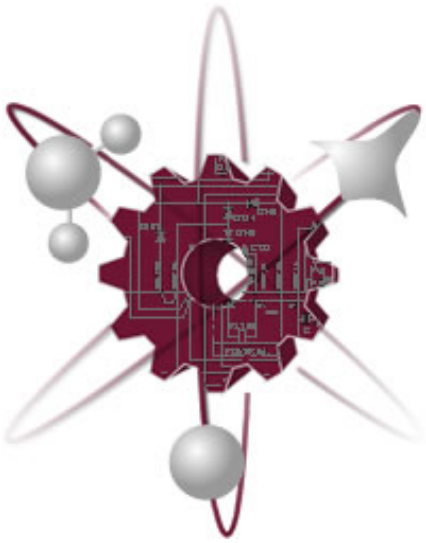
Appendix B: Faculty Vitae

Engineering Physics

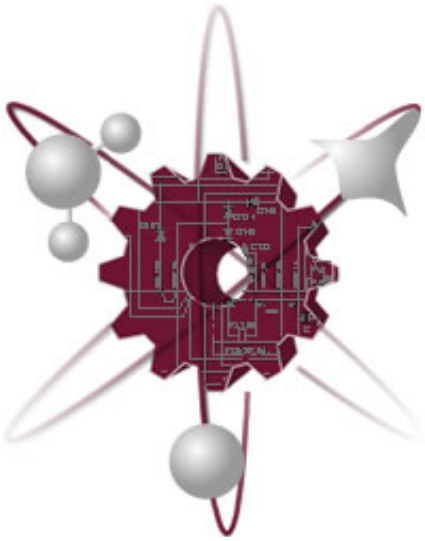
Bachelor of Science in Engineering Physics



Self-Study Report

New Mexico State University

Department of Electrical Engineering – Faculty CVs



NAME:

Deva K. Borah

EDUCATION:

Bachelor of Engineering, Electronics and Communications Engineering, Indian Institute of Science, Bangalore, India 1987

Master of Engineering, Electrical Communication Engineering, Indian Institute of Science, Bangalore, India 1992

Doctor of Philosophy, Research School of Information Sciences and Engineering, Australian National University, Canberra, Australia 2000

ACADEMIC EXPERIENCE:

New Mexico State University, Associate Professor with Tenure, full-time 2006-present

New Mexico State University, Assistant Professor, full-time 1999-2006

NON-ACADEMIC EXPERIENCE:

Indian Telephone Industries, Bangalore, India, Trainee 1987

CONSULTING, PATENTS, ETC.:

US Patents: US 7720012 Speaker identification in the presence of packet losses 2010

PROFESSIONAL REGISTRATION:

None

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Senior Member, Institute of Electrical and Electronics Engineers (IEEE)

HONORS & AWARDS:

Alumni Medal, Indian Institute of Science, Bangalore, India for being adjudged the best B.E. student in the Electrical Communication Engineering Department, 1987

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST 5 YEARS:

Guest Editor, Eurasip Journal on Wireless Communications and Networking, 2009-2010

Member, Technical Program Committee, IEEE Globecom 2011, ChinaCom 2009, IEEE ICC 2007, IEEE WCNC 2006

NSF Panel Review Member, 2007, 2010

Reviewer, IEEE Transactions on Wireless Communications, IEEE Transactions on Signal Processing, IEEE Signal Processing Letters, IEEE J. Selected Areas on Communications

External PhD examiner, University of New South Wales, Australian National University

PRINCIPAL PUBLICATIONS/PRESENTATIONS IN THE LAST FIVE YEARS:

D. K. Borah and D. G. Voelz, “Spatially Partially Coherent Beam Parameter Optimization for Free Space Optical Communications," Optics Express **18**, 20746-20758 (2010)

H. Tapse and D. K. Borah, “Hybrid Optical/RF Channels: Characterization and Performance Study using Low Density Parity Check Codes," IEEE Transactions on Communications **57**, 3288-3297 (2009)

S. Nammi and D. K. Borah, “A List-Based Detection Technique for Long Intersymbol Interference Channels," IEEE Transactions on Wireless Communications **8**, 1276-1283 (2009)

D. K. Borah and D. G. Voelz, “Pointing Error Effects on Free Space Optical Communication Links in the Presence of Atmospheric Turbulence," IEEE/OSA J. Lightwave Technology **27**, 3965-3973 (2009)

R. Luna, D. K. Borah, R. Jonnalagadda and D. G. Voelz, “Experimental Demonstration of a Hybrid Link for Mitigating Atmospheric Turbulence Effects in Free Space Optical Communications," IEEE Photonics Technology Letters **21**, 1196-1198 (2009)

S. Basu, D. G. Voelz and D. K. Borah, “Fade statistics of a ground to satellite optical link in the presence of lead-ahead and aperture mismatch," Applied Optics **48**, 1274-1287 (2009)

S. -Y. Cho and D. K. Borah, “Chip-scale hybrid optical sensing systems using digital signal processing," Optics Express **17**, 150-155 (2009)

D. K. Borah, “Estimation of Frequency-Selective CDMA Channels with Large Possible Delay and Doppler Spreads," IEEE Transactions on Vehicular Technology **55**, 1126-1136 (2006)

COURSES TAUGHT 2009-2010:

EE 210, Engineering Analysis I

EE 496, Introduction to Communication Systems I

EE 497, Introduction to Communication Systems II

EE 571, Random Signal Analysis

EE 581, Digital Communications I

EE 583, Personal Communication Systems

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST 5 YEARS:

International conferences on communications and signal processing attended: 2

Workshops and seminars attended at NMSU: 3

NAME:

Laura E. Boucheron

EDUCATION:

Bachelor of Science in Electrical Engineering, New Mexico State University, Las Cruces, NM, 2001

Master of Science in Electrical Engineering, New Mexico State University, Las Cruces, NM, 2003

Doctor of Philosophy in Electrical and Computer Engineering, University of California Santa Barbara, Santa Barbara, CA, 2008

ACADEMIC EXPERIENCE:

NMSU, Research Assistant Professor, Full-time 2010

NMSU, Postdoctoral Research Fellow, Full-time 2008-2010

NON-ACADEMIC EXPERIENCE:

Los Alamos National Laboratory, Grad. Research Asst., Full-time 2005-2007

CONSULTING, PATENTS, ETC.:

None

PROFESSIONAL REGISTRATION:

None

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

IEEE

HONORS & AWARDS:

None

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST 5 YEARS:

None

PRINCIPAL PUBLICATIONS/PRESENTATIONS IN THE LAST FIVE YEARS:

L. E. Boucheron, P. L. De Leon, and S. Sandoval, “Hybrid Scale/Vector Quantization of Mel-Frequency Cepstral Coefficients for Low Bit-Rate Coding of Speech,” To appear: *Data Compression Conference*, Mar. 2011

L. E. Boucheron, B. S. Manjunath, and N. R. Harvey, "Classification of breast cancer imagery using imperfectly segmented nuclei," In proceedings: *IEEE International Conference on Acoustics, Speech, and Signal Processing*, pp. 666-669, Mar. 2010

M. N. Gurcan, L. E. Boucheron, A. Can, A. Madabhushi, N. M. Rajpoot, B. Yener, "Histopathological image analysis: A review," *IEEE Reviews in Biomedical* Engineering, vol. 2, 147-171, 2009

L. E. Boucheron and P. L. De Leon, "On the inversion of mel-frequency cepstral coefficients for speech enhancement applications," In Proceedings: *IEEE International Conference on Signals and Electronic Systems*, pp. 485-488, Sep. 2008

L. E. Boucheron, N. R. Harvey, and B. S. Manjunath, "A quantitative object-level metric for segmentation performance and its application to cell nuclei," In Proceedings: *International Symposium on Visual Computing*, Lecture Notes in Computer Science, vol. 4841, pp. 208-219, Nov. 2007

L. E. Boucheron, Z. Bi, N. R. Harvey, B. S. Manjunath, and D. L. Rimm, "Utility of multispectral imaging for classification of routine clinical histopathology imagery," *BMC Cell Biology*, 8(Suppl 1):S8, (10 July 2007)

COURSES TAUGHT 2009–2010:

EE 418/419 Senior Capstone Design

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST 5 YEARS:

Attended talks at ICASSP 2010

Attended Teaching Academy seminars

Reviewed manuscripts for journals and conferences

NAME

Sukumar Brahma

EDUCATION

Ph. D. in Electrical Engineering, Clemson University, Clemson, August 2003, Master of Technology, Electrical Engineering, Indian Institute of Technology, Bombay, 1997.

Bachelor of Engineering, Electrical Engineering, Gujarat University, Ahmedabad, India, 1989.

ACADEMIC EXPERIENCE

Tenure-track Assistant Professor, Klipsch School of Electrical & Computer Engineering, New Mexico State University, July 2007 – Present

Tenure-track Assistant Professor, Department of Electrical Engineering, Widener University, September 2003 – June 2007

Lecturer, Dept. of Electrical Engineering, B.V.M College of Engineering, Sardar Patel University, Gujarat, India, December 1990 – August 1999

NON-ACADEMIC EXPERIENCE

Assistant Engineer, Ahmedabad Electricity Company, Ahmedabad, India, September 1990 – December 1990

Trainee, Ahmedabad Electricity Company, Ahmedabad, India, August 1989 – August 1990

CONSULTING, PATENTS, ETC.

