

Curriculum Vitae

JOSE C. PRINCIPE, Ph.D.

Distinguished Professor of Electrical Engineering

University of Florida • Department of Electrical & Computer Engineering

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PERSONAL RECORD

Date of Birth: April 13, 1950.

Place of Birth: Porto, Portugal

Citizenship: USA

Married, 2 children.

SCHOLASTIC TRAINING

- 1985 University of Aveiro, Degree of Agregado.
1979 University of Florida, Ph. D. in Electrical Engineering.
1974 University of Florida, M. Sc. in Electrical Engineering.
1972 University of Porto, Licenciatura in Electrical Engineering.

FIELDS OF INTEREST

Adaptive Systems Theory, Nonlinear Signal Processing, Computational NeuroEngineering, Machine Learning, Nonlinear Dynamics.

PROFESSIONAL EXPERIENCE

- 2016- Pres. Eckis Professorship in Electrical and Computer Eng.,
University of Florida
- 2005-2009 Professor Catedratico (Invited), Faculdade de
Engenharia Universidade do Porto, Portugal
- 2002 -Pres. Distinguished Professor of Electrical Engineering,
University of Florida
- 1999-Pres. Adjoint Professor of Biomedical Engineering, University
of Florida
- 1995-2016 BellSouth Professor, University of Florida
- 1993-Pres. Professor of Electrical Engineering, University of
Florida.
- 1991-Pres Founder & Director of the Computational Neuro
Engineering Laboratory, University of Florida.
- 1987-1993 Associate Professor Electrical Engineering, University of
Florida, Gainesville, Florida.
- 1985-1987 Professor of Electrical Engineering, University of Aveiro,
Aveiro, Portugal.
- 1985-1986 Visiting Professor Electrical Engineering, University of
Florida, Gainesville, Florida.
- 1980-1985 Associate Professor Electrical Engineering, University of
Aveiro, Aveiro, Portugal.
- 1979-1980 Post Graduate Fellow, Electrical Engineering, University of
Florida, Gainesville, Florida.

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- 1976-1979 Research Assistant, EEG Laboratory, Electrical Engineering University Florida, Gainesville, Florida.
- 1974-1980 Assistente, Electrical Engineering, University of Aveiro, Aveiro, Portugal.

TEACHING EXPERIENCE

Taught an average of two courses per year at the graduate and advanced undergraduate levels.

Undergraduate:

- EEL 3135 Signals and Systems
- EEL 4712 Digital Design
- EEL 4744 Microprocessor Applications
- EEL 4930 Adaptive Systems

Graduate:

- EEL 5719 Digital Filtering
- EEL 5525 Foundations of Signal Processing
- EEL 5934 Microprocessors in DSP
- EEL 6502 Adaptive Signal Processing
- EEL 6505 Spectral Analysis
- EEL 6702 Digital Signal Processing
- EEL 6586 Speech Processing
- EEL 6733 Abstract Machines
- EEL 6935 Multi-D Signal Processing
- EEL 6824 Algorithm Design
- EEL 6814 Artificial Neural Networks
- EEL 6935 Information Theoretic Learning
- EEL 6935 Brain machine Interfaces

Prepared with Dr. Fred Taylor, courses on Digital Filter Design for the National Technical University, NTU (1988, 1991, 1993).

Introduced three new courses in the University of Florida catalog:

- EEL 6502 Adaptive Signal Processing (1990)
- EEL 6814 Neural Networks for Signal Processing (1995)
- EEL 6935 Information Theoretic Learning (2008)

CURRICULUM INNOVATION

Developed an interactive teaching environment for Adaptive Systems instruction at the undergraduate level (EEL 4930) during 1997-98, which entailed:

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- Creation of the Interaction Teaching Laboratory (ITL).
 - Development of an interactive electronic (CD-ROM) textbook integrated with a software simulator published by John Wiley & Sons.
 - Experimental teaching across the WEB and in-class.

Is developing a series of WIKIs to organize the research results and that have been used to teach special topics EEL 6935, Information Theoretic Learning and updates to more traditional courses (such as EEL 6502 Adaptive Filtering) with new material Kernel Adaptive Filtering, which is a new learning model to foster communication among students dedicated to the same topic, worldwide.

SOCIETIES AND ORGANIZATIONS

Institute of Electrical and Electronic Engineers (Life Fellow)

Institute of Electrical and Electronic Engineers (Fellow)

American Institute for Medical and Biological Engineering (Fellow)

International Neural Network Society (College of Fellows)

SPIE- The International Society for Optical Engineering (Member)

American Society for Engineering Education (Member)

Phi Kappa Phi (Scholastic Honorary)

Ordem dos Engenheiros (Portugal)

SCHOLARSHIPS

Invited Scientist, Portuguese Science Technology Ministry (1996-99).

Fullbright Fellow (1985-1986)

NATO Scholarship (1976-1979)

ITT Scholarship (1973-1974)

UNIVERSITY SERVICE

Member of the ECE Faculty Development Committee, 2013-2016

Chair of the ECE Faculty Search Committee, 2011, 2013.

Chair of the U. Florida Academic Personnel Board, 2009-10.

Member of the U. of Florida Provost Search Committee, 2004-5.
Member of the U. Florida Academic Personnel Board, 2004 -6.
Chair of the ECE Faculty Search Committee, 2003.
Chair of the ECE Department Head Search Committee, 2002.
Member of the Graduate Council, 2002-05.
Member of the ECE Strategic Planning Committee, 2002.
Head of the ECE Senior Faculty Search Committee, 2002.
Member of the Biomedical Engineering Planning Committee, 2001
Member of U.F. Proposal Review Committee, 1999-01
Member of the ECE Departmental Planning Committee, 1999-01
Member of the ECE Faculty Development Committee, 1999-01
Head, ECE Department. Faculty Development Committee, 1998.
Member of College of Engineering Tenure/Promotion Board, 1996-98.
Head, BellSouth Search Committee, 1997.
Member of Faculty Development Committee since 1995.
Member of the Advisory Board, U.F. Brain Institute., 1994-2008.
Head Search Committee, DSP Faculty Line, 1993, and 2001.
Member of the University Senate, 1990-1992.
Head DSP Area Committee, 1991-2, 1992-3, 1995-1998.
Member Graduate Committee 1988-9, 1991-2, 1992-3, 1995-1998.
Member Curriculum Committee 1990-1991.
Member Search Committee for Dept. Chairman, 1990.
Member Bell South Chair Committee, 1992.
Head Search Committee, DSP Faculty Line, 1992.
University Patent Committee on Biomedical Technology, 1992-95.

HONORS and AWARDS

Life Fellow, IEEE, 2017
ECE Excellence Award in Research, 2016
SEC Faculty Achievement Award Winner, 2016
University of Florida nominee for the Southeastern Universities Research Association (SURA), 2015

University of Florida Teacher/Scholar of the Year 2014-2015
University of Florida Research Fellowship, 2014-2016
Honorary Professor, U. Nacional de Colombia, Medellin, 2013
Honorary Professor, Xi' An Jiaotong University, China, 2012
Fellow, Int. Academy for Medical and Biological Engineering, 2012
Distinguished Lecturer, IEEE Computational Intelligence Society, 2011-2013.
Guest Professor Zhejiang University, Hangzhou China, 2011
Member of the College of Fellows, International Neural Network Society, 2011.
IEEE Neural Network Pioneer Award, from the IEEE Computational Intelligence Society, 2011.
Honorary Doctorate Degree in Technology from Aalto University, Helsinki, Finland, 2010.
Honoris Causa Degree at the University Federal do Maranhao, Brasil, 2008.
Career Achievement Award from the IEEE Engineering in Medicine and Biology Society, 2007.
University of Florida Research Fellowship, 2007-2009.
Gabor Award, International Neural Network Society, 2006
Fellow, American Institute of Medical and Biological Engineering, 2006
2005 IEEE Engineering in Medicine and Biology Society's Career Service Award.
Laurea Honoris Causa in Ingegneria Elettronica by the Universita Mediterranea, Reggio Calabria, Italy, June, 2005
Co-author with Robert Jenssen of the best student paper award at ICASSP 2005.
President, International Neural Network Society, 2004.
Co-author with D. Erdogmus of the 2003 Young Author Award in the IEEE Trans. on Signal Processing.
University of Florida Distinguished Professor of Electrical and Biomedical Engineering, 2002.
University of Florida Doctoral Dissertation Advisor/Mentoring Award, 2002.
IEEE Fellow (Signal Processing Society), 2000
University of Florida Research Professor Fellowship, 1999-2001.

Elected to the IEEE EMBS Administrative Committee, 1999.

Best presentation award, International Joint Conference on Neural Networks, Washington, 1999.

Elected to the Board of Governors of the International Neural Network Society (1998, 2001)

Nominated to the Discovery Magazine Technology Award (1998)

BellSouth Professor from 1995-2016.

Outstanding Master Thesis supervisor, Electrical Engineering Department, University of Florida, 1992

Senior Member of the IEEE, 1992.

Innovation and Creativity Award, Portuguese Electronic Industry Association, 1991 (with P. Oliveira and B. Cunha).

Listed in Who's Who in the South and Southeast, since 1991.

LANGUAGES

Fluent in Portuguese and English.

Understands and speaks French and Spanish.

PROFESSIONAL ACTIVITIES

Vice-President for Technical Activities, IEEE EMB Society 2014-2016

Chair, Awards Committee, IEEE CI Society, 2013

Member of the IEEE Life Science Initiative, 2011

Member of ADCOM of the IEEE Computational Intelligence Society, 2010-2012, 2013-2015.

Chair, Awards Committee, IEEE Eng. Med. Biol. Society, 2009-2012.

Member of the Selection Committee for the IEEE Medal on Health Care Technologies, 2009-2010

Member of the Executive Committee of the International Neural Network Society, 2009-2010.

Member of the ADCOM of the IEEE Biometrics Council, 2009-2010.

Member of the Board of Governors of the International Neural Network Society, 2007-2009.

Member of the IEEE-Brain Computer Interface Committee, 2007

Member of the Scientific Committee that was chartered by NIH and NSF to survey the state of the art in Brain Machine Interface research around the world, 2006.

Senior Member of the Editorial Board of the IEEE Trans. Neural Systems and Rehab Eng., 2006-2009.

Member of the Committee of Visitors (COV) of the NSF ECS Division, March 2005.

Member of the ADCOM of the IEEE Signal Processing Society, 2005.

Chairman of the NIH site visit for a NIH/NCRR Research Resource for Complex Physiologic Signals, Beth Israel Deaconess Medical Center (BIDMC), October 2003.

Member of ADCOM for the IEEE Signal Processing Society, 2003

Member of ADCOM for the IEEE Neural Networks Society, 2003, 2005.

President of Forum of Portuguese Researchers, 2002.

Member of ADCOM for the IEEE Biomedical Engineering Society, 2001 to 2008.

Member of the External Advisory Board of the Dept. of Electrical Engineering, U. of Porto, Portugal, 2003 - present.

Member of the FDA Scientific Board, 2001-2004.

Member of the NSF site visit team for Caltech's ERC Center for Neuromorphic Engineering, 2001, 2002, 2003.

Chair of the IEEE Signal Processing Technical Committee on Neural Networks, 2001.

Member of Board of Visitors of the ONR BioEngineering program, 1999.

Member of the Committee of Visitors of the NSF Electrical Communication and Systems Division, 1999.

