo-Lopez**, and R.A. Orozco-Teran. "A kinetic method with electronic interface to evaluate enzymatic activity*." Second meeting in health research of the State of Sonora*, Sonora, Mexico. May 1994.

PATENTS

Issued

1. **US 6,933,235. M. A. Quevedo-Lopez**, Robert M. Wallace, Mohamed El Bouanani, and Bruce E. Gnade. Method for removing contaminants on a substrate

2. **US 6,809,370**. L. Colombo, J. J. Chambers, M. Visokay, **M. A. Quevedo-Lopez** and A.L.P. Rotondaro. High-k gate dielectric with uniform nitrogen profile and methods for making the same

3. **US 7,045,436**. Chatterjee; Amitava, Tsao; Alwin, **M. A. Quevedo-Lopez**, Yoon; Jong, Tang Shaoping. Method to engineer the inverse narrow width effect (INWE) in CMOS technology using shallow trench isolation (STI)

4. **US 7,115,530**. **M. A. Quevedo-Lopez**, J. J. Chambers, L. Colombo, M. Visokay. "Top surface roughness reduction of high-k dielectric materials using plasma based processes

5. **US 7,199,021. M.A. Quevedo-Lopez**, L. Olsen and J. Chambers. Methods and systems to mitigate etch stop clipping for shallow trench isolation fabrication

Pending

1. **20080242114. M.A. Quevedo-Lopez** and H. Alshareef**.** Thermal Anneal Method For A High-K Dielectric

2. **20080237604.** H. Alshareef and **M.A. Quevedo-Lopez.** Plasma Nitrided Gate Oxide, High-K Metal Gate Based Cmos Device

3. **20080157264.** J. Zhao, **M.A. Quevedo-Lopez**, L. H. Breaux. Shallow trench isolation devices and methods

4. **20060284173**. **M.A. Quevedo-Lope**z and Y.S. Chang. Method to test shallow trench isolation fill capability