Consultant, Sandia National Laboratories, 2010

Consultant, Schlumberger, 2011

US Patent: S. M. Brahma, P. De Leon, R. Kavasseri, "Eliminating the Use of Anti-Aliasing Filters in Digital Relays by Oversampling" – US Patent approved in March 2011 – number to be assigned

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Member, *Sigma-Xi*, The Scientific Research Society

Senior Member, IEEE, Member IEEE Power and Energy Society (PES)

Member, IEEE PES Power and Energy Education Committee (PEEC)

Member, PES Power System Analysis, Computing and Economics Committee (PSACE)

INSTITUTIONAL AND PROFESSIONAL SERVICE (last 5 years)

Chair, LLLSC - Lifelong Learning Subcommittee of the PEEC

Chair, Distribution System Analysis Subcommittee of the PSACE

three short courses taught at IEEE PES conferences

four sessions chaired at IEEE PES conferences

reviewed papers for IEEE Trans. Power Delivery, IEEE Trans. Power Systems, Int. J. of Emerging Electric Power Systems (IJEEPS), IEEE PES conferences.

Proposal Review for National Science Foundation

PRINCIPAL PUBLICATIONS (last 5 years)

Sravan K. Buggaveeti, Sukumar Brahma, Improved Overcurrent Protection of Capacitor Banks Using Mathematical Morphology, to appear in *IEEE Tr. Power Delivery*

Sukumar Brahma, Fault Location in Power Distribution System with Penetration of Distributed Generation, to appear in *IEEE Tr. Power Delivery*

S.S. Venkata, S. M. Brahma, J. Stamp, and P. Kundur, "Continue Your Learning," *IEEE Power and Energy magazine*, Vol. 8-4, pp. 36-43, July 2010

S. M. Brahma, P. L. De Leon, R. G. Kavasseri, "Investigating the Option of Removing Anti-Aliasing Filter From Digital Relays," *IEEE Trans. Power Delivery*, Vol. 24-4, pp. 1864-1868, October 2009

S. M. Brahma, "Protecting Distribution Systems with Distributed Generation – Are We There Yet?" *Power Industry International - Volume 2 - Issue I*, June 2008

S. M. Brahma, "Iterative Fault Location Scheme for a Transmission Line Using Synchronized Phasor Measurements," *International Journal of Emerging Electric Power Systems*, Vol. 8-6, article 2, November 2007

S. M. Brahma, "Accurate Calculation of Fault Current Phasors for Use in Fault Location," *International Journal of Power and Energy Systems*, Vol. 27-3, pp. 299-304, August 2007.

S. M. Brahma, "Distance Relay with Out of Step Blocking Function using Wavelet Transform", *IEEE Trans. Power Delivery*, Vol. 22-3, pp. 1360-1366, July 2007

COURSES TAUGHT 2009–2010

EE 391: Introduction to Electric Power

EE 431/542: Power Systems II

EE 493/543: Power Systems III

EE 534: Power System Relaying

PROFESSIONAL DEVELOPMENT ACTIVITIES (last 5 years)

Member of 10 Working Groups of IEEE Power System Relaying Committee

Short Courses Attended: 24 Hours

NAME:

Sang-Yeon Cho

EDUCATION:

Bachelor of Science, Electrical and Computer Engineering, Sungkyunkwan University, South Korea, 1996

Master of Science, Electrical and Computer Engineering, Sungkyunkwan University, South Korea, 1998

Master of Science, Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA, USA, 2000

Doctor of Philosophy, Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA, USA, 2003

ACADEMIC EXPERIENCE:

New Mexico State University, ECE, Assistant Professor, 2007-present

Duke University, ECE, Assistant Research Professor, 2006-2007

Georgia Institute of Technology, ECE, Research Engineer, 2003-2004

NON-ACADEMIC EXPERIENCE:

Air Force Research Lab. (Hanscom, MA), Summer Faculty Scientist, 2008

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Member, Optical Society of America, OSA

Member, The Institute of Electrical and Electronics Engineers, IEEE

HONORS & AWARDS:

Winner of Grand Challenges Explorations Round 4, "A Low-cost, Rapid, and Sensitive Malaria Diagnostic Tool using Extraordinary Optical Transmission through Nanoholes," supported by *the Bill & Melinda Gates Foundation,* Primary Investigator, 2010

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST 5 YEARS:

Reviewer Journal of Physics: Cond. Matter, J. of Optics A: Pure and Applied Optics, Journal of Physics and Chemistry of Solids, IEEE Journal of Lightwave Technology, IEEE Transaction on Electronic Devices, IEEE Photonics Technology Letters, OSA Optics Express, OSA Applied Optics, OSA Optics Letters, ACS Nano Letters, IOP Nanotechnology, IEEE Design & Test of Computer.

National Science Foundation (NSF) Panelist, 2010

PRINCIPAL PUBLICATIONS/PRESENTATIONS IN THE LAST FIVE YEARS:

R. A. Soref, S. Y. Cho, W. R. Buchwald, R. E. Peale, and J. W. Cleary, "Silicon plasmonic waveguides", in An Introduction to Silicon Photonics, S. Fathpour and B. Jalali, Editors, Taylor and Francis UK (2010)

Sang-Yeon Cho, D. K. Borah, "Chip-scale hybrid optical sensing systems using digital signal processing," *OSA Optics Express*, 17, pp. 150-155, 2009

Sang-Yeon Cho and Richard Soref, "Low-loss silicide/silicon plasmonic ribbon waveguides for mid- and far-infrared applications," *OSA Optics Letters*, vol. 34, pp. 1759-1761, 2009

Aloyse Degiron, Sang-Yeon Cho, Talmage Tyler, Nan Marie Jokerst, and David R Smith, "Directional coupling between dielectric and long-range plasmon waveguides," *New Journal of Physics*, 11, 015002, 2009

T. Driscoll, S. Palit, M. M. Qazilbash, M. Brehm, F. Keilmann, Byung-Gyu Chae, S.-J. Yun, H.-T. Kim, S. Y. Cho, N. Marie Jokerst, D. R. Smith, and D. N. Basov, "Dynamic tuning of an infrared hybrid-metamaterial resonance using vanadium dioxide," *Applied Physics Letters*, 93, 024101, 2008

Aloyse Degiron, Sang-Yeon Cho, Cameron Harrison, Nan Jokerst, Claudio Dellagiacoma, Olivier J. F. Martin, David R. Smith, "Experimental comparison between conventional and hybrid long-range surface plasmon waveguide bends," *Physical Review A*, vol. 77, 021804, 2008..

Sang-Yeon Cho and Nan Marie Jokerst, "Integrated Thin Film Photodetectors with Vertically Coupled Microring Resonators for Chip Scale Spectral Analysis," *Applied Physics Letters*, vol. 90, 101105, 2007

Sang-Yeon Cho and Richard Soref, "Interferometric microring-resonant 2 x 2 optical switches," *OSA Optics Express,* vol. 16, pp. 13304-13314, 2008

T. Driscoll, G. O. Anreev, D. N. Basov, S. Palit, S. Y. Cho, N. M. Jokerst, and D. R. Smith, "Tuned permeability in terahertz split-ring resonators for devices and sensors," *Applied Physics Letters*, 91, 062511, 2007.

T. Driscoll, G. O. Andreev, D. N. Basov, S. Palit, Tong Ren, Jack Mock, Sang-Yeon Cho, Nan Marie Jokerst, and D. R. Smith, "Quantitative investigation of a terahertz artificial magnetic resonance using oblique angle spectroscopy," *Applied Physics Letters*, 90, 092508, 2007.

Sang-Woo Seo, Sang-Yeon Cho, and Nan Marie Jokerst, "An Integrated Thin Film InGaAsP Laser and 1x4 Polymer Multimode Interferometric Splitter on Silicon," *OSA Optics Letters,* vol. 32, pp. 548-550, 2007

COURSES TAUGHT 2009–2010:

EE380 Electronics I

EE425 Introduction to Semiconductor

EE490 Advanced Optical Devices and Systems

EE201 Networks I

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST 5 YEARS:

Talks attended at IEEE/OSA Conferences: 8

Seminars attended at New Mexico University: 10

NAME:

Charles D. Creusere

EDUCATION:

BS, Electrical and Electronics Engineering, University of California at Davis, 1985

MS, Electrical and Electronics Engineering, University of California at Santa Barbara, 1990

Ph.D., Electrical and Electronics Engineering, University of California at Santa Barbara, 1993

ACADEMIC EXPERIENCE:

New Mexico State University, 2000-2004 Assistant Professor 2004-2009 Associate Professor, 2009-present Professor

NON-ACADEMIC EXPERIENCE:

Naval Weapons Center, China Lake, CA, 1985-1989

AT&T Bell Laboratories, Murray Hill, NJ, Summer 1992

Naval Air Warfare Center, China Lake, CA, 1993-1999

CERTIFICATIONS AND PROFESSIONAL REGISTRATIONS, CONSULTING, PATENTS, ETC.:

Consulting

Haynes&Boone LLP. Patent Attorneys, Expert witness, Realtime v. ATT, April 2011-present; Osterlenk, Gerb, Faber & Soffen, Expert witness, LTI v. Nikon, 2001-2003; Abba Tech, Technology Consultant, 2000; Invertix, Technology Consultant, 2006-present.