Secretary of the IEEE Signal Processing Technical Committee on Neural Networks, 1998-9.

Member of the Board of Governors of the International Neural Network Society, 1998-2004.

Member of the Neural Network Signal Processing Technical Committee, IEEE Signal Processing Society, 1993-97.

EDITORIAL ACTIVITIES

Member of the Editorial Board, Entropy, 2016-.

Member of the Editorial Board, Neural Computation, MIT, 2015-.

Guest-Editor, Special Issue on Cyborg Intelligence: Towards Bio-Machine Intelligent Systems, in IEEE Computational Intelligence Magazine, 2015.

Guest-Editor, Special Issue on BCI Game Interfaces and Interaction, in IEEE Transactions on Computational Intelligence and AI in Games, 2013.

Member of the Editorial Board, Int. J. Uncertainty, Fuzziness and Knowledge-Based Systems, 2012-2015

Guest-Editor, Special Issue on Kernel Learning for Signal Processing, IEEE Signal Processing Magazine, 2012.

Guest-Editor, Advanced Computational Techniques and Tools for Neuroscience, Computational Intelligence and Neuroscience, Hindawi, 2011.

Editor of the Wiley Series in Adaptive and Learning Systems for Signal Processing, Communication and Control, 2010-2012.

Member of the Editorial Board, IEEE Special Topics Signal Proc., 2011-2013

Founder Editor in Chief of IEEE Reviews on Biomedical Engineering, 2008-2010, and 2011-2013.

Guest-Editor, Special Issue on Neural Signal Processing, EURASIP Journal on Advanced Signal Processing, 2009.

Member of the Editorial Board, Cognitive Computation, Springer since 2008

Member of the Editorial Board, EURASIP book series on Cognitive Engineering, 2009.

Guest-Editor, Advances in Independent Component Analysis and Blind Source Separation, Signal Processing, 2006

Member of the Editorial Board, IEEE Signal Proc. Magazine, 2007-9.

Guest-Editor, Special Issue on Advances in Independent Component Analysis and Blind Source Separation, Signal Processing, 2006.

Guest-Editor, Special Issue on Echo State and Liquid State Machines, Neural Networks, 2006.

Guest-Editor, Special Issue on Multimodal Information Theoretic Learning, Signal Processing, 2004.

Guest-Editor, Special Issue on Information Theoretic Learning Applications, IEEE Trans. Neural Networks, 2003

Member of the Editorial Board, Journal of Applied Research and Technology, since 2003.

Editor-in-Chief, IEEE Transactions on Biomedical Engineering, 2001-6.

Member of the Editorial Board, Natural Computation, Kluwer, 2002- 04.

Associate Editor, IEEE Transactions on Neural Networks, 1999- 01.
Associate Editor, IEEE Transactions on Signal Processing, 1997-99.
Guest-Editor, Special Issue on Advances of Statistical Signal Processing, IEEE Trans. Biomedical Engineering, 1999.
Associate Editor, IEEE Transactions on Biomed Engineering, 1996-00.
Guest-Editor, Special Issue on Interaction with and Visualization of Biomedical data, IEEE Trans. Biomedical Engineering, 1990.

CONFERENCE ACTIVITIES

General Co-Chair, IEEE Neural Eng. Workshop, Shanghai, 2016
Program Chair, IEEE Eng. Medicine and Biology Conf., Orlando, 2016.
Organizing Committee (Tutorials), 41th IEEE ICASSP, Adelaide, 2016.
Honorary Chair, BRICS-CCI 2013, Recife, Brasil 2013.
General Co-Chair, 9th Int. Workshop WSOM 2012, Santiago, Chile, 2012.
Organizing Committee (Trends), 36th IEEE ICASSP, Prague, 2011.
Track Chair, Asilomar Signal Processing Workshop, 2009.
General Chair, Int. Workshop WSOM, 2009, St Augustine, Florida, 2009.
General Chair, IEEE MLSP Workshop (Machine Learning for Signal Processing), Cancun, Mexico, 2008.
Technical Co-Chair, IEEE Eng. Medicine and Biology Conf., Vancouver, Canada, 2008.
Organizer, Workshop on Neurotechnology, EMBS, Lyon, France 2007.
Organizer, Workshop on Brain Machine Interfaces, IJCNN (Int. Joint Conf. Neural Networks), Orlando, FL 2007.
Member of the Program Committee, IJCNN (Int. Joint Conf. Neural Networks), Orlando, FL 2007.
Member of the Program Committee, ICBB (Int. Conf. Bioinformatics and Biomedicine), S. Jose, CA, 2007.
Member of the Program Committee, ICCD (Int. Conf. Cognitive Neurodynamics), Shangai, PRC, 2007.
Conference Chair and Organizer, Workshop on Independent Component Analysis, Charleston, SC, 2006.
Co-Chair, IEEE IJCNN 06 (Int. Joint. Conf. Neural Networks), Vancouver, Ca, 2006.

Member of the Program Committee, ICML (Int. Conf. Machine Learning), Pittsburgh, 2006.

Member of the Program Committee, ICPR (International Conference on Pattern Recognition), Hong Kong, 2006.

Member of the Program Committee, The 5th International Workshop on Biosignal Interpretation, Tokyo Japan, 2005.

Member of the Program Committee, 16th European Conference on Machine Learning (ECML), Porto, Portugal 2005.

Member of the Program Committee, IDEAL (Int. Conf. on Data Engineering and Automated Learning), Brisban, Australia, 2005

Member of the Program Committee, ICINCO (Int. Conf. on Informatics in Control, Automation and Robotics), Porto, Portugal, 2005

Member of the Program Committee, IEEE IJCNN (Int. Joint Conf. on Neural Networks), Canada, 2005

Member of Steering Committee, IEEE EMBS Neural Engineering Conference, Washington DC, 2005.

General Chair, IEEE Workshop in Machine Learning for Signal Processing, S. Luis do Maranhao, Brasil, 2004.

Co-Chair, New Directions for Signal Processing in the XXI Century, Lake Louise, Canada, 2003.

Co-Chair, IEEE Engineering Biology and Medicine Conference (EMBC03), Cancun, Mexico, 2003.

Member of the Program Committee, EMMCVPR 2003 Lisbon, Portugal, 2003.

Member of the Program Committee, ICA2003 Tokyo, Japan, 2003.

Member of the Program Committee, IJCNN, Portland, OR, 2003.

Member of the Program Committee, NNSP03, Toulouse, France, 2003.

Member of the Program Committee, ICASSP 2003, Hong-Kong, 2003.

Member of the Program Committee, International Conference on Intelligent Control and Signal Processing, ICONS'03, Faro, Portugal, 2003.

Member of the Program Committee, VII Brazilian Symposium on Artificial Neural Networks, SBRN'02, Recife, Brazil, 2002

Program Chair, Office of Naval Research Grantees Workshop, Gainesville, Florida, 2002

Technical Program Chair, IEEE International Conference in Acoustics and Signal Processing Conference, ICASSP 2002, Orlando.

Member of the Program Committee, IDEAL'02, Manchester, UK, 2002.

Member of the Program Committee, NNSP02, Martigny, Switzerland, 2002.

Special Session Organizer "Information Theoretic Learning", International Joint Conference on Neural Networks, Washington, DC, 2001.

Member of the Program Committee, ICA2000 San Diego, CA, 2001.

Member of the Program Committee, NNSP01 Falmouth, MA, 2001.

Co-Chairman of the Symposium on Adaptive Systems, Lake Louise, Canada, 2000.

Member of the Program Committee, ICA2000 Helsinki, Finland, 2000.

Member of the Program Committee, NNSP00 Australia, 2000

Session Organizer, ASILOMAR Conference on Signals, Systems and Computers, 1999.

Member of the Program Committee of the International Joint Conference on Neural Networks, 1999.

Program Chair, IEEE Workshop on Neural networks for Signal Processing, Amelia Island, 1997.

Technical Program Chair, Sintra Conference on Spatio-Temporal Models, Sintra, Portugal, 1996

Member of Technical Committee, IEEE Workshop on Neural Networks for Signal Processing, Kyoto, Japan, 1996.

Program Chair, Office of Naval Research Grantees Workshop on Nonlinear Dynamical Systems, Gainesville, FL 1996.

Track Chair, Speech and Signal Processing area, Neural Information Processing Systems (NIPS8), Denver, 1995.

Member of Technical Committee, IEEE Workshop on Neural Networks for Signal Processing, Boston, 1995.

Member of Technical Committee, Neural Information Processing Systems Conference, Denver, 1994.

Member of Technical Committee, IEEE Workshop on Neural Networks for Signal Processing, Greece, 1994.

Member Technical Committee, Int. Symp. Integrating Knowledge and Neural Heuristics, Pensacola, FL, May 1994.

Member Technical Committee, IEEE Workshop on Neural Networks for Signal Processing, Maryland, 1993.

Chairman of Session "Quantitative EEG analysis", European EEG Congress, Lisbon, 1992.

Program Co-Chair, Conference on Chaos and EEG, Tallahassee, Florida, April 1991.

Chairman of the session “Expert systems in EEG analysis”, IEEE EMBS 90, Philadelphia, 1990.

Member of the Organizing Committee of the 5th IEEE Int. Symp. on Intel. Control, Philadelphia, 1990.

Member of the discussion panel on Chaos and Fractals in Electroencephalography, 1st Conf. on Biomedical Computing, Atlanta, GA, 1990.

Member of the Organizing Committee, BioEng’88 Conference, Porto, Portugal.

Chairman of the session “EEG signal Analysis”, 9th Annual Int. Conf. IEEE/EMBS Society, Boston 1987.

Chairman of the session “Signal Processing” 1st Symposium of Electronics and Communications, IEEE sponsored meeting, Lisbon, Portugal, 1984.

Chairman of the session “Other Applications of Signal Processing”, Portuguese Workshop on Signal Processing and its Applications, Portugal, 1982.

Organizer of the workshop “Computers in Biomedicine”, University of Porto, Portugal, 1982.

INTERNATIONAL ACTIVITIES

Member of the Advisory Council, Portuguese Agency for Innovation, Porto, Portugal 2014-

Member of the Graduate School Council, U. of Aveiro, Portugal 2012-2015

Deputy Director, International Research Center for Cognitive Engineering, Xi’An Jiaotong University, 2012

Member of the Scientific Advisory Board of the Institute for Biomedical Research, Porto, Portugal, 2010-2013.

Member of the Scientific Advisory Board for the Center of Excellence in Adaptive Informatics Research, Helsinki U. of Technology, Finland (nominated by the Academy of Finland), 2006-present.

Member Scientific Advisory Committee, INESC-ID, Lisbon, Portugal, 2002- present.

Chair of the International Scientific Advisory Board, INESC Porto, Portugal 1998- present.

Member of the Advisory Committee for the Italian Society for Neural Networks, 2009.

Director, Doctoral Program in the Electrical Engineering Department, Faculdade de Engenharia, U. of Porto, Portugal, 2005-2009.

Member of the NSF Team to the joint US-Portugal International Meeting to foster innovative growth through partnerships, sponsored by the American Embassy in Lisbon, Portugal, July 2003.

Coordinator of the Exchange Scholar Program between U. of Florida and Portuguese Universities (1-2 visitors per year).

Member of the organizing committee of the International Sian Ka'an Conference on Neural Systems (co-sponsored by the National Science Foundation) held in Playa del Carmen, Mexico, in 1995 and 1997.

Invited Scientist of the Portuguese Science and Technology Ministry in 1996, 1997 and 1998.

