APPENDIX A. BIOGRAPHICAL INFORMATION FOR NEW FACULTY

SUELY METH BLACK

Center for Materials Research & B.E.S.T. Lab & Chemistry Department
Norfolk State University

I. Professional Preparation

Rio de Janeiro Federal University, Brazil	Chemical Engineering	B.S., 1985
Rio de Janeiro Federal University, Brazil	Chemistry	M.S., 1989
Columbia University	Chemistry	M.Ph., 1994
Columbia University	Chemistry	Ph.D., 1996

II. Appointments

2003-present	Educational Hub Director, *Center for Materials Research,*
1998-present	Research Associate, *Center for Photonic Materials Research*
1996-present	Research Associate, *Center for Materials Research*
1996-present	Research Associate, B.E.S.T. Lab, *Center for Excellence in Science Education*
2001-present	Associate Professor, Chemistry, Norfolk State University
1996-2001	Assistant Professor, Chemistry, Norfolk State University
1987-1989	Assistant Professor, Chemistry, Fluminense Federal University, Brazil

III. Selected Publications

M.A. Noginov, M. Vondrova, S.M. Williams, M. Bahoura, V.I. Gavrilenko, S.M. Black, V.P. Drachev, V.M. Shalaev, and A Sykes, "Spectroscopic Studies of Liquid Solutions of R6G Laser Dye and Ag Nanoparticle Aggregates", J. Opt. A: Pure Appl. Opt. 7 (2005) S219-S229.

S. M. Black, "Engaging Students in Learning Through Creativity, Interactivity and Technology", 15th International Conference on College Teaching and Learning Proceedings, Jacksonville, FL, April 2004.

A. Bangbelu, S.M. Black, " Theoretical Study of Band Gaps of Conjugated Polymer Material for Donor-Acceptor Architectures", Proceedings of the 13th Conference in Current Trends of Computational Chemistry, Jackson, MS, November 2003.

S.M. Black, "How we implemented and adapted a cooperative model in an urban setting", Proceedings of the 222nd ACS National Meeting, Chicago, IL, August 2001.

S.M. Black, R. Friesner, P.Lu and R. Osgood. "Ab Initio Calculation of Molecule-Surface Binding: Methyl Halides on GaAs(110) Surface". Surf. Sci. 382 (1997) 154.

IV. Synergistic Activities

- Norfolk State University nominee for the Carnegie Foundation 2002 U.S. Professor of the Year program, and for the 2003 Award for Innovative Excellence in Teaching, Learning, and Technology sponsored by the International Conference on College Teaching and Learning in recognition of teaching innovations, and contributions to the school such as implementing the first WBHR-AMP (NSF) summer undergraduate research program at NSU in 2001, and coordination of the mentoring committee under the STARS project (NSF HBCU-UP).
- Nominated by students, and awarded the Professor of the Year Award by Residential Life at NSU, Spring 2004.
- Established and directs the Center for Materials Research (CMR) Educational Hub, and coordinates the CMR Quantum Chemistry research group, with participation of 6 graduate and 1 undergraduate student as of spring 05. More than half of alumni who worked in the research group have finished or are now in graduate school.
- Active in the Hampton Roads section of the ACS, having been awarded grant to promote the enhancement of chemistry teaching in collaboration with middle school teachers, and the section's coordinator of the U.S. National Chemistry Olympiad since 1996.

PETER J. DELFYETT, JR.

University of Central Florida
College of Optics and Photonics

I. Professional Preparation

The City College of New York	Electrical Engineering	B.E.E.E., 1981
University of Rochester	Electrical Engineering	M.S.E.E., 1983
The Graduate School & University Center of the City University of New York	Electrical Engineering	Ph.D., 1988

II. Appointments

2003-present	Trustee Chair Professor of Optics, ECE & Physics, College of Optics & Photonics, CREOL, University of Central Florida
2002-2003	University Distinguished Professor of Optics, ECE & Physics, School of Optics, CREOL, University of Central Florida
1999-present	Professor of Optics, School of Optics, CREOL University of Central Florida
1993-present	Associate Professor of ECE &Physics, CREOLUniversity of Central Florida

III. Selected Publications

"FROG measured high-power 185 fs pulses generated by down chirping of the dispersion-managed breathing-mode semiconductor mode-locked laser", B. Resan, L. Archundia, and P. J. Delfyett, Jr. , IEEE Photonics Technology Letters, Vol. 17, No. 7, 1384-1386, (2005).

"1.4kW high peak power generation from an all semiconductor mode-locked master oscillator power amplifier system based on eXtreme Chirped Pulse Amplification(X-CPA)", Kyungbum Kim, Shinwook Lee, and Peter J. Delfyett, Optics Express, Vol. 13, No. 12, Page 4600, (2005).