US Patents:

Patent titled "Parallel digital image compression system which exploits zerotree redundancies in wavelet coefficients," Patent Number 6,148,111.

Patent titled "Efficient embedded image and video compression using lifted wavelets," Number: 6,466,698, granted October 15, 2002.

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Institute of Electrical and Electronics Engineers (IEEE), Senior Member

HONORS & AWARDS:

Awarded the International Foundations for Telemetering Professorship in October 2008; Awarded the Frank Carden Chair in Telemetering & Telecommunications in January 2010.

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST 5 YEARS:

Associate Editor IEEE Transactions on Image Processing, Associate Editor IEEE Transactions on Image Processing,

Associate Editor IEEE Transactions on Multimedia,

Technical Program Committee, Data Compression Conference 2011,

Technical Program co-Chair, IEEE Southwest Symposium on Image Analysis and Interpretation, 2012,

Chair, College of Engineering Research & Development Team,

Member, College of Engineering Promotion and Tenure Committee,

Member, ECE Dept. Graduate Studies Committee,

Reviewer: ICASSP, ICIP, DCC, NSF.

PRINCIPAL PUBLICATIONS/PRESENTATIONS I(last year):

V. Thilak, C.D. Creusere, and D. Voelz, "Passive polarimetric imagery-based material classification robust to illumination source position and viewpoint," *IEEE Transaction on Image Processing, January 2011.*

Mecimore, Ivan; Creusere, Charles D.; , "Low complexity multi-view distributed video coding based on JPEG," *Image Analysis & Interpretation (SSIAI), 2010 IEEE Southwest Symposium on* , vol., no., pp.165-168, 23-25 May 2010.

Creusere, C.D.; Mehta, K.; Voelz, D.G.; , "Model-based estimation of surface geometry using passive polarimetric imaging," *Geoscience and Remote Sensing Symposium (IGARSS), 2010 IEEE International* , vol., no., pp.4557-4560, 25-30 July 2010.

Castorena, J.; Creusere, C.D.; Voelz, D.; , "Modeling lidar scene sparsity using compressive sensing," *Geoscience and Remote Sensing Symposium (IGARSS), 2010 IEEE International* , vol., no., pp.2186-2189, 25-30 July 2010.

Castorena, J.; Creusere, C.D.; Voelz, D.; , "Using finite moment rate of innovations for LIDAR waveform complexity estimation," *Asilomar Conference on Signals, Systems, and Computers*, Nov. 2010.

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST 5 YEARS:

Research papers presented at 19 papers presented at 11 different conferences;

Attended 11 teaching academy/Advance/ITC training events

NAME:

Muhammad Dawood

EDUCATION:

Doctor of Philosophy, Electrical Engineering, University of Nebraska-Lincoln, Nebraska, 2001

Master of Science, Electrical Engineering, University of Nebraska-Lincoln, Nebraska, 1998

Bachelor of Engineering, Avionics Engineering, NED University of Engineering and Technology, Karachi, Pakistan, 1985

Diploma in Radar Technology, School of Electronics, Karachi, Pakistan, 1980

ACADEMIC EXPERIENCE:

NMSU-Las Cruces, Assistant Professor Tenure-Track, Full-time 2005-present

KU-Lawrence, Research Assistant Professor, Full-time 2002-2005

UNL-Lincoln, Instructor, Full-time 2002-2002

UNL-Lincoln, Research/Teaching Assistant, Half-time 1996-2001

School of Electronics, Karachi, Pakistan, Progress and Training Control Officer, Full-time 1994-1994

National University of Science and Technology-Pakistan, Instructor, Department of Avionics, Full-time 1990-1993

NON-ACADEMIC EXPERIENCE:

Tellabs Research Center-Mishawaka, Research Engineer, Full-time 2001-2001

PIA-Karachi, Pakistan, Project Development Engineer, Full-time 1995-1996

PAF-Sargodha, Pakistan, Electronic Engineer, Full-time 1987-1990

PAF-Peshawar, Pakistan, Maintenance Engineer, Full-time 1985-1987

CONSULTING, PATENTS, ETC.:

US Patents:

US 61-353136 (provisional patent), An Experimental Method to Detect and Process Precursors at Microwave Frequencies for Greater Penetration Depths and Enhanced Imaging Through Dispersive Media 2010

US 61-370773 (provisional patent), Extended Optimal Filters for

Adaptive Radar Systems Using Binary Codes 2010

PROFESSIONAL REGISTRATION:

None

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Institute of Electrical and Electronics Engineers

HONORS & AWARDS:

None

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST 5 YEARS:

Manuscript Reviewer for IEEE Geo Science and Remote Sensing Letters (GRSL), IEEE Trans. Aerospace and Electronics Systems (AES), Institute of Electrical Technology (IET, formerly IEE), NSF, and AFOSR, 2003-present

Member, Engineering Physics ABET Committee, EE Representative since November 2009

Member, College of Engineering UG Research Committee, since November 2010.

Member, College of Engineering Student Evaluation Committee, since Spring 2010.

Member, Undergraduate Studies Committee, since 2008.

Advisor, IEEE Student Chapter, NMSU, since 2007

PRINCIPAL PUBLICATIONS/PRESENTATIONS IN THE LAST FIVE YEARS:

A. V. Alejos, M. Dawood, and L. Medina, "Experimental dynamical evolution of the Brillouin precursor for broadband wireless communication through vegetation," Journal of Electromagnetic Waves and Applications, Progress In Electromagnetic Research, PIER 111, 291-309, 2011

A. V. Alejos, M. Dawood, and H. U. Mohammed, "Analysis of Brillouin precursor propagation through foliage for digital sequence of pulses", *IEEE Geoscience and Remote Sensing Letters*, Vol. 8, No. 1, Jan. 2011, pp. 59-63

A. V. Alejos, M. Dawood, H. U. R. Mohammed, M. Garcia Sanchez, and I. Cuiñas, "Educational System to Approach Teaching of Bi-static Noise Radar," The Journal of *Electronics and Electrical Engineering* (Elektronika Ir Elektrotechnika, *ISSN 1392 – 1215)*, No. 6(102), 2010, pp. 71-74.

M. Dawood, H. U. R. Mohammed, and A. V. Alejos, "Experimental Detection of Brillouin Precursors Through Tap Water at Microwave Frequencies", Electronics Letters, 46, 1645, 2010.

B. Uhl, M. Dawood, and S. Castillo, "Quadrature-Modulated Circular Microstrip Patch Antenna for Phased Arrays," IEEE Antennas and Wireless Propagation Letters, Vol. 9, 2010, pp. 958-961.

Ana Vazquez Alejos, Manuel Garcia Sanchez, Mohammad Dawood, Iñigo Cuiñas Gomez, Chapter "Wideband Noise Radar based in Phase Coded Sequences", in book "Radar Technology", ISBN 978-953-307-029-2, edited by Guy Kouemou, published by IN-TECH (www.intech.org), Vienna (Austria), 2009

COURSES TAUGHT 2009–2010:

EE541/454-Antennas; EE548/452-Radar Systems; EE590/490-RF/Microwave Wireless Systems; and EE351-Applied Electromagnetics

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST 5 YEARS:

Talks attended at IEEE conferences, and other National/International Conferences, Meetings, Workshops, etc. : > 300

Seminars/Workshops participated at teaching Academy NMSU: >230 hours

NAME:

Phillip L. De Leon

EDUCATION:

BS, Electrical Engineering, Univ of Texas at Austin, 1989

BA, Mathematics, Univ of Texas at Austin, 1990

MS, Electrical Engineering, Univ of Colorado at Boulder, 1992

Ph.D., Electrical Engineering, Univ of Colorado at Boulder, 1995

ACADEMIC EXPERIENCE:

New Mexico State University, Professor, 1996 - present

Technical University Vienna, Austria (TU-Wien), School of Electrical Engineering, Visiting Professor, 2008

University College Cork, Ireland (UCC), Department of Computer Science, Visiting Professor, 2002

NON-ACADEMIC EXPERIENCE:

AT&T Bell Laboratories, Murray Hill, NJ, Cooperative Research Fellow, 1993, 1994

CONSULTING, PATENTS, ETC.:

Recent Consulting:

Invertix Corp. (McClean, VA), Consultant, 2006 - present

NetLogic (Mountain View, CA), Consultant, 2010-present

US Patents:

US 7,720,012 Speaker Identification in the Presence of Packet Losses, 2010

US 5,553,014 Adaptive Finite Impulse Response Filtering Method and Apparatus, 1996

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Institute of Electrical and Electronics Engineers (IEEE), Senior Member

HONORS & AWARDS:

U. S. Department of State, Fulbright Faculty Scholar Award, Austria, 2008

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST 5 YEARS:

Associate Department Head for Graduate Studies and Research, 2011 - present

IEEE Industry Digital Signal Processing Technology (IDSP) Standing Committee, 2010-2012

University Research Council (URC), NMSU, 2009-2010 (College of Engineering Representative), 2010-2011 (Chairman)

IEEE Transactions, *IEEE ICASSP conference* paper reviewer

PRINCIPAL PUBLICATIONS/PRESENTATIONS IN THE LAST FIVE YEARS:

P. L. De Leon, I. Hernaez, I. Saratxaga, M. Pucher, and J. Yamagishi, "Detection of Synthetic Speech for the Problem of Imposture," *IEEE Int. Conf. on Acoustics, Speech & Signal Processing* (ICASSP), 2011.