Project reviewer for the Portuguese Science and Technology Ministry in 1997, 1999.

Senior Researcher INESC-Aveiro, Portugal, 1982-87.

Vice President Portuguese Section of the Institute of Electrical and Electronic Engineers (IEEE), 1985.

Invited Researcher "Psychiatrich Klinik Konigsfelden", Switzerland, Summer 84.

General Secretary of the INIC Research Center at the EE Dept., University of Aveiro, 1980-1985.

INTERVIEWS

Tertulias Portugueses + , Interview for Portuguese National TV (TVI24), August 2015, <https://www.youtube.com/watch?v=78kK5gzfR0k>

Reuters Technology, Sensors based on a lobster 'nose' may someday sniff out landmines, March 18, 2014 (<http://www.reuters.com/article/2014/03/18/us-usa-florida-lobsters-idUSBREA2H2B820140318>)

Interview on RTPN 18/20 News (Portuguese National Broadcast) related to the IEEE NN Pioneer Award prize, July 25, 2011.

Interview on RTP (Portuguese National Broadcast) related to the IEEE BMES Career Award, Aug, 2007.

Interview on the mathematics of neural network for the "Living Math Project" being prepared for the National Science Foundation, 2005.

Panel Discussion with the Portuguese Minister of Science and Technology on International Dimension of Portuguese Research, organized by INESC June 20, 2005, Porto, Portugal.

Interview in the newspaper Jornal de Noticias, June 21, 2005, pp 10, about Internactionalization of higher education.

ACM Hot topics, Brain machine Interfaces, March 2005.

http://www.reviews.com/hottopic/hottopic_index.cfm

Personal profile in the magazine Visao, # 598, pp 80, Aug 19, 2004 (in portuguese).

Interview in the newspaper Capital on the status of the portuguese educational system, # 11538, pp 7, July 18, 2004 (in portuguese)

“Generation Start-up”, In Expresso International, Feb. 21, 2004 (in portuguese).

“Mind Over Matter”, Florida Engineer, pp 14-15, Fall 2002.

“A book for the XXI century”, in Expresso Revista # 1540, pp 86-88, May 4, 2002 (in Portuguese).

TV program on Internet II and its applications to distance learning, PBS, January 2000.

“Computer Requirements for students change Professor’s role”, Chronicles of Higher Education, June 26, 1998.

“Paperless books”, in ASEE Prism, December 1997.

“Improving the Human Interface”, in Computers in Healthcare, February 1993.

“Increasing medical understanding through signal processing”, Feature article in the magazine NeXT on Campus, Winter 1990.

NOMINATIONS

Finalist, Technology Leader in Florida, 2007.

Nominated to the Discover Magazine Innovation Awards, 1998.

Nominated to the Smithsonian Computerworld award, 1991.

CONSULTING

Prioria, Gainesville, 2007

Convergent Engineering, Gainesville 2005- today

NeuroDimension Incorporated, Gainesville 1993- 2005.
MLI, Machine-tool Laboratory, Incorporated, Gainesville, 1991.
Microtronics, Incorporated, Gainesville, Florida, 1987-1990.

INDUSTRIAL ACTIVITIES

Founding partner and Vice President for Research, NeuroDimension, Incorporated, Gainesville, Florida, from 1993-2005.

PATENTS

- UF 15514 Principe, Jose C 01/02/15 Pulse Based Arithmetic Unit
- UF 15736 Principe, Jose C 05/04/15 Pulse-Based Automatic Speech Recognition
- UF 15838 Principe, Jose C 07/10/15 Pulse Based Automatic Gain Control for Analog and Pulse Domain
- UF 15038, Principe, Jose C., 2013, Regulation Brain state advisory system using calibrated metrics and optimal time-series decomposition
- UF 14748, Principe, Jose C 2013, Integrate and fire pulse train automaton for QRS detection.
- UF 14476, Principe, Jose C 2012A distributed hierarchical model for object recognition in video.
- UF 13401 Principe, Jose C, 2010 Portable Interface for Cognitive Output.
- UF 12958, Principe, Jose C, 2008, Kernel Associative Memories.
- UF12306, Principe Jose C., 2006, Robust Signal Detection Using Correntropy.
- 32 9,424,652 Adaptive Background Estimation, Principe, Jose C, Cinar G., Aug 23, 2016.
- 31 9,269,050 Classification using Correntropy, Principe, Jose C., Singh A., February 23, 2016.
- 30 9,269,371 Adaptive Systems using Correntropy, Singh A., Liu W. Principe, Jose C, February 23, 2016.
- 29 9,218,527 Anomaly detection in streaming data, Lakshminarayan Choudur K., Kriminger, Principe Jose C., December 22, 2015,
- 28 9,078,629 Detecting regime change in streaming data, Lakshminarayan; Choudur K., Kriminger Evan, Principe Jose C., July 14, 2015

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- 27 9,050,200 System and method for brain machine interface (BMI) control using reinforcement learning, Digiovanna; John F., Mahmoudi; Babak, Mitzelfelt; Jeremiah D., Sanchez; Justin C., Principe; Jose C., June 9, 2015
 - 26 9,047,746 Electronic medication compliance monitoring system and associated methods Euliano, II; Neil R., Myers; Brent A., Principe; Jose C., Meka; Venkata V., Flores; Glen, June 2, 2015
 - 25 9,037,518, Classifying unclassified samples, Lakshminarayan; Choudur, Kriminger; Evan, Principe; Jose C., May 19, 2015
 - 24 8,706,203 Classification of a signal in a time domain, Lakshminarayan; Choudur, Alvarado; Alexander Singh, Principe; Jose Carlos, April 22, 2014
 - 23 8,611,839 Robust signal detection using correntropy, Principe; Jose C., Liu; Weifeng, December 17, 2013
 - 22 8,428,732, Neural interface systems and methods, Nishida; Toshikazu, Harris; John Gregory, Bashirullah; Rizwan, Principe; Jose, Sanchez; Justin, April 23, 2013
 - 21 8,275,451 Maternal-fetal monitoring system, Marossero; Dorothee, Euliano; Tammy Y., Euliano, II; Neil Russell, Principe; Jose C., September 25, 2012
 - 20 8,244,787 Optimum nonlinear correntropy filter, Principe; Jose C., Pokharel; Puskal P., August 14, 2012
 - 19 8,233,873 Device and methods for enhanced matched filtering based on correntropy, Principe; Jose C., Agrawal; Rati, Pokharel; Puskal P., July 31, 2012
 - 18 8,211,015, Obstetric analgesia system, Euliano; Tammy Y., Euliano, II; Neil Russell, Principe; Jose C. , Marossero; Dorothee , July 3, 2012
 - 17 8,160,692, System and method for analyzing progress of labor and preterm labor, Principe; Jose C., Marossero; Dorothee, Euliano; Tammy Y., Euliano, II; Neil Russell, April 17, 2012
 - 16 8,139,654 Device and methods for biphasic pulse signal coding, Chen; Du, Harris; John G., Principe; Jose C., March 20, 2012
 - 15 8,122,883 Medical ventilator and method of controlling same, Banner; Michael J., Blanch; Paul B., Euliano; Neil R., Principe; Jose C., February 28, 2012
 - 14 7,965,779 Low power, wavelet-based spike detector, She; Christy L., Harris; John G., Principe; Jose C., June 21, 2011
 - 13 7,942,818, Obstetric analgesia system Euliano; Tammy Y., Euliano, II; Neil Russell, Principe; Jose C., Marossero; Dorothee, May 17, 2011

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- 12 7,796,043, Medication compliance system and associated methods, Euliano; Neil R., Principe; Jose C., Meka; Vikas V., Stahl, Jr.; Michael W., September 14, 2010
 - 11 7,529,651 Accurate linear parameter estimation with noisy inputs, Erdogmus; Deniz, Principe; Jose Carlos, Rao; Yadunandana Nagaraja, May 5, 2009
 - 10 7,495,942 Nanoscale content-addressable memory, Davis; Bryan, Principe; Jose C., Fortes; Jose, February 24, 2009
 - 9 7,333,850 Maternal-fetal monitoring system, Marossero; Dorothee, Euliano; Tammy Y., Euliano, II; Neil Russell, Principe; Jose C., February 19, 2008
 - 8 7,324,035 Amplifier with pulse coded output and remote signal reconstruction from the pulse output, Harris; John G., Chen; Du, Wei; Dazhi, Principe; Jose C., January 29, 2008
 - 7 7,210,478 Ventilator monitor system and method of using same, Banner; Michael J., Euliano, II; Neil Russell, Principe; Jose C., Blanch; Paul B., May 1, 2007
 - 6 7,066,173 Medical ventilator and method of controlling same, Banner; Michael J., Blanch; Paul B., Euliano; Neil R., Principe; Jose C., June 27, 2006
 - 5 6,963,604, Blind equalizers using probability density matching and parzen windowing, Erdogmus; Deniz, Lazaro; Marcelino, Principe; Jose Carlos, Santamaria; Ignacio, November 8, 2005
 - 4 6,796,305 Ventilator monitor system and method of using same, Banner; Michael J., Blanch; Paul B., Euliano; Neil R., Principe; Jose C., September 28, 2004
 - 3 6,420,927 Filter and hold circuit utilizing a charge/discharge current, Tavares; Vitor Manual Grade, Principe; Jose C., Harris; John G., de Oliveira; Pedro Guedes, July 16, 2002
 - 2 5,301,135 Adaptive filter based on a recursive delay line, Principe; Jose C., de Vries; Bert, April 5, 1994
 - 1 Time-Marker, Device to inscribe numerals in polygraphs, Portugal and Europe, (with P. Guedes de Oliveira and M. Cunha), 1985.

AUTHOR IMPACT ANALYSIS

Using Google Scholar on December 26, 2016 (search Jose Principe)