"Ultralow noise modelocked optical pulse trains from an external cavity laser based on a slab coupled optical waveguide amplifier (SCOWA)" S. Gee, F. Quinlan, S. Ozharar, P. J. Delfyett, J. J. Plant, P. W. Juodawlkis , Optics Letters, Vol. 30, Issue 20, pp. 2742-2744 (2005).

"Demonstration of Endless Phase Modulation for Arbitrary Waveform Generation", S. Ozharar, F. Quinlan, S. Gee, and Peter J. Delfyett, IEEE Photon. Tech Lett, Volume 17, Issue 12, Page(s):2739 - 2741 Dec (2005)

"Ultrashort, high-power pulse generation from a master oscillator power amplifier based on external cavity mode locking of a quantum-dot two-section diode laser", Myoung-Taek Choi, Wangkuen Lee, Ji-Myung Kim, and Peter J. Delfyett, Appl. Phys. Lett. 87, 221107 (2005).

IV. Other Significant Publications

High Power Ultrafast Semiconductor Laser Diodes, P. J. Delfyett, in "Compact Sources of Ultrashort Pulses", Cambridge University Press -- Studies in Modern Optics, ed. I. N. Duling, III (1994);

Semiconductor Lasers, P. J. Delfyett, in "Encyclopedia of Physical Science & Technology, Academic Press, ed. R. A. Meyers, (2001).

"Joint Time-Frequency Analysis of Modelocked Semiconductor Diode Lasers", P. J. Delfyett, H. Shi, S. Gee, J. Connolly, G. Alphonse, IEEE Journ. Quant. Electr., vol 35, no. 4, 487-500, (1999), (INVITED PAPER).

"Optical Time Division Multiplexed Networks", P. J. Delfyett, in the "Optics Handbook – Volume IV, Optical Society of America, (2000). (Book Chapter).

"Ultrafast Single and Multiwavelength Modelocked Semiconductor Lasers – Physics & Applications", P. J. Delfyett, in Ultrafast Lasers – Technology & Applications, Chapter 5, pp. 219-321, Marcel Dekker, Inc. (2002).

V. Synergistic Activities

Selected Professional Activities

IEEE Journal of Selected Topics in Quantum Electronics (JSTQE) Editor-in-Chief (2001 – present); OSA Board of Directors (2004 – Present); OSA Public Policy – Chairperson (2005 -); OSA CLEO 2006 General Chair (2006); IEEE LEOS General Chair (2005)

ANTHONY M. JOHNSON

Center for Advanced Studies in Photonics Research (CASPR)
Physics, University of Maryland Baltimore County

I. Professional Preparation

City College of New York	Physics	Ph.D., 1981
Polytechnic Institute of New York	Physics	B.S., 1975

II. Appointments

9/1/03 to present	Director, Center for Advanced Studies in Photonics Research (CASPR) & Professor of Physics and of Computer Science & Electrical Engineering 2004 Wilson H. Elkins Professorship of the University System of Maryland
1/03 to 9/1/03	Foundation Professor of Optics & Photonics and Distinguished Prof. of Physics
1/3/95 to 1/03	Chairperson & Distinguished Professor of Applied Physics & Professor of Electrical and Computer Engineering, New Jersey Institute of Technology

III. Selected Publications

H. Han, S. Vijayalakshmi, A. Lan, Z. Iqbal, H. Grebel, E. Lalanne and A. M. Johnson, "Linear and Nonlinear Optical Properties of Singe-Wall Carbon Nanotubes within an Ordered Array of Nanosize Spheres," Appl. Phys. Lett. 82, 1458 (2003).

F. A. Oguama, H. Garcia and A. M. Johnson, "Technique for Simultaneous Measurement of the Raman Gain Coefficient and the Nonlinear Refractive Index of Optical Fibers – Theory and Experiment," J. Opt. Soc. Am. B 22, 426 (2005)

H. Garcia, A. M. Johnson, F. A. Oguama, and S. Trivedi, "New Approach to the Measurement of the Nonlinear Refractive Index of Short (<25m) lengths of Silica and Erbium-Doped Fibers," Opt. Lett. 28, 1796 (2003).

F. A. Oguama, A. Tchouassi, A. M. Johnson and H. Garcia, "Numerical Modeling of the Induced Grating Autocorrelation for Studying Optical Fiber Nonlinearities in the Picosecond Regime," Appl. Phys. Lett. 86, 091101 (2005).

H. Garcia, A. M. Johnson, and S. Trivedi, "Photorefractive Beam-Coupling Measurement of the Nonlinear Refractive Index of Semiconductor Films," Phys. Stat. Sol. B 220, 47 (2000).

IV. Additional Publications

P. C. Becker, D. Lee, A. M. Johnson, A. G. Prosser, R. D. Feldman, R. F. Austin, and R. E. Behringer, "Femtosecond Dynamics of Resonantly Excited Room Temperature Excitons in II-VI CdZnTe/ZnTe Quantum Wells," Phys. Rev. Lett. 68, 1876 (1992).