V. Apsingekar and P. L. De Leon, "Speaker Verification Score Normalization Using Speaker Model Clusters," *Speech Communication*, vol. 53, no. 1, pp. 110 - 118, Jan. 2011.

S. M. Brahma, R. G. Kavasseri, and P. L. De Leon, "Oversampling in Digital Relays," *IEEE Trans. Power Delivery*, vol. 24, no. 4, pp. 1864 - 1868, Oct. 2009.

V. Apsingekar and P. L. De Leon, "Speaker Model Clustering for Efficient Speaker Identification in Large Population Applications," *IEEE Trans. Audio, Speech, Lang Process*., vol. 17, no. 4, pp. 848-853, May 2009.

A. Daga, G. Lovelace, D. Borah, and P. De Leon, "Terrain-Based Simulation of IEEE 802.11a and b Physical Layers on the Martian Surface," *IEEE Trans. Aerosp. Electron. Syst*, vol. 43, no. 4, Oct. 2007.

COURSES TAUGHT 2009–2010:

EE565 Pattern Recognition and Machine Learning (Spring 2010)

EE312 Signals and Systems I (Spring 2010)

EE311 Signals and Systems (Fall 2009)

EE395 Introduction Digital Signal Processing (Fall 2009, Fall 2010)

EE442/EE592 Real-Time Digital Signal Processing (Spring 2009)

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST 5 YEARS:

Research conferences presented at: 6

Invited talks: 2

NAME:

Paul M. Furth

EDUCATION:

B.A., French, Grinnell College, Grinnell, IA, 1984.

B.S., Engineering (Electrical), California Institute of Technology, Pasadena CA, 1985.

M.S., Electrical and Computer Engineering (Area: Subthreshold CMOS), Johns Hopkins University, Baltimore MD, 1991.

Ph.D., Electrical and Computer Engineering (Area: Subthreshold CMOS), Johns Hopkins University, Baltimore MD, 1996.

ACADEMIC EXPERIENCE:

New Mexico State University (NMSU), Las Cruces, NM, Assistant Professor of

Electrical and Computer Engineering, 1995-2000

NMSU, Associate Professor, 2000-Present

NMSU, Assoc. Dept. Head, 2002-2006 and 2011-Present

NMSU, Instructor of Pre-freshman Engineering Program, Summer 2005

NMSU, Interim Department Head, 2009-2010

NON-ACADEMIC EXPERIENCE:

Sandia National Labs, Albuquerque, NM, University Summer Faculty, Design of High-

Dynamic Range Pixel Design for Imager, Summer 2008.

Micron, Boise, ID, Visiting Faculty, SRAM Design for CMOS Imagers, Summer 2007.

Motorola, Chandler, AZ, Consulting IC Designer, Design of Switched-Capacitor

Amplifier for CMOS Imager, Design of Power Management and Audio Circuits for portable game player, Summers 2001-2003.

JTA Research, Seal Beach CA, Consulting IC Designer, SRAM Design, Summer 2000.

Johns Hopkins University Applied Physics Laboratory, Columbia, MD, Member of Associate Staff , Audio Experiments with Electronic Model of Ear, 1992-1995, part-time.

TRW Technar, Irwindale, CA, Project Engineer, Design of Shock Vibration testers for Automotive Airbag Crash Sensors,1985-1989.

CERTIFICATIONS AND PROFESSIONAL REGISTRATIONS:

none

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Institute of Electrical and Electronics Engineers (IEEE), Member

NMSU Teaching Academy, Member

HONORS & AWARDS:

NMSU College of Engineering, Bromilow Teaching Award for Teaching Excellence, 2008

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST 5 YEARS:

Member, Steering Committee, IEEE Midwest Symposium on Circuits and Systems, 2011-present

Volunteer, New Mexico BEST Robotics, 2009-present

Reviewer, *IEEE Transactions on Circuits and Systems* and *IEEE Journal of Sensors*

Member/Chair, ECE Undergraduate Studies Committee, 1998-2002, 2009-present

ECE Representative, BS in Engineering Physics Committee, 2006-2010

Advisor for HKN (EE Honor Society) Student Organization, 1998-1999, 2009-2010

Advisor for NMSU IEEE Student Branch, 2009-2010

PRINCIPAL PUBLICATIONS/PRESENTATIONS IN THE LAST FIVE YEARS:

"Integrated CMOS Sensor Array for Optical Heterodyne Phase Sensing," P. M. Furth, V. Ponnapureddy, S. Dundigal, D. Voelz, A. Garimella, M.W. Rashid, *IEEE Sensors Journal*, Feb. 2011.

"On the Design of Low-Power CMOS Comparators with Programmable Hysteresis," P. M. Furth, Y.-C. Tsen, V. B. Kulkarni, and T. K. Poriyani House Raju, *53rd IEEE Midwest Symposium on Circuits and Systems*, pp. 1077-1080, Seattle, WA, August 2010.

"An Adaptive Biasing Technique to Convert a Pseudo-Class AB Amplifier to Class AB," M. W. Rashid, A. Garimella, and P. M. Furth, *IET Electronics Letters*, vol. 46, no. 12, pp. 820-822, Jun. 2010.

"Reverse Nested Miller Compensation Using Current Buffers in a Three-Stage LDO," A. Garimella, M. W. Rashid, and P. M. Furth, *IEEE Trans. on Circuits and Systems–II*, vol. 57, no. 4, pp. 250–254, April 2010.

"A 1.21V, 100mA, 0.1µF-10µF output capacitor low drop-out voltage regulator for SoC applications," A. Garimella and P.M. Furth, *Proc. of IEEE Int. Conf. Electronics, Circuits, and Systems*, Medina, Tunisia, pp. 375-378, Dec. 2009.

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST 5 YEARS:

NMSU Advancing Leaders Program, Leadership Mentoring Program, 2010-2011.

ECEDHA and SWECEDHA Conferences

Electrical and Computer Engineering Department Head 2010

NAME:

Hong Huang

EDUCATION:

Ph.D., December 2002, Georgia Institute of Technology, Atlanta, USA, in Electrical and Computer Engineering.

MS, May 2000, Georgia Institute of Technology, Atlanta, USA, in Electrical and Computer Engineering.

Bachelor of Engineering, Tsinghua University, Beijing, China.

ACADEMIC EXPERIENCE:

Assistant Professor, Klipsch School of Electrical Engineering, New Mexico State University, 2003-2009.

Associate Professor, Klipsch School of Electrical Engineering, New Mexico State University, 2009-now.

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Institute of Electrical and Electronics Engineers, Member

HONORS & AWARDS:

Best Papers Award, IEEE High Performance Switching and Routing Conference, 2002

Amelio Prize ($1500), for excellent academic performance, Georgia Tech, 1999

Excellent Graduates, for ranking 1st in Class (department) on graduation, Tsinghua Univ.

PRINCIPAL PUBLICATIONS/PRESENTATIONS IN THE LAST FIVE YEARS:

H. Huang, N. Ahmed and S. Pullurul, "Jamming Dust: A Low-Power Distributed Jammer Network," in *Proc. of 27th Army Science Conference*, 2010.

R. Asorey-Cacheda, H. Huang, F. J. Gonz´alez-Casta˜no, E. Johnson, C. Lopez- Bravo and F. Gil-Castineira, "A Joint Interchannel and Network Coding Schema for nVoD Services over Wireless Mesh Networks," in *Proc. of IEEE Globecom*, 2009.

H. Huang, "The Connection Between Information Theory and Object Search in Networks," *IEEE Communications Letters,* Vol. 12, No. 12, 2008.

H. Huang and R. R. Manda, "Exploring Performance Landscape of Unstructured Search Schemes," in *Ubiquitous Computing and Communication Journal*, Vol. 3, No.4, 2008.

H. Huang, "Distributed Computing in Wireless Sensor Networks," in *Encyclopedia of Mobile Computing and Commerce*, book chapter, edited by D. Taniar, Information Science Reference (an imprint of IGI), Hershey, PA, 2007.

H. Huang, "Mechanisms to Mitigate Inefficiency in Greedy Geographical Routing in Wireless Ad-hoc Networks," in *IEEE Communications Letters*, Vol. 10, No. 3, 2006.

H. Huang and J. A. Copeland, “Optical networks with hybrid routing,” in *IEEE Journal on Selected Areas in Communication*, Vol. 21, No. 7, 2003.