H-index: 67

Papers: 684

Citations: 20,503
Years: 31
i10-index: 375

BOOKS

- 6 Chen B., Zhu Y., Hu J., Principe J., "System Parameter Identification: Information Criteria and Algorithms", Elsevier 2013 (**Notable Book Award, Computing Reviews, 2013**).
- 5 Principe J., Information Theoretic Learning: Renyi's Entropy and Kernel Perspectives, Springer 2010.
- 4 Liu W., Principe J., Haykin S., "Kernel Adaptive Filtering: a Comprehensive Introduction", John Wiley, 2010.
- 3 Sanchez J. and Principe J., Brain Machine Interface Engineering, Morgan and Claypool, 2007.
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- 170 *A Cognitive Architecture for Object Recognition in Video*, Plenary Speaker, UKCI 2016, Lancaster, UK, September, 2016.
- 169 *Toward Cognitive Integration of Prosthetic Devices*, Distinguished Seminar Speaker, School of Computing and Communications, Lancaster University, UK, September 2016.
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- 164 *Towards Ultra-Low Power Pulse Based Signal Processing*, Keynote Speaker EUROMICRO, Funchal, Portugal, August 2015
- 163 *Quantifying Space-Time Structure with Dynamical Systems*, Keynote Speaker, DSP 2015, Singapore, July 2015.
- 162 *Information Theoretic Learning: From Physics to Non-parametric Statistical Estimators*, Invited Lecture, U. of Lancaster, July 2015.
- 161 *Knowledge, Workforce and Infrastructure for Innovation: A US Perspective*, Invited Lecture at Gestao do Conhecimento e Inovacao, Organized by Agencia Nacional de Inovacao, Lisbon, Portugal, June 2015.
- 160 *Tensor Product Kernels for Multi-scale Control of Somatosensory Stimulation*, Plenary Speaker, DEMOVE Workshop, U. of Gottigen, Germany, June 2015.
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- 158 *Ultra Low Power Signal Processing Using Time Based Computation*, Institute for Micro Electronics, A*, Singapore, March 2015.
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 - 156 *Quantifying Cognitive State from EEG using Dependence Measures*, Workshop on Machine Learning and Biomedical Applications, National Technological University, Singapore, 2015.
 - 155 *Convex Universal Learning Machines*, Keynote Speaker, ELM 2015, Singapore, December 2014.
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 - 148 *Toward Cognitive Integration of Prosthetic Devices*, IEEE WCCI Plenary Lecture, Beijing, China, July 2014.
 - 147 *A Cognitive Architecture for Object Recognition in Video*, Cognitive Information Processing Conference, Copenhagen, Denmark, May 2014.
 - 146 *Kernel Adaptive Filters for Online Prediction of Time Series*, Jump Trading, Chicago, Il, May 2014.
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 - 142 *A Tensor Product Kernel For Multi-Scale Sensorimotor Stimulation*, IEEE NeuroEngineering Workshop, San Diego, Nov 2013.
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 - 139 *Estimating Entropy and Mutual Information in Reproducing Kernel Hilbert Spaces*, NATO Workshop on Robustness and Vulnerability of Critical Infrastructure Networks, Kiev, Ukraine, June 2013.
 - 138 *Advanced in Kernel Adaptive Filtering*, Keynote at IEEE CCIS, Singapore, April 2013.
 - 137 *Somatosensory Brain Machine Interfaces*, IEEE CIS Distinguished Lecture at University of Science and Technology of China, March 2013.
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 - 135 *From Thought to Action*, Workshop at the UiTM Shah Alam, Kuala Lumpur Malaysia. March 2013.
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 - 132 *The SOM and its Family*, Keynote at the 9th Int. Workshop WSOM 2012, Santiago, Chile, December 2012.

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 - 130 *Neural Signal Processing*, Invited Lecture Instituto do Cerebro, Natal, Aug 2012.
 - 129 *Online Kernel Learning*, Keynote Lecture in IDEAL 2012, Natal, Brasil, Aug 2012.
 - 128 *Online Kernel Learning*, IEEE CIS Distinguished Lecture Series at the Nanyang Technological University, Singapore, August 2012.
 - 127 *Somatosensory Brain Machine Interfaces*, IEEE EMBS Distinguished Lecture at the National University of Singapore, August 2012.
 - 126 *Design of Cognitive Memory Systems*, Invited talk, Xi'an Jiaotong U., Xi'an China, August 2012.
 - 125 *Online Kernel Learning for System Identification*, Keynote at the 10th IFAC CONTROL Conf. July 2012 Funchal, Madeira.
 - 124 *Somatosensory Brain Machine Interfaces*, Plenary lecture, 3rd US-Turkey Advanced Study Institute on Global Healthcare Challenges, July 9-15, 2012, Antalya, Turkey.
 - 123 *Online Kernel Learning*, Tutorial at the Neural network Summer School NN 2012, U. do Porto, Portugal, July 2012.
 - 122 *Somatosensory Brain Machine Interfaces*, Plenary lecture, StudECE 2012, June 28-29, U. of Porto, Portugal.
 - 121 *Online Kernel Learning*, Tutorial at the 4th Porto Meeting on Mathematics for Industry, Faculdade Ciencias U. do Porto, Portugal (3 lectures), June 2012.
 - 120 *Measures of Statistical Dependence*, Plenary Lecture, ICAISC 2012, Zakopane, Poland, June 2012
 - 119 *Information Theoretic Learning*, invited speaker, Sensor Information Estimation and Exploitation Workshop, Ann Harbor, Michigan, 2012
 - 118 *Advances in Brain Machine Interfaces*, Plenary Speaker, BIOSTEC 2012, Algarve, Portugal 2012.

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- 117 *Measures of Statistical Dependence*, Plenary Lecture, ICPRAM 2012, Algarve, Portugal, 2012
 - 116 *Towards Somatosensory BMIs*, Plenary lecture, IEEE-EMBS International Conference on Biomedical and Health Informatics, Shenzhen, 2012
 - 115 *Machine Learning for Signal Processing*, Plenary Lecture, 46th Annual Asilomar Conference on Signals, Systems, and Computers, Nov 2011.
 - 114 *Dependence Analysis for Cognitive EEG Analysis*, Invited Seminar BME Dept., Tsinghua U., Beijing, China, Sept 15, 2011.
 - 113 *Online Kernel Learning*, Tutorial at the National Laboratory for Pattern Recognition, Beijing, China, Sept 14, 2011.
 - 112 *Information Theoretic Learning*, Tutorial at the National Laboratory for Pattern Recognition, Beijing, China, Sept 13, 2011.
 - 111 *Information Theoretic Learning*, Tutorial at the 8th IEEE-EMBS International Summer School on Biomedical Signal Processing, Certosa di Pontignano (Siena), Italy, 26th June - 3rd July, 2011.
 - 110 *Toward Symbiotic Brain Machine Interfaces*, Tutorial at the 8th IEEE-EMBS International Summer School on Biomedical Signal Processing, Certosa di Pontignano (Siena), Italy, 26th June - 3rd July, 2011.
 - 109 *Kernel Adaptive Filtering*, Tutorial at the IEEE Int. Conf. Acoustic Speech and Signal Proc., Prague, Czech Republic, May 2011.
 - 108 *Adaptive Information Filtering*, Seminar, Mechanical Eng. Dept., U. of Texas at Austin, April 2011.
 - 107 *Cognitive Neural Prosthesis*, Invited Talk at "International Workshop on Frontier of Neural Engineering" Hangzhou, China, April 2011.
 - 106 *The Integrate and Fire Converter for Biomedical Applications*, Invited Talk, Chinese U. of Hong-Kong, March 2011.
 - 105 *An Unifying Perspective for Unsupervised Learning: The Principle of Relevant Information*, Keynote at the World Congress Computational Intelligence (WCCI), Barcelona, Spain, July 2010.

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- 104 *Nonlinear Adaptive Systems with Convex Optimization*, tutorial at the Dept Electrical Eng. University of Porto, Portugal, July 2010.
 - 103 *Architectures and Algorithms for Brain Machine Interfaces*, Invited talk at the IEEE EMBS Forum on Grand Challenges In NeuroEngineering, Washington, May 2010.
 - 102 *Kernel Adaptive Filtering*, Plenary Talk at the Summer School on Computational Intelligence, University of Santiago, Chile, December 2009.
 - 101 *The Principle of Relevant Information*, Plenary Talk at the Summer School on Computational Intelligence, University of Santiago, Chile, December 2009.
 - 100 *Kernel Adaptive Filtering*, Keynote Speaker at the 15th International Conference on Intelligent System Applications to Power Systems, Curitiba Brazil, November 2009
 - 99 *Towards Cognitive Neural Prosthesis*, Theme Keynote Speaker, 31st Annual International Conference of the IEEE EMB Society, Minneapolis, August 2009.
 - 99 *Unsupervised Learning: the Principle of Relevant Information*, Keynote at VIPIMAGE 2009, Portugal, September 2009.
 - 98 *Perception as Self-Organization in Space Time*, Keynote lecture, 6th Sound and Music Conference, Porto, Portugal, July 2009.
 - 97 *Information Theoretic Learning: where we are and where to go next*, Invited seminar, U. of Porto, Portugal, July 2009.
 - 96 *Mathematical Modeling in the Design of Brain Machine Interfaces*, Invited Seminar, Mathematics Dept., U. of Minho, Portugal, June 2009.
 - 95 *Brain Machine Interface Engineering*, Invited lecture, Jiaotong University, Xi'an, PR China, June 2009.
 - 94 *Information Theoretic Signal Processing and Machine Learning*, Invited lecture, Jiaotong University, Xi'an, PR China, June 2009.
 - 93 *Information Theoretic Signal Processing and Machine Learning*, Plenary talk, International Symposium Neural Networks, Wuhan, PR China, June 2009.

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- 92 *From Linear Adaptive Filtering to Information Theoretic Estimation and Filtering*, Keynote address, Lawrence Livermore National Laboratory, Livermore, Ca, November 2008.
- 91 *Co-Adaptive Brain Machine Interfaces*, Invited Seminar, Fundacao Champalimaud, Oeiras, Portugal, October 2008.
- 90 *Brain Machine Interface Engineering*, three lectures at the 7th Biocomplexity Summer School, Bugazici University, Istanbul Turkey, 2008.
- 89 *Co-Adaptive Brain Machine Interfaces*, Plenary Lecture in Brain Inspired Cognitive Systems (BICS) 2008, S. Luis Maranhao, Brazil, 2008
- 88 *The Central Role of PDF Moments in Advanced Adaptive Filtering and Information Theories*, Seminar at the Dept of Mathematics, U. of Porto, Portugal, July 2008.
- 87 *The Central Role of PDF Moments in Advanced Adaptive Filtering and Information Theories*, Invited Speaker, Cognitive Information Processing Conference, Santorini, June 2008.
- 86 *On-Line Kernel Learning*, Invited Speaker, Information Science and Technology Conference, Center for Nonlinear Studies, Los Alamos National Laboratory, May 2008.
- 85 *Brain Machine Interfaces as a Testbed For Computational Modeling*, Invited Speaker, Principles of Biocomputing Conference, Los Alamos National Laboratory, May 2008.
- 84 *Paradigm Shift for BMIs, Foundations of Neurally Enabled Human Machine Interfaces*, DARPA-DSO, April 2008.
- 83 *Challenges in the Engineering Design of Brain Machine Interface*, Invited Seminar, Institute for InfoComm Research, Singapore, March 2008.
- 82 *Correntropy Based MACE Filters for Face Recognition*, Invited Talk, National University of Singapore, March 2008.
- 81 *Engineering the Brain Machine Interface*, Distinguished Lecture Series, College of Engineering, U. of Texas, Dallas, November 2007.
- 80 *Reproducing Kernel Hilbert Spaces for Optimal Data Analysis*, Plenary Lecture, ICANN 07, Porto, Portugal, September 2007
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- 79 *Machine Learning using Kernels and Information Theoretic Learning*, Plenary Lecture, Int. Joint. Conf. Neural Networks, Orlando, Aug, 2007.
 - 78 *Advances in Spike Train Modeling and Analysis*, keynote Lecture, 15th Int. Conf. on Digital Signal Processing, Cardiff, UK, July 2007.
 - 77 *Signal Processing for Brain Machine Interfaces*, Computational NeuroScience Workshop, Instituto Gulbenkian de Ciencia, Oeiras, Portugal, June 2007.
 - 76 *Information Filtering*, Seminar at Faculdade Eng. University of Porto, Portugal, June 2007.
 - 75 *Machine Learning using Kernels and Information Theoretic Learning*, Seminar, U. of Santander, Spain, June 2007.
 - 74 *Biomedical Signal Analysis*, Biomedical Signal Processing, Summer School (10 lectures), Zaragoza, Spain, June 2007.
 - 73 *Brain Machine Interfaces as the New Frontier of NeuroEngineering*, Invited Lecture at the 5th Int. Symposium on Emerging Technologies in Biomedicine, Antalya, Turkey June 2007.
 - 72 *Advances in Epilepsy Modeling*, Keynote Speaker, XXX Annual Congress of the Italian League Against Epilepsy, Reggio Calabria, Italy, May 2007
 - 71 *Machine Learning for Brain Machine Interfaces*, Seminar, Institute of Physics, U. of Tromso, Norway, May 2007.
 - 70 *Brain Machine Interfaces: Data Modeling Methodologies*, Spring School for Modelling, Automation and Control of Physiological Variables, U. of Porto, Portugal, May 2007.
 - 69 *Computational Intelligence Methods in Engineering*, Two, one hour lectures at the Summer School, U. of Santiago, Chile, December 2006.
 - 68 *Brain Machine Interfaces*, Distinguished Lecture, Michigan State University, November 2006.
 - 67 *Optimal Signal Processing using Kernels and Information Theoretic Learning*, ARRI Distinguished Lecturer, U. of Texas Arlington, November 2006.