H. Garcia, A. M. Johnson, F. A. Oguama and S. Trivedi, "Pump Induced Nonlinear Refractive Index Change in Erbium and Ytterbium Doped Fibers – Theory and Experiment," Opt. Lett. 30, 1261 (2005)

N. M. Froberg, A. M. Johnson, K. W. Goossen, J. E. Cunningham, M. B. Santos, W. Y. Jan, T. H. Wood, and C. A. Burrus, Jr., "Picosecond Carrier Escape by Resonant Tunneling in Pseudomorphic InGaAs/GaAsP Quantum Well Modulators," Appl. Phys. Lett. 64, 1705 (1994).

V. Synergistic Activities

Principal Investigator and Project Director of the Multidisciplinary Optical Science & Engineering Program (OPSE) supported by an NSF Combined Research-Curriculum Development grant (1/96-1/99) at NJIT – multidisciplinary program that melds the talents of individuals from the departments of Chemistry, Chemical Engineering & Environmental Science, Electrical and Computer Engineering, and Physics.; Member and Co-Founder, OSA Ad Hoc Committee on Women and Minorities in Optics (88-93); Co-Chair, OSA Committee on Women and Minorities in Optics (94-98); Chair, APS Committee on Minorities in Physics (92-93); International Coordinator (USA), African Laser Atomic and Molecular Sciences Network [LAM Network] (91-present) [Dr. A. Wague, President, LAM Network, Univ. of Cheikh Anta Diop, Dakar, Senegal]; National Conf. of Black Physics Students -- served as an invited speaker, workshop organizer, session chair, fund raiser, and program committee member (1993-Present).

DENISE M. WILSON

Department of Electrical Engineering
University of Washington

I. Professional Preparation

Georgia Institute of Technology	Electrical Engineering	Ph.D., 1995
Georgia Institute of Technology	Electrical Engineering	M.S., 1989
Stanford University	Mechanical Engineering	B.S., 1988

II. Appointments

2001-present	Associate Professor, Department of Electrical Engineering University of Washington
1999-2001	Assistant Professor, Department of Electrical Engineering, University of Washington
1996-1998	Assistant Professor, Department of Electrical Engineering University of Kentucky

III. Selected Publications

Lisa E. Hansen, Matthew Johnston, and Denise M. Wilson, “System-on-chip Surface Plasmon Resonance Sensors Using Pulse-based Interface Circuits,” IEEE Sensors 2005: Irvine, California, October 2005.

Denise M. Wilson and Lisa E. Hansen, “ENose Toolbox: Application to Array Optimization including Electronic Measurement and Noise Effects for Composite Polymer Chemiresistors,” IEEE Sensors 2005: Irvine, California, October 2005.

Matthew Johnston, Denise Wilson, Karl Booksh, and Jeffrey Cramer, “Integrated Optical Computing: System on Chip for Surface Plasmon Resonance Imaging,” Intl. Symp. Circuits and Systems, ISCAS 2005: Kobe, Japan, May 2005.

Lisa Hansen, Matthew Johnston, and Denise Wilson, “Pulse-based Interface Circuits for SPR Sensing Systems,” Intl. Symp. Circuits and Systems, ISCAS 2005: Kobe, Japan, May 2005

Carina K. Leung and Denise M. Wilson, “Integrated Circuits for Chemiresistor Arrays,” Intl. Symp. Circuits and Systems, ISCAS 2005: Kobe, Japan, May 2005.

IV. Additional Publications

Rachel Yotter and Denise Wilson, “A Review of Photodetectors for Biosensing Applications,” IEEE Sensors Journal, Volume: 3 , Issue: 3 , June 2003, pp. 288 - 303.

D.M. Wilson and S.D. Garrod, "Optimization of Gas-Sensitive Polymer Arrays using Combinations of Heterogeneous and Homogeneous Sub-Arrays," IEEE Sensors Journal, vol. 2, no. 3, June 2002, pp. 169-178.

D.M. Wilson, Sean Hoyt, Jiri Janata, Louis Abando, and Karl Booksh, "Chemical Sensors for Portable, Handheld Field Instruments," IEEE Sensors Journal, vol. 1, no. 4, December 2001, pp. 256-276.

B.P. Tan and D.M. Wilson, “Semi-Parallel Rank Order Filtering in Analog VLSI,” IEEE Trans Circuits and Systems II: Analog and Digital Signal Processing, vol. 48, n 2, February 2001, pp. 198-205.

D.M. Wilson and S. Quabili, “A Compact Well-Tuned Bandpass Filter,” Electronics Letters, vol. 35, no. 5, March 1999, pp. 364-365.

V. Synergistic Activities

MITE (summer program for high school students, 1999- present): faculty advisor and coordinator for EE program component which enables students to build and test their own RF transceivers.

K-12 Program Coordinator (1999-present)

Course Development: developed new senior level courses in robust design for consumer electronics and in neural systems design; developed “at-home” laboratory sequence for introductory circuits course; developed new course in K-12 outreach for Engineers.