H. Huang and J. A. Copeland, “A series of Hamiltonian cycle based solutions to provide simple and scale mesh optical network resilience,” in *IEEE Communications*, Vol. 40, No. 11, 2002.

COURSES TAUGHT 2009–2010:

EE261 Digital Design

EE469 Communications Networks

EE563 Computer Performance Analysis

EE569 Advanced Communications Networks

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST 5 YEARS:

Attended NSF workshops, NMSU Teaching Academy workshops

NAME:

Joerg Kliewer

EDUCATION:

MSEE (Dipl.-Ing. degree), Hamburg University of Technology, Germany, 1993

Ph.D. (Dr.-Ing. degree), University of Kiel, Germany, 1999

ACADEMIC EXPERIENCE:

University of Kiel, Germany, Lecturer 1999–2003

Visiting Senior Research Fellow, University of Southampton, U.K. 2004–2005

Visiting Assistant Professor, University of Notre Dame 2005–2007

Assistant Professor, New Mexico State University, Tenure-Track 2007–2011

NON-ACADEMIC EXPERIENCE:

Philips Semiconductors, VLSI design engineer, internship 1992

CONSULTING, PATENTS, ETC.:

US 7068216 Method for the linearization of FMCW radar devices 2006

Also European Patent EP1464982, German Patent DE10315012

PROFESSIONAL REGISTRATION:

None

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Institute of Electrical and Electronics Engineers, Senior Member

HONORS & AWARDS:

Leverhulme Trust Fellow, 2003; German Research Foundation Fellowship, 2004

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST 5 YEARS:

Associate Editor, EURASIP Journal on Advances in Signal Processing, 2005-2009

Associate Editor, IEEE Transactions on Communications, since 2008

Member Editorial Board IEEE Information Theory Society Newsletter, since 2009

Member technical program committee: IEEE GLOBECOM 2009/2010, IEEE Information Theory Workshop 2009, IEEE Intern. Conf. on Communications 2010/2011, IEEE Vehicular Technology Conf. 2011, Eighth Intern. Symposium on Wireless Communication Systems

Advisory board member of GAIN (German Academic International Network), since 2010

Panelist National Science Foundation (CISE, 2007, 2009)

PRINCIPAL PUBLICATIONS/PRESENTATIONS IN THE LAST FIVE YEARS:

J. Kliewer, R. Thobaben: Iterative joint source-channel decoding of variable-length codes using residual source redundancy. IEEE Trans. Wireless Commun., May 2005

R. Thobaben, J. Kliewer: Low complexity iterative joint source-channel decoding for variable-length encoded Markov sources. IEEE Trans. Commun., Dec. 2005

J. Kliewer, N. Goertz, A. Mertins: Joint source-channel decoding with Markov random field source models. IEEE Trans. Signal Proc., Oct. 2006

R. G. Maunder, J. Kliewer, S. X. Ng, J. Wang, L.-L. Yang, L. Hanzo: Joint iterative decoding of trellis-based VQ and TCM for bandwidth-efficient video transmission. IEEE Trans. Wireless Commun. April 2007

S. Puducheri, J. Kliewer, T. E. Fuja: The design and performance of distributed LT codes. IEEE Trans. Information Theory, Oct. 2007

L. Xiao, T. E. Fuja, J. Kliewer, D. J. Costello, Jr.: A network coding approach to cooperative diversity, IEEE Trans. Information Theory, Oct. 2007

R. Thobaben, J. Kliewer: An efficient variable-length code construction for iterative source-channel decoding. IEEE Trans. on Commun., July 2009

T. Cui, T. Ho, J. Kliewer: Relay strategies for memoryless two-way relay channels: Performance analysis and optimization. IEEE Trans. Commun., Oct. 2009

L. Xiao, T. E. Fuja, J. Kliewer, D. J. Costello, Jr.: Error performance analysis of signal superposition coded cooperative diversity. IEEE Trans. Commun., Oct. 2009

M. Andersson, V. Rathi, R. Thobaben, J. Kliewer, M. Skoglund: Nested polar codes for wiretap and relay channels. IEEE Communication Letters, Aug. 2010.

T. Dikaliotis, T. Ho, S. Jaggi, S. Vyetrenko, H. Yao, M. Effros, J. Kliewer, E. Erez: Multiple-access network information-flow and correction codes. IEEE Trans. Information Theory, Feb. 2011.

COURSES TAUGHT 2009–2010:

EE 571 Random Signal Analysis, EE 581 Digital Communications,

EE 586 Information Theory, EE 572 Coding Theory

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST 5 YEARS:

Attended 17 IEEE conferences during the last five years

NAME:

Kwong Ng

EDUCATION:

Bachelor of Engineering, Electrical Engineering, McGill University, Canada, 1979

Master of Science, Electrical Engineering, The Ohio State University, 1981

Doctor of Philosophy, Electrical Engineering, The Ohio State University, 1985

ACADEMIC EXPERIENCE:

University of Virginia, Research Assistant Professor, Full-time	1985
University of Virginia, Assistant Professor, Full Time	1986-1989
New Mexico State University, Associate Professor, Full-time	1990-1993
New Mexico State University, Associate Professor with Tenure, Full-time	1993-1995
New Mexico State University, Full Professor with Tenure, Full-time	1995-

NON-ACADEMIC EXPERIENCE:

None

PROFESSIONAL REGISTRATION:

None

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Institute of Electrical and Electronic Engineers

HONORS & AWARDS:

Paul W. and Valerie Klipsch Distinguished Professor

Who's Who Among America's Teachers

Who's Who in Science and Engineering

Who's Who in America

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST 5 YEARS:

NMSU College of Engineering Research and Development Team

NMSU Library Liaison, Electrical and Computer Engineering

NMSU ECE Graduate Studies Committee

NMSU ECE Promotion and Tenure Committee

NMSU Department Advisory Committee

NMSU ECE Faculty Search Committee

NMSU Director, Electromagnetics Laboratory

NMSU Graduate Examination Committees

Reviewer, IEEE Transactions, Med. & Biol. Eng. & Comput., Review of Scientific Instruments

PRINCIPAL PUBLICATIONS/PRESENTATIONS IN THE LAST FIVE YEARS:

H.V. Dang, K.T. Ng, and J.K. Kroger, "Novel beamformers for multiple correlated brain source localization and reconstruction," Proc. 36th International Conference on Acoustics, Speech and Signal Processing, Prague, Czech Republic, May 2011.

H.V. Dang, K.T. Ng, and J.K. Kroger, "Novel vector beamformers for EEG source imaging," Proc. 2011 IEEE International Symposium on Biomedical Imaging, Chicago, IL, March 2011.

H.V. Dang and K.T. Ng, "Finite Difference Neuroelectric Modeling Software," Journal of Neuroscience Methods, in press.

O.C. Deale, K.T. Ng, and B.B. Lerman, "Orthogonal field calibration analysis for myocardial electrode arrays used in defibrillation studies," IEEE Trans. Biomed. Eng., vol. 55, pp. 2823-2826, 2008.

D.N. Barnes, J.S. George, and K.T. Ng, "Finite difference iterative solvers for electroencephalography: serial and parallel performance analysis," Med. & Biol. Eng. & Comput., vol. 46, pp. 901-910, 2008.

O.C. Deale, K.T. Ng, and B.B. Lerman, "Calibrated current divider network for precision current delivery during high-voltage transthoracic defibrillation," IEEE Trans. Biomed. Eng., vol. 52, pp. 1970-1973, 2005.

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST 5 YEARS:

Conferences Attended: 8

Seminars attended at NMSU: 32

NAME:

Vojin G. Oklobdzija

EDUCATION:

MSEE and BSEE (Electronics and Telecommunications, University of Belgrade, Yugoslavia) 1968, 1971.

MSc (Computer Science) University of California Los Angeles, 1978.

Ph.D. (Computer Science) University of California Los Angeles, 1982.

ACADEMIC EXPERIENCE:

New Mexico State University, Klipsch School of Electrical and Computer Engineering, Las Cruces New Mexico, Dept Head 2010-2011:

University of Texas at Dallas, Dallas Texas, Visiting Professor, 2007-2010:

Sydney University, Sydney, Australia Chair Professor / Visiting Professor 2005 - 2007

Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland, Visiting Professor, 2004

Korea Information Technology Assessment Program, Seoul, Korea, Distinguished Visiting Professor 2003

University of California, Electrical and Computer Engineering, Davis California, Professor / Emeritus Professor 1991 - on

University of California Berkeley, Berkeley California, Visiting IBM Faculty June 1988 -1990

University of Belgrade, Yugoslavia, Faculty Member (Assistant Professor), 1974 - 1976

NON-ACADEMIC EXPERIENCE:

Uhur Security, Director of Computer Operations	1977-1980
Armco Security, Director of Computer Operations	1980-1983

CONSULTING, PATENTS, ETC.: (Partial List)

Samsung, Consultant and Advisor, Korea. Nov. – Dec. 2003:

Intel Advanced Microprocessor Research Laboratories, Hillsboro, Oregon. May 2002 – September 2002:

SONY, LSI Systems Laboratories, Consultant, 1997 - 2001:

CONSISTENT PRECHARGE CIRCUIT FOR CASCODE VOLTAGE SWITCH LOGIC, US Patent No. 4,700,086.