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- 66 *Optimal Signal Processing using Kernels and Information Theoretic Learning*, Plenary Talk, VIII CBRN- Congresso brasileiro de Redes Neurais, Ribeirao Preto, Brazil, October 2006.
 - 65 *Brain Machine Interfaces*, Invited Speaker, Carlos Abizou University, Miami, October, 2006.
 - 64 *System Identification using Correntropy*, Plenary Talk, Controlo 2006, Lisbon, Portugal, September 2006.
 - 63 *Signal Processing Challenges for Neural Information Processing*, Invited Talk, ONR Neural-Silicon Workshop, Portland, Oregon, August 2006.
 - 62 *Information Theory Applied to Machine Learning*, Plenary Talk, VII CBRN- Congresso brasileiro de Redes Neurais, Natal, Brazil, October 2005.
 - 61 *SOMs as a Representation Structure for Signal Processing and Controls*, Plenary Talk, WSOM 2005, Paris, France, Sept 2005.
 - 60 *Brain Machine Interfaces*, Plenary Talk, ICCB 2005, Int. Conf. Computational Bioengineering, Lisbon, Portugal, Sept 2005.
 - 59 *Dynamical Models for Information Processing*, Plenary Talk, Frontiers of Neural Engineering, Beijing, China, Sept 2005.
 - 58 *Information Theoretical Learning and its Applications*, Set of four lectures on the Neural Network Summer School, Porto, Portugal, 2005.
 - 57 *Nonlinear Dynamic Modeling for Brain Like Computation*, Plenary Speaker at Adaptive and Natural Computing Algorithms (ICANNGA) Workshop, Coimbra Portugal, 2005.
 - 56 *Information Theoretical Learning and its Applications*, Keynote Speaker at the Learning'04, Elche, Spain, October 2004.
 - 55 *Biological Plausible Information Processing Models*, Invited Lecture at the Brazilian Neural Network Congress, S. Luis do Maranhao, Brazil, October, 2004.
 - 54 *Beyond Linear Gaussian and Stationary Time Series Modeling*, series of three talks at the International Summer School on Neural Nets held in Istituto Internazionale Alti Studi Scientifici " E. R Caianiello", in Vietri sur Mare, Italy, Sept 13-18, 2004.

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- 53 *Recent Advances in Information Theoretic Learning*, Invited Lecture at the Riken Brain Science Institute, Tokyo, May 2004.
 - 52 *Rethinking the Interface between Humans and Robots*, Invited Lecture at the Laboratory of Micro Systems and Control, Nagoya University, May 2004.
 - 51 *Recent Advances in Signal Processing Algorithms for Brain Machine Interfaces*, Keynote Speaker, 43rd Annual Conference of the Japanese Society for medical and Biological Engineering, May. 2004, Kanazawa, Japan, 2004.
 - 50 *Advanced Biosignal Analysis*, Lectures at the Master Course for the Innovation in Biomedical Engineering program at the University "Mediterranea" of Reggio Calabria, Italy, March 2004.
 - 49 *Optimal Signal Processing for Brain Machine Interfaces*, Keynote Speaker, Biomedical Engineering Annual Symposium, Dec. 2003, Taipei, Taiwan.
 - 48 *Recent Progress in Nonlinear Methods for Epileptic Seizure Prediction*, in the 3rd Meeting on Complexity, Arrabida, Portugal, July 2003.
 - 47 *Information Theoretic Learning*, Four Lectures in the Neural Network Summer School in Porto, Portugal, July 2003.
 - 46 *Optimal Adaptive Projections Using Stochastic and Recursive Algorithms*, Plenary Speaker, VI Brazilian Congress on Neural Networks, S. Paulo, Brazil, June 2003.
 - 45 *Estimating Information directly from samples using Renyi's entropy*, Keynote Speaker, ICONS'03, Faro, Portugal, April 2003.
 - 44 *Optimal Signal Processing for Brain Machine Interfaces*, Keynote Speaker, 1st IEEE Workshop on NeuroEngineering, Capri, Italy, March 2003.
 - 43 *Brain Machine Interfaces*, Invited Speaker, Arizona University State University, Phoenix, Feb. 2003.
 - 42 *Recent Advances in Information Theoretic Learning*, Keynote Speaker, ANNIE 2002, Nov 10-13, St Louis, Missouri, 2002.

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- 41 *A survey of Biomedical Engineering Research and Programs*, Keynote Speaker, Primeiro Encontro de Engenharia Biomedica, Universidade de Lisboa, Portugal, October 2002.
 - 40 *Brain Machine Interfaces: Model building issues*, Keynote Speaker, The 4th International Workshop on Biosignal Interpretation, June 24-26th, 2002 Villa Olmo, Como, Italy.
 - 39 *Information Theoretic Learning*, Invited Lecture, Copenhagen Workshop on Signal Processing, Bornholm, Denmark, April 2002.
 - 38 *Adaptive Systems research at the CNEL*, Invited Talk, Computer Science Department, Florida State University, March 2002.
 - 37 *Neural Networks for Signal Processing*, one day short course in the NATO Advanced Study Institute on Neural Networks, Crema, Italy, October 2001.
 - 36 *Building a Silicon Cortex*, Invited Speaker, IEEE Biomedical Engineering Conference, Istanbul, Turkey, October, 2001.
 - 35 *Optimal Nonlinear Filtering*, Tutorial in the International Joint Conference on Neural Networks, Washington DC, 2001.
 - 34 *System Identification with Multiple Models*, Seminar at Nasa Langley, January 2001.
 - 33 *Computational Models of Neural Assemblies*, Biomedical Engineering Seminar, University of Florida, 2000.
 - 32 *Neural Networks for Time Series Analysis*, Aerospace Engineering Seminar, University of Florida, 2000.
 - 31 *Dynamic Models of Information Processing*, ECE Brown Bag Seminar, University of Florida, 2000
 - 30 *From Principal to Independent Component Analysis*, Invited Lecture, Biomedical Symposium, Houston, TX, 2000.
 - 29 *Spatio Temporal Memories*, Invited Lecture, WSOM, Helsinki, Finland, 1999.
 - 28 *Neural Networks for Financial Forecasting*, Tutorial, Cursos da Arrabida, Portugal, 1999.

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- 27 *Nonlinear Dynamic Modeling of Physiological Signals*, Tutorial, IEEE-EMBS Summer School, Siena, Italy, 1999.
 - 26 *Principles and Applications of Independent Component Analysis*, Tutorial, IEEE-EMBS Summer School, Siena, Italy, 1999.
 - 25 *Learning Nonlinear Dynamics with Artificial Neural Networks*, Tutorial, Cursos de Verano, El Escorial, Madrid, Spain, 1999.
 - 24 *Towards Information Filtering*, Key note speaker, IEEE Workshop on Neural networks for Signal Processing, Newton Institute, Cambridge, England, 1998.
 - 23 *Information Theoretic Learning*, U. Tecnica of Lisbon, Portugal, 1998.
 - 22 *Electronic Books and Distance Learning*, INESC-Porto, Portugal, 1988.
 - 21 *Temporal Processing with Neural Networks*, Tutorial, Sian Ka'an 97, Playa del Carmen, Mexico, 1997.
 - 20 *Dynamic Modeling with Neural Networks*, Invited Lecture, U. Tecnica of Lisbon, 1997.
 - 19 *Nonlinear Dynamical Modeling with Neural Networks*, Invited Speaker, ECSAP-97, Prague, Chec Republic, 1997.
 - 18 *Statistically Independent Feature Extraction*, Wright Patterson AirForce, 1997.
 - 17 *Neural Networks for Global and Local Modeling*, Yale University, 1996.
 - 16 *Neural Networks for System Identification*, Tutorial, Sian Ka'an Conf., Cancun Mexico, 1995.
 - 15 *Neural Networks for Automatic Target Recognition*, U. Tecnica of Lisbon, Portugal, 1995.
 - 14 *Neural Network Analysis of EEG*, 5th International Cleveland Clinic Epilepsy Symposium, Cleveland, Ohio, 1994.
 - 13 *Issues on Visualization of Biomedical Data*, 12th Annual Biomed. Conf., University of Houston, Texas, 1994.

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- 12 *Gamma Filters for Adaptive Echo Cancelling*, Motorola, Plantation, 1993.
 - 11 *Neural Networks: the next generation*, Center for Neuropsychological studies, University of Florida, March 1993.
 - 10 *Expert Systems in EEG Analysis*, University of Coruna, Spain, June 1992.
 - 9 *Artificial Neural Networks in Signal Processing*, University of Coruna, Spain, June 1992.
 - 8 *Time varying signal processing with neural networks*, Colloquium on Learning and Memory, U. of Porto, Portugal, 1992 (with W. Freeman and Lopes da Silva).
 - 7 *Collection, Visualization and Analysis of Spatio-Temporal Biological Field Potentials*, ONR sponsored meeting, Center for Complex Systems, Florida Atlantic University, 1992.
 - 6 *Nonlinear Prediction with Neural Networks*, SuperComputer Research Institute, Tallahassee, May 1992.
 - 5 *Short term memory mechanisms for neural networks*, David Sarnoff Research Center, October 1991.
 - 4 *Models and Applications of NeuroInformation Processing*, Neuroscience seminar, Dept. of Neurology, U. of Florida, 1991.
 - 3 *Reverse Engineering Biological Neural Networks*, Center for Complex Systems, FAU, May 1991.
 - 2 *Digital Audio*, Senior seminar, EE Dept., U. of Florida, 1991.
 - 1 *Introduction to Neural Networks*, Psychology Department, 1990.

COMPUTATIONAL NEUROENGINEERING LABORATORY

Dr. Principe is the Founder and Director of the Computational NeuroEngineering Laboratory (CNEL), www.cnel.ufl.edu, a world renown center for neural network research. Since 1992 the CNEL website was visited more than 150,000 times. Two Professors work in the CNEL, along with 10 to 15 graduate students. Presently the CNEL is conducting research in the processing of non-Gaussian, non-stationary and nonlinear signal models, using information theoretic learning, mixture of experts and nonlinear dynamics. The CNEL laboratory is part of the University of Florida Brain Institute, and engages also in biomedical engineering research.

CNEL Visitors

Dr. Pablo Ziegers, Professor, U. Catolica, Santiago Chile, Dec 2015-2016.

Dr. Haiquan Zhao, Assoc. Prof., Southwest Jiaotong U., Chengdu, China, Aug 1, 2015 Aug 1-2016.

Ms. Hong Ji, Ph.D. Student, Xi'An Jiaotong U. China, Dec-Apr 2015.

Ms. Yi Qu, Ph.D. Student, Zhejiang U. China, Sept-Apr 2015.

Mr. Guibiao Xu, Ph.D. Student, Institute of Automation, Chinese Academy of Sciences, Beijing, China, Aug 2014-Aug 2015.

Dr. Pablo Ziegers, Professor, U. Catolica, Santiago Chile, Oct-Dec 2013.

Mr. Andres Alvarez, Ph.D. student, U. Nacional Colombia, Manizales, Apr-June, 2013

Mr. Pablo Hujise, Ph.D. student, U. of Chile, Santiago, March-Aug 2013.

Mr. Hugo Silva, Ph.D. Student, Tec. University, Lisbon, Portugal, Aug-Dec 2012.

Ms. Cristina Silva, Ph.D. Student, U. of Maranhao Brasil, Aug-Dec 2012.

Ms. Aurea Ribeiro, Ph.D. Student, U. of Maranhao Brasil, Aug-Dec 2012.

Ms. Yuxi Liao, Postdoc Zhejiang University, Hangzhou 310027, China, March 2012- Aug 2012.

Dr. Doo-Hyun Choi, Professor, Kyungpook National Univ, South Korea, Mar 2012-Mar 2013

Ms. Mehrnaz Hazrati, Ph.D. Student, U. of Lubeck, Germany, Nov 2011-Apr 2012.

Dr. Yoshinori Takeuchi, Nagoya U., Japan, Oct18-25, 2011

Mr. David Rego, Ph.D. Student, U. la Coruna, Spain, Sept 2011- Dec 2011.

Mr. Fausto Lucena, Ph.D. Student, U. of Nagoya Japan, Sept 2011-Dec 2011.

Ms. Veronica Canedo, Ph.D. Student, U. la Coruna, Spain, Sept 2010-

March 2011.

Mr. Genaro Daza Santacoloma, Ph.D. student, U. Nacional de Colombia, Jan 2010-May 2010.

Mr. Diego Alvarez Estevez, Ph.D. Student, U. a Coruna, Spain, from August 2009, March 2010.

Dr. Lingjiang Kong , Associate Professor, Department of EE, University of Electronic Science and Technology of China (UESTC) sponsored by the China Scholarship Council, August 2009-10.

Mr. Hao Cheng, Ph.D. student at the University of Electronic Science and Technology of China (UESTC) sponsored by the China Scholarship Council, August 2009-10.

Mr. Pablo Cortez, M. Sc. student, U. of Santiago, Chile, September-November 2008.

Mr. Steven Van Vaerenbergh, Ph.D. student, U. Cantabria, Spain, August-November, 2008.

Mr. Miguel Prada, Ph.D. student, U. of Leon, Spain, Aug-Dec 2007.

Mr. Rodrigo Sacchi, Ph.D. student, U. of S. Paulo, Brazil, Aug-Dec 2006.

Mr. Johan Nyqvist, Master student, Royal Inst. Tech., Oslo Sweden, Aug - Dec 2006.

Ms. Mariana Almeida, Ph.D. student, Tech U. of Lisbon, Portugal, Sept - Dec 2006.

Dr. Aurelio Campilho, Full Professor, U. of Porto Portugal, March and April 2006.

Dr. Allan Medeiros, Post-Doctoral Fellow, U. of Rio Grande do Norte, Natal, Brasil, 1/3/06 to 12/31/06.

Dr. Joao Xavier, One week course on Differential Geometrical Methods in Signal Processing, Jan 8 -13, 2006.

Mrs Nadia Mamonne, Ph.D. student, U. of Reggio Calabria, Italy, 9/1/05-12/20/ 05

Dr. Vladimiro Miranda, Professor, ECE, U. of Porto, Portugal, 3/1/05-4/30/05

Dr. Ignacio Santamaria, Professor, ECE, U. of Santander, Spain, 9/1/04-12/31/ 04

Dr. Mike Steiber, Associate Professor, U. of Washington, 8/1/04-8/1/05 (sabbatical).

Mr. Tue Lehn-Schioler, Ph.D. candidate, Technical U. of Denmark, Lyngby, Denmark, 1/1/03-8/1/03.

Mr. Robert Jenssen, Ph.D. candidate, U. of Tromso, Norway, 9/1/02-8/1/03.

Prof. Marcelino Lazaro, U. of Carlos III, Madrid, Spain, 9/1/02-12/1/02.

Prof. Young Ro Yoon, Assoc. Prof. Yonsei U., Korea 9/1/01-9/1/02

Dr. Oscar Romero, U. A Coruna, Spain, 9/1/01- 12/1/01

Prof. Han-jung Song, Assoc. Prof. Choong-Chung U. Korea 7/1/01-7/1/02
Prof. Luis Vielva, Assist. Prof. U. of Santander, Spain, 5/1/01-8/1/01
Prof. Ignacio Santamaria, Assoc. Prof. U. of Santander, Spain, 9/1/00-
12/20/00
Prof. Turgay Ibrikci, U. of Cukurova, Turkey, 7/15/00- 9/30/00
Prof. Francisco Vaz, Prof. ECE, U. of Aveiro, Portugal, 1/4/00-4/1/00
Dr. Ernst Haselsteiner, post doc, U. of Graz, Austria, 4/1/99 - 9/1/99.
Dr. Yolanda Blanco, post-doc U. of Madrid, Spain, 9/15/99 -12/15/99.
Dr. Jens Kohlmorgen, Fraunhofer Institute, Germany, 5/1/99-8/1/99.
Prof. Cristina Mejuto, Assist. Prof. U. of A Coruna, Spain 5/1/99-8/1/99
Prof. Pedro Oliveira, Electrical Eng. Dept, U. of Porto Portugal, 1/5/99-
4/1/99.
Prof. Amparo Alonzo, Computer Science Dept., U. of A Coruna, Spain
10/1/98-12/1/98
Prof. Vladimir Krajca, Czech Tech. U., Czech Republic, 9/1/97-4/1/98.

SPONSORED RESEARCH

- 77 Co-PI (Andy Li PI), University of Florida Planning Proposal: I/UCRC for Big Learning, NSF, \$15,000, 2016.
- 76 PI, Collaborative Research: NCS-FO: A computational neuroscience framework for olfactory scene analysis within complex fluid environments, NSF, \$409,000, 2016-2019
- 75 Co-PI (Ouyang PI, FAU), Perception Action Cycle-based Automatic Coral Classification for Underwater Surveillance, NOAA (sub contract FIU), \$52,000, 2016-2017
- 74 PI, “Pulse Based Syntactic Algorithms for Speech Processing & FPGA Implementation”, DARPA, \$205,000, 2015-2016.
- 73 PI, “Multi environment ATR Based on Bidirectional Architectures”, ONR, \$381,000, 2015-2017.
- 72 Co-PI (Bashirullah PI), “Implantable Multimodal Peripheral REcording and Stimulation System (IMPRESS)”, DARPA HAPTIX, \$12,000,000 (UF portion \$2,000,000), 2015-2018.
- 71 Co-PI (Okun PI), “A Responsive Closed-Loop Approach to Treat Freezing of Gait in Parkinson’s Disease”, Michael J. Fox Foundation, \$80,000, 2015-2016
- 70 Co-PI (PI Ouyang, FAU), “Unobtrusive multi-static serial LiDAR imager (UMSLI) for wide area surveillance and identification of Marine Life” DoE, \$90,000, 2015-16
- 69 PI, “Design, Implementation and a Test of a Cognitive Computational Architecture for Perception”, ONR Science of Autonomy, \$798,000, 2014-2017
- 68 PI (with Panos Pardalos), “A Dynamic Data Driven Cognitive Control Architecture for Exploration”, AFSOR, \$195,665, 2013.
- 67 PI, “Design and Validation of ATR Systems with Humans in the Decision Loop”, ONR, \$320,000, 2013-2104.
- 66 PI (with Janis Daly), “Stroke Rehabilitation with Brain Machine Interfaces”, UF Opportunity Fund, \$82,000, 2011-2013.
- 65 Co-PI (PI B. Acke), “Strategies to Encode Odor Information”, NIH R21, \$220,000, 2011-2013.

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- 64 Co-PI (PI), Downscaling Satellite-Based Passive Microwave Observations Using High Resolution Remote Sensing”, NASA, \$148,000, 2012-2015.
- 63 PI, “A Framework for the Analysis and Processing of Continuous Data Streams over Clouds”, HP, \$50,000, 2011.
- 62 PI (with A. Keil and P. Pardalos), “Quantifyinig Causality in Distributed Spatial Temporal Brain Networks”, NSF-IIS, \$550,000, 2010-2013.
- 61 PI, “Anomaly detection in multivariate data streams using kernel methods and information theoretic cost functions”, HP, \$50,000, 2010.
- 60 PI (with J. Reilly), “Self-Organizing Functional Hierarchical Memories with Wake-Sleep Cycle Consolidation, ONR, \$480,000, 2010-2013.
- 59 Co-PI (PI J. Francis, SUNY). “Creating the Synthetic Brain Through Hybrid Computational and Biological Systems: Repairing and Replacing Neural Networks”, DARPA, \$10,000,000 (UF part \$3,165,000), 2010-2013.
- 58 PI (with C. Slatton), Surprise Metric for Sensor Contact Fusion in Sparse Data Environments, ONR, \$435,000, 2010-2013.
- 57 PI, Kalman Filters in RKHS, NSF, \$260,000, 2009-2012.
- 56 Co-PI (PI C. Slatton) Probabilisitic Graphical Models for Image Co-Registration, US Navy, \$300,000, 2007-2010.
- 55 Co-PI (PI J. Harris) An ultra-low power wireless neural recording implant based on a novel pulse representation, NIH \$2,550,000, 2007-2010.
- 54 Co-PI (PI P. Kraghonekar) Center for Innovative Brain Machine Interfaces, NSF-PFI, \$600,000, 2006-2009.
- 53 Co-PI (PI J. Li), Machine Learning and Information Theoretic Approaches to Automatic Target Recognition and Detection, Lockheed Martin, \$75,000, 2006.
- 52 PI, Optimal Modeling in RKHS, NSF, \$240,000, 2006-2009.
- 51 Co-PI (PI J Harris), A Spike-based Computer Architecture for Sensory Processing, NSF, \$300,000, 2006-2009
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- 50 Co-PI (PI J. Fortes), Dynamic Data Driven Brain Machine Interfaces, NSF-DDDAS, \$936,000, 2005-2009.
 - 49 Technical Core Director (with P. Lang), Center for the Study of Emotion and Attention, NIH, \$9,378,165 (ECE \$420,200), 2005-2010.
 - 48 PI, Biocomputational Modeling Principles of Neuron Culture Dynamics, NSF CNCS, \$587,000, 2004-2008.
 - 47 Co-PI (with J. Fortes), Collaborative research on wide-area network computing using virtual machines, NSF CISE, \$515,000, 2002.
 - 46 PI, A theory of learning based on pairwise interactions, NSF Neuroengineering, \$280,000, 2003-2006.
 - 45 PI (with M. Nicolelis), Closed loop brain-machine interface for augmenting motor performance, DARPA, \$23,000,000.00, 2002-2007 (UF portion is \$3,000,000.00).
 - 44 PI, Identification & Control of Aircrafts using multiple models and adaptive inverse control, NASA Langley, \$270,000, 2002-6.
 - 43 PI, Brain Computer Interfaces, seed grant, College of Engineering, \$25,000, 2001.
 - 42 Co-PI (with C. Sackellares), Bioengineering Research Partnership for Brain Dynamics, NIH, \$3,217,810, 2001-2005.
 - 41 Co-PI (with J. Fortes), Design and simulation of biologically inspired nanolattice computing architectures, NSF ITR, \$2,000,000, 2001-2004.
 - 40 PI, Improving Adaptive Critics with Multiple Switching Models, \$80,000, Accurate Automation Corp., 2001.
 - 39 PI, Information Dynamics and Design of Neuromorphic Silicon Cortices, \$481,586, ONR, 2001-2004.
 - 38 PI, Support Vector Machines for FOPEN Discrimination, \$50,000, MIT/Lincoln Laboratory, 2000.
 - 37 Technical Core Director (with P. Lang), NIH Center for the study of Emotion and Attention, \$4,785,510, 1999-2004.
 - 36 PI, Radar Signal Processing for Space Applications, Honeywell Corporation, \$17,370, 1999.