REGISTER SELECTION MECHANISM AND ORGANIZATION OF AN INSTRUCTION PREFETCH BUFFER, US Patent No. 4,847,759.

INSTRUCTION PREFETCH BUFFER CONTROL, US Patent No. 4,714,994.

INSTRUCTION CONTROL MECHANISM FOR A COMPUTING SYSTEM WITH REGISTER RENAMING AND QUEUES INDICATING AVAILABLE REGISTERS, US Patent No. 4,992,938.

PROFESSIONAL REGISTRATION: None

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Institute of Electrical and Electronics Engineers

American Society for Engineering Education

HONORS & AWARDS:

Fulbright Scholarship, 1976-77; National Science Fellowship, Plasma Physics, 1971-73; IBM patent award, 1985; IBM invention plateau award, 1985; Best Paper Award in Computer Architecture track, HICSS-88; Fulbright Professorship, 1990. Peru, South America.N. Price Fellowship in Electrical Engineering, Australia 1993; Fellow IEEE, 1995; Distinguished Lecturer of IEEE Circuits and Systems Society; Distinguished Lecturer of IEEE Solid-State Circuits Society; Outstanding Academic Title, "Computer Engineering Handbook", CRC Press 2002.

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST 5 YEARS:

IEEE-CAS: Vice-President, Technical Activities, Member of the Executive Committee, Member of the Board of Governors; Editorial Board, IEEE MICRO; International Solid-State Circuits Conference (ISSCC) program committee; Int'l Symposium on VLSI Technology;

PRINCIPAL PUBLICATIONS/PRESENTATIONS IN THE LAST FIVE YEARS(Partial List)

V. G. Oklobdzija, *"Clocking and Clocked Storage Elements in Multi-GHz Environment"*, invited paper, IBM Journal of Research and Development, Vol. 47, No. 5/6, pp. 567-584, September/November 2003.

N. Nedovic, W. Walker, V. G. Oklobdzija, *"A Test Circuit for Measurement of Clocked Storage Element Characteristics"*, IEEE Journal of Solid-State Circuits, Vol.29, No.8, August 2004.

N. Nedović, V. G. Oklobdzija, "Dual-Edge Triggered Storage Elements and Clocking Strategy for Low-Power Systems", *IEEE Transaction on VLSI Systems*, Volume 13, Issue 5, pp. 577-590, May 2005.

V. G. Oklobdzija, B. R. Zeydel, H. Q. Dao, S. Mathew, R. Krishnamurthy, "Comparison of High-Performance VLSI Adders in Energy-Delay Space", *IEEE Transaction on VLSI Systems*, Volume 13, Issue 6, pp. 754-758, June 2005.

S. K. Hsu, S. K. Mathew, M. A. Anders, B. R. Zeydel, V. G. Oklobdzija, R. K. Krishnamurthy, S. Y. Borkar, *"A 110 GOPS/W 16-bit Multiplier and Reconfigurable PLA Loop in 90-nm CMOS"*, IEEE Journal of Solid-State Circuits, Vol.41, No.1, January 2006.

COURSES TAUGHT 2011–2012(At NMSU)

EE 418 Capstone Design 1

Name

Robert Paz

Education

Ph.D, Electrical Engineering, May 1991, University of Illinois

M.S., Electrical Engineering, May 1987, University of Illinois

B.S., Electrical Engineering, May 1985, New Mexico State University

Academic Experience

Associate Professor, New Mexico State University, 9.5 years

Assistant Professor, New Mexico State University, 7.5 years

Teaching Assistant, University of Illinois, 2 years

Non-Academic Experience

1984-1987, Summer Intern, Eastman Kodak Company, Rochester, NY

1988-1990, Summer Research Assistant, Coordinated Science Laboratory, University of Illinois.

2006 Boeing Faculty Fellowship

Consulting, Patents

none

States of Registration

none

Principle Publications (last 5 years)

R.A. Paz (2011), Computer Control Systems, undergraduate controls textbook, under preparation.

Paz, R.A. (2011), “Noncausal Velocity Estimates from Incremental Encoders for Identification of Robotic Systems,” submitted for the IEEE Conference on Decision and Control, Orlando, FL

Khaled Hatamleh, Ou Ma and Robert Paz (2010). "A UAV Model Parameters Identification Method", *Proceedings of the AIAA Guidance Navigation and Control Conference*, Toronto, Ontario Canada.

Hatamleh , K. S., O. Ma, and R. Paz (2009) "An UAV Model Parameter Identification Method: A Simulation Study," *International Journal of Information Acquisition*, vol. 6, pp 225-238.

Hatamleh , K. S., O. Ma, and R. Paz (2009) "In-flight UAV Parameter Identification: A Simulation Study," *Proceedings of the AIAA Atmospheric Flight Mechanics Conference*, August 10-13, Chicago

Liang, J., A. Hernandez, O. Ma, B. Qiao, and R. Paz, (2009) "Nonhuman Test of an Active Body Support System for Improving Locomotion Training," *Proc. of the IEEE/ ASME International Conference on Advanced Intelligent Mechatronics*, July 14-17, Singapore

O. Ma, A. Hernandez, and R. Paz (2008), "Testbed for Testing an Active Body Support System for Locomotion Training," Proceedings of the IEEE/ASME International Conference on Advanced Intelligent Mechatronics, July 2-5, 2008, Xian, PRC.

Diao, X., O. Ma, and R. Paz (2006), "Study of 6-DOF cable-robots for potential application of HIL microgravity contact-dynamics simulation", *Proc. AIAA Modeling and Sim. Tech. Conf. and Exhibit*, Keystone, CO, AIAA-2006-6732

R.A. Paz (2006), "Ripple-Free Tracking with Robustness," *International Journal of Control*, vol. 79, no. 6, pp. 543-568.

Scientific & Professional Societies

Institute of Electrical and Electronic Engineers (IEEE)

Control Systems Society of the IEEE, Member of the Technical

Committee on Robust Control (TCRC), and the Technical Committee on Education

Eta Kappa Nu, Gamma Chi Chapter Advisor

Tau Beta Pi, Engineering Honor Fraternity

Sigma Xi, The Scientific Research Society

Honors & Awards

none

Institutional & Professional Service (last 5 years)

Westhafer Award Selection Committee (3 years)

HKN Chapter Advisor (11 years)

Klipsch School Undergraduate Studies Committee (Chair, 2yrs)

Teaching Academy Board Member (3 years)

Faculty Senate (1 year)

Professional Development (last 5 years)

Teaching Academy Distinguished Member (3 years)

Boeing-Welliver Faculty Fellow

NAME:

Krist Petersen

EDUCATION:

BS	(Biology), Eastern New Mexico University, Portales, New Mexico, 1973
MSEE	(Electrical Engineering), New Mexico State University, Las Cruces, New Mexico, 1986
Ph.D.	(Electrical Engineering), New Mexico State University, Las Cruces, New Mexico, 1998

ACADEMIC EXPERIENCE:

New Mexico State University, Las Cruces New Mexico, Instructor	1985–2004
New Mexico State University, Las Cruces New Mexico, Dept Head	2004–2005
New Mexico State University, Las Cruces New Mexico, Assoc Dean	2005-2011
New Mexico State University, Las Cruces New Mexico, Instructor	2011–2012

NON-ACADEMIC EXPERIENCE:

Uhur Security, Director of Computer Operations	1977-1980
Armco Security, Director of Computer Operations	1980-1983

CONSULTING, PATENTS, ETC., PROFESSIONAL REGISTRATION:

None

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Institute of Electrical and Electronics Engineers

American Society for Engineering Education

HONORS & AWARDS:

None

INSTITUTIONAL AND PROFESSIONAL SERVICE; PRINCIPAL PUBLICATIONS/PRESENTATIONS; PROFESSIONAL DEVELOPMENT ACTIVITIES (in last 5 years):

None- serving as Associate Dean of Engineering

COURSES TAUGHT 2011–2012:

EE 161 Computer Aided Problem Solving

EE 162 Digital Design EE 363 Computer Architecture

Name

Heather Day Pfeiffer

Education

Doctorate of Philosophy in Computer Science, NMSU 2007

Master of Science in Computer Science, NMSU 1988

Bachelor of Science in Microbiology/Biology, University of Washington, 1977

Academic experience

College Assistant Professor and Adjunct Faculty: Klipsch School of ECE (on Graduate Faculty) and Dona Ana Community College, New Mexico State University, Las Cruces, New Mexico, August 2007 - Present.

Graduate Programmer Analyst: Biology Department, New Mexico State University, Las Cruces, New Mexico, November 2002 - December 2003, February 2005 - May 2005.

Non-academic experience

Consultant: Akamai Physics, Inc., Las Cruces, New Mexico, October 2009 – Present.

New Mexico State University Staff: Provost and Faculty Senate Webmaster in Provost Office, New Mexico State University, Las Cruces, New Mexico, August 2007 - Present.