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- 35 PI, Information theoretic extraction of EEG features for monitoring subject attention, NASA, \$59,926, 1999.
 - 34 PI, "Information theoretic learning for signal processing and pattern recognition", NSF, \$182,000, 1999-2001.
 - 33 Co-PI (with J. Li), "Acquisition and recognition of moving targets & technologies, DARPA, \$360,000, 1999-2000.
 - 32 PI., "Improving digital hearing aids with blind source separation algorithms", BME seed grant, UF, \$14,480, 1999-2000.
 - 31 PI., "A Net-centric undergraduate course in adaptive systems", NSF, \$400,000, 1998-2001.
 - 30 PI, "Learning Environments for NeuroComputing", NSF, \$30,000, 1997.
 - 29 Co-PI (with C. Sackellares), "Dynamic Studies in Temporal and Frontal Lobe Epilepsy", NIH/NINDS, \$715, 973, 1997-2001.
 - 28 Investigator (with P. Lang), "Fear and the anxiety disorders: brain and anxiety", NIH, \$1,744.185, 1997-2001.
 - 27 PI, "Statistical Independent and relevant feature extraction for classification of SAR imagery", DARPA/ISO, \$542,617, 1997-2001.
 - 26 PI, "A focus of attention for SAR based on enhanced quadratic gamma detectors", DARPA/ISO, \$298,000, 1997-1999.
 - 25 PI, "NeuroComputational models for describing feature extraction phenomena in the auditory cortex", Max-Kade Foundation, \$34,000, 1996-1997.
 - 24 Co-PI (with C. Leonard), "Automatic volumetric analysis of the auditory cortex using self-organizing principles", NSF, \$100,000, 1996-1998.
 - 23 Co-PI (with D. Childers), "Interactive model of the vocal folds and turbulent noise for speech synthesis", NSF, \$93,463, 1996-1999.
 - 22 PI, "Annual grantees meeting of the Nonlinear dynamics program", ONR, \$29,128, 1996.

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- 21 PI, "Nonlinear extensions to the MACE filter for automatic target recognition", Lockheed-Martin, \$39,542, 1995.
 - 20 PI, "Recurrent Neural networks for the processing of nonlinear nonstationary signals", NSF, \$231,790, 1995-99.
 - 19 PI, "Localization and Recognition of sound signatures using biologically plausible sensors and recurrent neural networks", ONR, \$582,489, 1994-1997.
 - 18 PI, "Word Spotting with the Gamma Neural Model", NSA, \$296,546, 1993-1996.
 - 17 PI, "Automatic Target Recognition with Recurrent neural Networks", ARPA, \$323,923, 1993-1996.
 - 16 PI, "A new connectionist model for time varying signal classification", NSF, \$183,211, 1992-1994.
 - 15 Investigator (with B. Luttge), "Medical Personnel Collaborative Spinal Cord Injury, Paralysis, Neuroscience research, education and training facility", DOD, \$18,000,000, July 1992-1997.
 - 14 Co-PI (with G. Tlusty), "Machine tool research institute", NSF, \$932,189, 1992-1997.
 - 13 PI, "Word Spotting with the gamma network", David Sarnoff Research Center, \$3,956, July-Aug 1992.
 - 12 PI, NIH Research Instrumentation, 1992-1993, \$3,000.
 - 11 Co-PI (with G. Tlusty), "Comprehensive supervision system for machining centers", NSF, \$706,674, 1990-1993.
 - 10 Co-PI (with A. Arroyo), CISE Instrumentation Resources, NSF, \$41,000, 1990-1992.
 - 9 PI, "Cortical Mouse: a new way of communicating with computers", FHTIC, \$50,000, 1990.
 - 8 PI, "Symbolic-Numeric Machine tool Supervision", NSF, \$79,000 (2 years), 1989.
 - 7 PI, "Microelectronic Biosensor for Neural Tissue Data Collection", NSF, \$91,000, 1989.

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- 6 PI, “Knowledge-based Machine tool supervision”, FHTIC, \$20,000, 1989.
 - 5 Investigator (with D. Childers), “Multimedia System Control”, ADC, \$90,000, 1988.
 - 4 General Secretary, INIC Research Center, Electrical Engineering Department, University of Aveiro (1980-1985).
 - 3 Co-PI, Line of research “Information Technologies in Health Care”, Portuguese Institute of Engineering and Computer Sciences (INESC) US\$30,000 (1985).
 - 2 PI, “Development of Automated Systems for EEG Analysis”, Portuguese Institute for Science and Technology (JNICT), Grant #304.81.13 US\$100,000 (1981-1984).
 - 1 PI, Line of research “Computerized EEG Analysis”, Portuguese Institute of Scientific Research (INIC)/ University of Aveiro, US\$150,000 (1980-1985).

PH.D. STUDENT SUPERVISION (Chair/co-Chair)

- 88 Nallatambi, Gabriel, “Non Numeric Signal Processing for the Integrate and Fire Converter”, U. of Florida, Fall 2015
- 87 Kriminger, Evan, “An Effective and Robust Method for Active Constrained Clustering”, U. of Florida, Fall 2015.
- 86 Craciun, Stefan, “FPGA Architecture for Real-Time Information Extraction and Feature-Based Classification in Image Processing”, U. of Florida, Fall 2015 (co-supervisor).
- 85 Philips, Gavin, “Functional Connectivity Based Biomarkers for Evaluation and Guidance of BCI-Enabled Post-Stroke Motor Recovery”, U. of Florida, Fall 2015
- 84 Kan Li, “Recurrent Adaptive Filtering in Reproducing Kernel Hilbert Spaces”, U. of Florida, Spring 2015.
- 83 Goktug Cinar, “Self-Organized Computational Perception in the Time Frequency Domains”, U. of Florida, Spring 2015.
- 82 In Jun Park, “ A Computational Model for Animal Navigation in Turbulent Odor Plumes”, U. of Florida, Fall 2014.
- 81 Austin Brockmeier, “Learning and Exploiting Recurrent Patterns in Neural Data”, U. of Florida, Spring 2014.
- 80 Rosha Pokharel, “Robust Kernel Adaptive Learning for Online Supervised Systems”, U. of Florida, Spring 2014.
- 79 Rakesh Chalasani, “A Hierarchical Dynamical Model for Object Recognition”, U. of Florida, Fall 2013.
- 78 Jihye Bae, “Reinforcement Learning with online Kernel Temporal Differences”, U. of Florida, Summer 2013.
- 77 Pingping Zhu, “Kalman Filtering in Reproducing Kernel Hilbert Spaces”, U. of Florida, Spring 2013.
- 76 Bilal Fadlallah, “Quantifying Cognitive Processes in the Human Brain Using Measures of Dependence”, U. of Florida, Spring 2013.

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- 75 Songlin Zhao, "From Fixed to Adaptive Budget Robust Kernel Adaptive Filtering", U. of Florida, Fall 2012.
 - 74 Lin Li, "Kernel Based Machine Learning Framework for Neural Decoding", U. of Florida, Fall 2012.
 - 73 Luis Sanchez-Giraldo, "Reproducing Kernel Hilbert Space Methods for Information Theoretic Learning, U. of Florida, Summer 2012.
 - 72 Erion Hasanbelliu, "Information Theoretic Similarity Measures for Shape Matching", U. of Florida, Spring 2012.
 - 71 Carolyn Krekeler, "A Bayesian Based Graphical Model Framework for Estimation and Forecast of Stream Flow", U. of Florida, Spring 2012.
 - 70 Alexander Singh Alvarado, "Time encoded compression and classification using the integrate and fire sampler", U. of Florida, Spring 2012.
 - 69 Kittipat Kampa, "Data-driven Structured Graphical Model For Image Segmentation", U. of Florida, Fall 2011
 - 68 Tory Cobb, "Sonar Image Modeling For Texture Discrimination and Classification", U. of Florida, Fall 2011.
 - 67 Sohan Seth, "On nonparametric measures of dependence and conditional independence: Theory and applications", U. of Florida, Summer 2011.
 - 66 Il (Memming) Park, "Capturing Spike Train Similarity Structure: a Point Process Divergence Approach", U. of Florida, Summer 2010.
 - 65 Shalom Darmanjian, "Design and Analysis of Generative Models for Brain Machine Interfaces", U. of Florida, Fall 2009.
 - 64 Jack DiGiovanna, "Changing the Brain Machine Interface Paradigm: Co-adaptation Based on Reinforcement Learning", U. of Florida, Fall 2008.
 - 63 Weifeng Liu, "Adaptive Filtering in Reproducing Kernel Hilbert Spaces", U. of Florida, Fall 2008.
 - 62 Sudhir Rao, "Unsupervised Learning: An Information Theoretic Learning Approach", U. of Florida, Summer 2008.

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- 61 Aysegul Gunduz, "Human Motor Control via Electrographic Brain machine Interfaces", U. of Florida, Summer 2008.
 - 60 Ruijiang Liu, "Spatio-temporal Methodology for Single Trial ERP Component Estimation", U. of Florida, Summer 2008.
 - 59 Antonio Paiva, "Reproducing Kernel Hilbert Spaces for Point Processes, with applications for Neural Activity Analysis", U. of Florida, Summer 2008.
 - 58 Yiwen Wang, "Point Process Monte Carlo Filtering for Brain Machine Interfaces", U. of Florida, Spring 2008.
 - 57 Puskal Pokharel, "Time Series Analysis with Information Theoretic Learning and Kernel Methods", U. of Florida, Fall, 2007
 - 56 JianWu Xu, "Nonlinear Signal Processing Based on Reproducing Kernel Hilbert Space", U. of Florida, Summer, 2007
 - 55 Kyu-Hwa Jeong, "The Correntropy MACE Filter for Image Recognition", U. of Florida, Summer, 2007
 - 54 Seungjo Han, "A Family of Minimum Renyi's Error Entropy Algorithm for Information Processing:", U. of Florida, Summer, 2007
 - 53 Mustafa Ozturk, "Echo State Networks and its Applications", U. of Florida, Spring 2007.
 - 52 Dong Han, "A new class of sparse channel estimation methods based on support vector machines", U. of Florida, Fall 2006.
 - 51 Jing Lan, "Mixture of Expert Modeling and Control", U. of Florida, Summer 2006.
 - 50 Rui Yang, "Multiple Models for Imaging Reconstruction in Multi Coil MRI", U. of Florida, Spring 2006.
 - 49 Anant Hegde, "Space Time Similarity Measures for EEG in Epilepsy", U. of Florida, Spring 2006.
 - 48 Hui Liu, "Online Automatic Epileptic Seizure Detection from the Electroencephalogram", U. of Florida, Fall 2005.
 - 47 Dong Ming Xu, "Dynamical Analysis, Applications and Analog Implementation of a Biologically Realistic Olfactory Cortex Model, U. of Florida, Summer 2005.