Senior Computer Scientist: Horton Technical Associates, Inc., Las Cruces, New Mexico, June 2005 - December 2006.

Certifications or professional registrations

Certified in WebCT and Blackboard and to teach online classes.

Current membership in professional organizations

Association for Computing Machinery (ACM)

IEEE Computer Society and IEEE

The American Society for Information Systems and Technology (ASIS&T)

New Mexico Network for Women in Science and Engineering (NMNWSE)

Honors and awards

Received a 14,000 dollars ONR Summer Faculty Fellowship as a Research Fellow, Dahlgren, VA, May 2011 - July 2011.

Chair of SIG-KM and Chair of Membership in association with the American Society of Information Science and Technology, ASIS&T, 2011.

Chair of SIG-KM in association with the American Society of Information Science and Technology, ASIS&T, 2009.

Service activities

NM BEST Purchasing Agent (2010), Webmaster (2010) and Scorekeeper, 2009 - Present

Publications

Pfeiffer, H.D. and E.L. Tonkin: "eTagging in Context: Information Management across Community Networks", in Dumova, T., & Fiordo, R. (Eds.). Handbook of Research on Social Interaction Technologies and Collaboration Software: Concepts and Trends. Hershey, PA: Information Science Reference. ISBN 9781605663685, IGI Global Press, July (2009).

Tonkin, E., E.M. Corrado, H.L. Moulaison, M.E.I. Kipp, A. Resmini, H.D. Pfeiffer, and Q. Zhang: "Collaborative and Social Tagging Networks", in *Ariadne, Issue 54, January* (2008).

Pfeiffer, H.D.: "The Effect of Data Structures Modifications on Algorithms for Reasoning Operations Using a Conceptual Graphs Knowledge Base", in *PhD Dissertation at New Mexico State University*, December (2007).

Pfeiffer, H.D., A. Kabbaj and D. Benn (eds.) *Second Conceptual Structures Tool Interoperability Workshop, CS-TIW 2007*. Milton Keynes, UK: Research Press International (2007).

Pfeiffer, H.D. and R.T. Hartley: "A Comparison of Different Conceptual Structures Projection Algorithms", in U. Priss, S. Polovina, and R. Hill (eds), *Conceptual Structures: Knowledge Architectures for Smart Applications, LNAI 4604, ICCS 2007*, pp. 165-178 (2007).

Pfeiffer, H.D. and J.J. Pfeiffer, Jr.: "Representation Levels Within Knowledge Representation" (position paper), in U. Priss, S. Polovina, and R. Hill (eds), *Conceptual Structures: Knowledge Architectures for Smart Applications, LNAI 4604, ICCS 2007*, pp. 484-487 (2007).

Keeler, M.A. and H.D. Pfeiffer:"Building a Pragmatic Methodology for KR Tool Research and Development," in *Conceptual Structures: Inspiration and Application, LNAI 4068, 14th International Conference on Conceptual Structures, ICCS 2006*, Aalborg, Denmark, pp. 314-330 (2006).

Professional development activities

Member of New Mexico State University Teaching Academy attending classes, and workshops and participating in mentoring and evaluation programs from August 2007 to Present.

Participated in the Peer-to-Peer assessment program to work on teaching techniques in 2009 at Dona Ana Community College.

NAME:

Nadipuram (Ram) R. Prasad

EDUCATION:

BE, Electrical Engineering, Mysore University, India, 1966

SM, Electrical & Computer Science, MIT, 1971

MSEE, Electrical & Computer Engineering, New Mexico State University, 1988

Ph.D., Electrical & Computer Engineering, New Mexico State University, 1989

ACADEMIC EXPERIENCE:

2000 - Present Director, Rio Grande Institute for Soft Computing (*RioSoft*) & *Rio*RoboLab

1995 - Present Associate Professor, NMSU, Intelligent Systems, Systems Science, Robotics

1990 - 1995 Assistant Professor, NMSU, Robotics, Power Systems, Control Systems

1986 - 1990 College Instructor, NMSU, Electric Power Systems, Intelligent Systems

NON-ACADEMIC EXPERIENCE:

2008 NASA ESMD Faculty Project Fellow, NASA/JPL, Summer 2008,

2007 NASA ESMD Faculty Project Fellow, NASA/JPL, Summer 2007

2006 NSFRO Fellow, NASA/JPL, Summer 2006

2005 Visiting Scientist, NASA/JPL, Summer 2005

2004 Senior Research Scientist, SPAWAR US Navy, Summer 2004

2001-2003 Year 2001 NAFP Fellow, Cohort 5, NASA/JPL

1976 to 1985 Senior Engineer, Manager, AEP Service Corporation, Columbus, OH

1971 to 1976 System Planning Engineer, Chas. T. Main, Inc., Boston, MA

1966 to 1967 Engineering Trainee, General Electric Company of India, India.

CERTIFICATIONS AND PROFESSIONAL REGISTRATIONS, CONSULTING, PATENTS, ETC:

“Apparatus and Methods for interpreting frequencies in environmental noise”, Nadipuram R. Prasad and Jason C. King, 11/969,779, US Patent Pending

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Institute of Electrical and Electronics Engineers (IEEE), Senior Member

Founding Member, International Fuzzy Systems Association, Vietnam Chapter

HONORS & AWARDS:

U. S. Department of State, Fulbright U.S. Scholar Teaching Award, Vietnam, Spring 2012

NASA Administrator's Fellowship Program Achievement Award, July 2003.

Globalization Award, April 2002.

Outstanding Faculty Member Award, April 1999.

Bromilow Award for Teaching Excellence, April 1996.

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST 5 YEARS:

Member Undergraduate Studies committee 2005-2006

Member Department Head Search Committee 2009-2010

Member, Graduate School Advisory Board, 2010-Present

Reviewer for the National Foundation for Science and Technology Development (NAFOSTED)

IEEE Transactions on Energy Systems paper reviewer

SMC paper reviewer

EPSR Journal paper reviewer

PRINCIPAL PUBLICATIONS:

First Course in Fuzzy Control and Neural Control, Hung T. Nguyen, Nadipuram R. Prasad, Carol L. Walker, Elbert A. Walker, CRC Press, 2002.

Nhap Mon: Trí Tuệ tinh toan (*Computational Intelligence: Introduction*), Phuong H. Nguyen, Nadipuram R. Prasad, and Phong L. Le, Nha Xuat Ban Khoa Hoc Va Ky Thuat (Publishers of Science and Technology), Hanoi, Vietnam, 2002.

Fuzzy Modeling and Control - Selected Works of Sugeno, Eds., Hung T. Nguyen, Nadipuram R. Prasad, CRC Press, 1999.

Electric Circuits, Thomas Hall, Nadipuram R. Prasad, Mehdi Anwar, Leane Roffey, NTC Publishing Group, November 1998.

Prasad, N. R., Almanza-Garcia, S., Lu, T., "Anomaly Detection", *Journal of Computers, Materials, & Continua*, CMC, vol.14, no.1, pp.1-22, 2009.

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST 5 YEARS:

Research papers presented at 5 conferences

NAME:

Jaime Ramírez-Angulo

EDUCATION:

BS, Electrical and Electronics Engineering (Specialization area: Acoustics), ESIME-IPN National Polytechnic Institute , Mexico,1973

MS, Electrical Engineering (Area: Semiconductors), CINVESTAV IPN (Center for Advanced Studies of National Polytechnic Institute, Mexico 1976

Ph.D., Electrical Engineering (Area: Thin Film Microcircuits), University of Stuttgart, Stuttgart, Germany, 1982

ACADEMIC EXPERIENCE:

National Institute for Astrophysics, Optics and Electronics (INAOE), Puebla, Mexico August 1982 to August 1984

Instructor Texas A&M University, College Station, TX.

August 1984 to August 1990 Assistant Professor, New Mexico State University, 1990-94 - Associate Professor; 94- present - Professor

University of Seville, Seville, Spain May 1998 - December 1998, sabbatical.

NON-ACADEMIC EXPERIENCE:

Texas Instruments, (Summer Faculty Program) Summer 2001

Oak Ridge National Laboratory Summer Faculty Program 1997

NASA Ames Research Center Moffett Field, Mountain View CA, Summer 2004

NASA Goddard Space Center, Green Belt Maryland Summer 2006-2007

Violin Memory, Round Rock Texas January - May 2008 Senior Design Engineer

CERTIFICATIONS AND PROFESSIONAL REGISTRATIONS, CONSULTING, PATENTS, ETC.:

Farella Braun + Martel LLP. Patent Attorneys, Since September 2010, Texas Instruments, Summer 2001, 2002,NASA-Center for Autonomous Control Engineering, Consultant, 1999- 2004

US Patents:

"Integrated Circuit Fault Testing Implementing Voltage supply rail pulsing and corresponding instantaneous current response analysis," Patent 5,483,170, January 1996, Jeffrey S. Beasley, Hema Ramammurhty, Jaime Ramirez-Angulo and Mark R. DeYong

"Digitally Configurable Analog VLSI method for real time solution of partial differential equations," Patent 6,141,676 October 31, 2000, Jaime Ramirez-Angulo Mark R. DeYong

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Institute of Electrical and Electronics Engineers (IEEE), Fellow Member

HONORS & AWARDS:

U. S. Department of State, Border Fulbright Faculty Scholar Award, Mexico, 2009-2010, IEEE Fellow Member since 2000, Klipsch Distinguished Professor NMSU 2003, URC University Research Council for exceptional achievements in creative scholarly activities March 2002, Westhafer award for Excellence in Research and Creativity May 2002.

INSTITUTIONAL AND PROFESSIONAL SERVICE IN THE LAST 5 YEARS:

Member, Chair Promotion and tenure committee, ECE Department

Member Undergraduate Studies committee 2010

Member Department Head Search Committee 2009-2010

Chair Faculty Search Committee 2010

Member IEEE CAS Analog Signal Processing Committee since 1996

Member IEEE MWS Steering Committee since 1996

IEEE Transactions Journal paper reviewer, *IEEE ISCAS, MWS CAS* paper reviewer

PRINCIPAL PUBLICATIONS/PRESENTATIONS IN THE LAST YEAR:

“Using Floating Gate and Quasi-Floating Gate Techniques for Rail-to-Rail Tunable CMOS Transconductor Design,” Jose M. Algueta Miguel, Antonio J. Lopez-Martin, Lucia Acosta, Jaime Ramírez-Angulo, and Ramón G. Carvajal, *IEEE Transactions on Circuits and Systems I.(I.F. 1.42)* In print.

"Three Novel Improved CMOS C-Multipliers," Jesus Aguado-Ruiz, Antonio J. Lopez-Martin, Jaime Ramirez-Angulo, *Intenational Journal of Circuit Theory*, (I.F. 2.0) In print

“-75 dB IM3 CMOS Gm-C VDSL Channel Filter” M. Jiménez, L. Acosta, R. G. Carvajal, A. Lopez-Martin and J. Ramírez-Angulo, *IEEE Transactions on Circuits and Systems II (I.F. 1.32) In print.*

"Micropower High Current Drive Class AB CMOS Current Feedback Operational Amplifier" L. Acosta, R. G. Carvajal, A. Lopez-Martin and J. Ramírez-Angulo, *International Journal of Circuit Theory and Design*, (I.F. 2.0) CT-09-0134, in print

”Design of Two-Stage Class AB CMOS Buffers: A Systematic Approach, “: Antonio Lopez-Martin, Jose M. Algueta, Lucia Acosta, Jaime Ramirez-Angulo, and Ramon G. Carvajal, *ETRI Journal* (I.F. 0.846) Paper RP1008-0465Title (in print)

"DC Offset Control with Application in a Zero-IF 0.18 um CMOS Bluetooth Receiver Chain" *J.A. Galan,* T. Sanchez-Rodriguez, R.G.Carvajal,A.J. Lopez-Martin and J. Ramirez-Angulo*, Analog Integrated Circuits and Signal Processing*, Vol.: 65 Issue: 1 Pages: 15-20, Oct 2010

"Highly Linear Voltage Follower Based on Local Feedback and a Cascode Transistor with Dynamic Biasing," C.I. Lujan, A. Torralba, R.G. Carvajal and J. Ramirez-Angulo. *Electronics Letters (I.F. 1.0)* Volume: 47 Issue: 4 Pages: 244-245 Feb 17 2011.

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST 5 YEARS:

Research papers presented at 15 conferences

Six invited and plenary presentations.

Four short courses in Spain and Mexico

Name

Steven J. Stochaj

Education

Ph.D. Physics, University of Maryland, College Park, MD (1990)

B.A. Physics & Mathematics, Franklin and Marshall College, Lancaster, PA (1983)

Academic Appointments

Professor: New Mexico State University, 2005-Present

Associate Professor: New Mexico State University, 2001-2005

Assistant Professor: New Mexico State University, 1995-2001

College Assistant Professor: New Mexico State University, 1990-1995

NASA Graduate Research Fellow: Goddard Space Flight Center-NASA 1987-1990

Selected Publications

Electron Measurements with the High Energy Particle Calorimeter Telescope (HEPCaT), J.W. Mitchell, T. Hams, J.F. Krizmanic, A.A. Mosieev, M. Sasaki, R.E. Streitmatter, J.H. Adams, M.J. Christl, J.W. Watts, T.G. Guzik, J. Isbert, J.P. Wefel, C.B. Cosse, and S.J. Stochaj, Proceedings of the 31st ICRC, Lodz, Poland (2009) OG.1.5 Paper ID 1444.

Orbiting Astrophysical Spectrometer in Space (OASIS), Adams, J., *et al*., 37th COSPAR Scientific Assembly, Montreal, Canada, (2008), 22.

The Pamela experiment ready for flight, Adriani, O., *et al*. Nuclear Instruments and Methods in Physics Research A, 572 (2007) 471.

Cosmic-ray observations of the heliosphere with the PAMELA experiment, Casolino, M., & the PAMELA Collaboration, Advances in Space Research, 37 (2006) 1848.

Space qualification tests of the PAMELA instrument, Sparvoli, R., & the PAMELA Collaboration, Advances in Space Research, 37 (2006) 1841.

The Cosmic-Ray Electron and Positron Spectra Measured at 1 AU during Solar Minimum Activity, Boezio, M., & the WiZard Collaboration, Astrophysical Journal 533 (2000) 653.

Energy spectra of atmospheric muons measured with the CAPRICE98 balloon experiment, Boezio, M., & the WiZard Collaboration, Physical Review D, 67, (2003) 072003.

NIGHTGLOW: an instrument to measure the Earths nighttime ultraviolet glow results from the first engineering flight, Barbier, L. M., et al., Astroparticle Physics, 22 (2005) 439.

High-Energy Deuteron Measurement with the CAPRICE98 Experiment, Papini, P., & the WiZard Collaboration, Astrophysical Journal 615 (2004) 259.

Synergistic Activities

NMSU – 21st Century Aerospace Research Cluster Lead

NMSU- Roush Teaching Award

NMSU – Bromilow Research Award

NAME:

Wenxin Liu

EDUCATION:

Bachelor of Science, Industrial Automation, Northeastern University, China, 1996;

Master of Science, Control Theory and Application, Northeastern University, China, 2000;

Ph.D., Electrical Engineering, Missouri University of Science and Technology (the formerly University of Missouri at Rolla), 2005.

ACADEMIC EXPERIENCE:

New Mexico State University, Assistant Professor, Full-time, 2009–Present

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Institute of Electrical and Electronics Engineers

PRINCIPAL PUBLICATIONS/PRESENTATIONS IN THE LAST FIVE YEARS:

Y. Xu and W. Liu, "Novel multi agent based load restoration algorithm for microgrids," IEEE Transactions on Smart Grid (in press).

I. Chung, W. Liu, K. Schoder, D.A Cartes, "Integration of a bi-directional DC-DC converter model into a real-time system simulation of a shipboard medium voltage DC System," Electric Power Systems Research (in press).

I. Chung, W. Liu, D.A. Cartes, and S. Moon, "Control Parameter Optimization for Multiple Distributed Generators in a Microgrid Using Particle Swarm Optimization," European Transactions on Electrical Power (in press).

W. Liu, L. Liu, I. Chung, and D.A. Cartes, "Real-time particle swarm optimization based parameter identification applied to permanent magnet synchronous machine," Applied Soft Computing, vol. 11, no. 2, 2556-2564, March 2011.

J. Gong, V.V. Prabhu, and W. Liu, "Simulation-based performance comparison between assembly lines and assembly cells with real-time distributed arrival time control system," International Journal of Production Research, vol. 49, no. 5, pp. 1241-1253, March 2011.

W. Liu, I. Chung, L. Liu, S. Leng and D.A. Cartes, "Real-time particle swarm optimization based current harmonic cancellation," Engineering Applications of Artificial Intelligence, vol. 24, no. 1, pp. 132–141, February 2011.

I. Chung, W. Liu, D.A. Cartes, E.G. Collins, and S. Moon, "Control methods for inverter-interfaced distributed generators in a microgrid system," IEEE Transactions on Industry Applications, vol. 46, no 3, pp. 1078-1088, May/June 2010.

L. Liu, W. Liu, D.A. Cartes, and Il-Yop Chung, “Slow coherency and angle modulated particle swarm optimization based islanding of large scale power systems,” Advanced Engineering Informatics, vol. 23, no. 1, pp. 45-56, January 2009.

L. Liu, W. Liu, and D.A. Cartes, “Particle swarm optimization based parameter identification applied to permanent magnetic synchronous machine,” Engineering Applications of Artificial Intelligence, vol. 21, no. 7, pp. 1092-1100, October 2008.

W. Liu, J. Sarangapani, G.K. Venayagamoorthy, L. Liu, D.C. Wunsch II, M.L. Crow, and D.A. Cartes, “Decentralized neural network-based excitation control of large-scale power systems,” International Journal of Control, Automation, and Systems, vol. 5, no. 5, pp. 526-538, October 2007.

COURSES TAUGHT 2009–2010:

EE 532 Power System Stability and Transients

EE 543/493 Power Systems III

EE 531 Power Network Modeling & Computation