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- 46 Phil Kim, "Design and Analysis of Optimal Decoding Models for Brain Machine Interfaces", U. of Florida, Spring 2005.
 - 45 Jeongho Cho, "Multiple Modeling and Control of Nonlinear Systems with the Self-Organizing Map", U. of Florida, Fall 2004.
 - 44 Yadunanda Rao, 'An Augmented Error Criterion for Linear Adaptive Filtering: Theory, Algorithms, and Applications', U. of Florida, Spring 2004.
 - 43 Justin Sanchez, 'From Cortical Neural Spike Trains to Behavior: Modeling and Analysis', U. of Florida, Spring 2004.
 - 42 Ken Hild II, "Blind Source Separation of Convulsive Mixtures using Renyi's Divergence", U. of Florida, Fall 2003.
 - 41 Michael Johnson, "Limit cycle oscillation modeling in aircraft wings using adaptive linear models", U. of Florida, Summer 2003.
 - 40 Rodney Morejon, "An information theoretic approach to sonar automatic target recognition", U. of Florida, Spring 2003
 - 39 Ching-an Lai, "Global Optimization Algorithms for Adaptive IIR Filtering", U. of Florida, Fall 2002.
 - 38 Deniz Erdogmus, "Information Theoretic Learning: Renyi's entropy and its applications to adaptive systems training", U. of Florida, Spring 2002.
 - 37 Vitor Tavares, "Design and Implementation of a biologically realistic olfactory cortex in analog VLSI", U. of Florida, Fall 2001.
 - 36 Victor Brennan, "Principal Component Analysis with Multiresolution", U. of Florida, Spring 2001.
 - 35 Erhan Gokcay, "A New Clustering Algorithm for Segmentation of Magnetic Resonance Images", U. of Florida, Summer 2000.
 - 34 W. Curt Lefebvre, "Neural Network Based Control Designs for Complex Industrial Process Applications", U. of Florida, Spring 2000.
 - 33 Douglas G. Jones, "System modeling using generalized feedforward networks", U. of Florida, Summer 1999.

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- 32 Hsiao-Chun Wu, "Blind source separation using information measures in the time and frequency domains", U. of Florida, Spring 1999.
 - 31 Dongxin Xu, "Energy, Entropy and Information Potential for Neural Computation", University of Florida, Spring 1999.
 - 30 Craig Fancourt, "Gated competitive systems for unsupervised segmentation and modeling of piecewise stationary signals", University of Florida, Fall 1998.
 - 29 Li-Kang Yen, "Focus of Attention for MMW and UWB Target Recognition", University of Florida, 1998.
 - 28 Neil Euliano, "Self-organization in space and time", University of Florida, 1998.
 - 27 Frank Candocia, "A unified super-resolution approach for optical and synthetic aperture radar images", University of Florida, 1998.
 - 26 J-Kuo Juan, "Analog implementation of locally recurrent adaptive filters", University of Florida, 1998 (co-Chair).
 - 25 C-J Pu, "A neuromorphic microphone for sound localization", University of Florida, 1998 (co-Chair).
 - 24 Mark Motter, "Neural control of the NASA Langley 16-foot transonic tunnel", University of Florida, 1997.
 - 23 Mohamed Ismail, "Adaptation of generalized feedforward filters with applications to speech", University of Florida, 1997.
 - 22 John Fisher, "Nonlinear Extensions to the MACE filter", University of Florida, 1997.
 - 21 Ludong Wang, "Local dynamic modeling with self-organizing feature maps", University of Florida, 1996.
 - 20 Chuan Wang, "An information theoretic perspective for learning systems with engineering applications" University of Florida, 1996.
 - 19 Munchurl Kim, "Focus of attention based on gamma kernels for automatic target recognition", University of Florida, 1996.
 - 18 Samel Celebi, "Representation of locally stationary signals using lowpass moments", University of Florida, 1995.

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- 17 Hui-Huang Hsu, "Neural networks for signal and information processing", University of Florida, 1994.
 - 16 JinGeol Lee, "Measurements of granular flow dynamics with high speed digital images", University of Florida, 1994.
 - 15 Russ Walters, "A distributed in-process supervision of milling based on signal processing machining models", University of Florida, 1993.
 - 14 Karl Gugel, "Partitioning artificial neural networks onto coarse granular parallel systems", University of Florida, 1993.
 - 13 Jyh-Ming Kuo, "Nonlinear Dynamcial Modeling with Artificial Neural Networks", University of Florida, 1993.
 - 12 Armando Barreto, "A spatio-temporal approach to epileptic focus localization from array electrocorticography", University of Florida, 1993.
 - 11 Haan Go Choi, "Multiresolution segmentation methodology for respiratory electromyographic signals", Ph. D., University of Florida, 1992.
 - 10 Tarek Anwar, "On the application of conceptual clustering for knowledge discovery in data bases", University of Florida 1992, (co-chair).
 - 9 Sonja Ebron, "Reliability assessment of bulk power systems using neural networks", University of Florida, 1992 (co-chair).
 - 8 Jeff Spaulding, "A new adaptive algorithm for real-time equalization of acoustic fields", University of Florida, 1992.
 - 7 Bert deVries, "Temporal Processing with Neural Networks- The development of the gamma model", University of Florida, 1991.
 - 6 Tom Davis, "Towards an extrapolation of the simulated annealing convergence theory onto the simple genetic algorithm", University of Florida, 1991.
 - 5 Seung-Hun Park, "A knowledge-based approach to abnormal EEG spike detection", University of Florida, 1990 (co-supervisor).
 - 4 Ana Maria Tome, "Multiprocessing system for sleep analysis", University of Aveiro, Portugal, 1990.

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- 3 Pei-Chen Lo, "Application of nonlinear dynamical theory to EEG signal processing and modeling", Ph.D. Dissertation, University of Florida, 1990.
 - 2 Taewhan Yoon, "Numeric/Symbolic Machine Tool Supervision", Ph.D. Dissertation, University of Florida, 1990.
 - 1 Francisco Vaz, "Spectral Characterization of the EEG in Epilepsy", Ph.D., University of Aveiro, Portugal, 1986.

MASTER STUDENT SUPERVISION (Chair/co-Chair)

- 65 Bibhu Prasad Mishra, "Estimation of Periodicity in Non-uniformly Sampled Astronomical Data - An Approach Using Spatio-temporal Correntropy", U. of Florida, Spring 2011.
- 64 Rakesh Chalasani, "Adaptive Kernel Self-Organizing Maps with Information theoretic Learning", U. of Florida, Spring 2010.
- 63 Abhishek Singh, "Cost Functions for Supervised Learning Based on a Robust Similarity Measure", U. of Florida, Spring 2010.
- 62 Il "Memming" Park, "Continuous Time Correlation Analysis Techniques for Spike Trains", U. of Florida, Spring 2007.
- 61 Rajvignesh Thogula, "Information theoretic self-organization of multiple agents", U. of Florida, Summer 2003.
- 60 Scott Morisson, "A DSP Based computational engine for brain machine interfaces", U. of Florida, Spring 2003.
- 59 Andrew Lin, "Finite precision effects and implementation for a VLSI based adaptive transversal filter", U. of Florida, Spring 2003.
- 58 Geetha Thampi, "Identification and Control of Nonlinear Systems using SOM Based Multiple Models", U. of Florida, Spring 2003.
- 57 Ganesan Ramachandran, "A comparison of algorithms for epileptic seizure detection", U. of Florida, Fall 2002.
- 56 Nicolas Obolensky, "Kalman Filters for Moving Vehicle Tracking", U. of Florida, Summer 2002.
- 55 Helene Chini, "Nonlinear neural networks for modeling and online segmentation of nonstationary signals", U. of Florida, Summer 2002

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- 54 Dorothee Marossero, "An information filter and its applications to image compression", U. of Florida, Spring 2002.
 - 53 Ravinder Singh, "An efficient protocol for live web based teaching", U. of Florida, Spring 2002.
 - 52 Miguel Santos, "Superresolution of Magnetic Resonance Image", U. of Florida, Spring 2002.
 - 51 Shayan Garani, "An activity diffusion enhancement to vector quantizers", U. of Florida, Spring 2001.
 - 50 Rajesh Kumar, "Web-based interfaces for an adaptive system' Interactive Book", U. of Florida, Spring 2001.
 - 49 Sashidhar Bhikkaji, "Implementation of an Automatic Target Detection System on a vector processing board", Spring 2001.
 - 48 Yadunandana Rao, "Algorithms for eigendecomposition and time series segmentation", M. Sc. University of Florida, Spring 2000.
 - 47 Helder Cochofel, "Real time adaptive inverse control of ventilators using neural networks", M.Sc. University of Florida, Spring 1999.
 - 46 Karthik Narasimhan, "A comparison of anatomical and waveform-based dynamic models of the vocal folds", M.Sc. University of Florida, Summer 1998.
 - 45 Lavanya Dodlatyvenkata, "A DSP processor implementation of blind source separation algorithms", M. Sc. University of Florida, Summer 1998.
 - 44 Edward Jakob, "A ring based multiprocessor for neurocomputing", M.Sc. University of Florida, Fall 1997.
 - 43 Odelia Schwartz, "Modeling the precedence effect for speech", M. Sc., University of Florida, 1996.
 - 42 Konstantinos Pappas, "Phase space reconstruction using gamma delay lines", M. Sc., University of Florida, 1996.
 - 41 James Shima, "FM demodulation using a digital radio and digital signal processing", University of Florida, 1995.

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- 40 John Robinson, "The CNEL Machine", M.Sc. University of Florida, 1994.
 - 39 Alberto Villalon, "Spatial deconvolution approach to epileptic focus localization from array ECoG", M. Sc., University of Florida, 1994.
 - 38 Howard Levin, "Physical modelling of organ reed pipes", M. Sc., University of Florida, 1994.
 - 37 Herman Calabria, "Design and Implementation of an object-oriented neural network simulator", M. Sc., University of Florida, 1994.
 - 36 Todd Hager, "A Neural Network approach to recognition of musical pitch and timbre", M. Sc., University of Florida, 1994.
 - 35 Suresh Venkumahanti, "A DSP based MIMO machine for artificial neural network acceleration", M.Sc., University of Florida, 1993.
 - 34 Todd Hornquist, "A multi-DSP parallel process for the NeXT workstation with applications to neural networks", M.Sc. University of Florida, 1993.
 - 33 Malhar Palkar, "Echo Cancellation with the gamma filter", M.Sc., University of Florida, 1993.
 - 32 Larry Turner, "Feedforward neural networks with adaptive memory layers with applications to word recognition", M.Sc., University of Florida, 1993.
 - 31 Alex Radisavljevic, "Multiresolution stochastic 3D shape models for image segmentation, M. Sc., University of Florida, 1993.
 - 30 Bernard Williams, "Pulse Energy modulation for digital-analog conversion in digital audio systems", M. Sc., University of Florida, 1993.
 - 29 John MacCardle, "Measurement of particle speed through optical reflective sensing", M. Sc., University of Florida, 1993.
 - 28 David Samson, "Real time pitch detection using filter banks and neural networks", M. Sc., University of Florida, 1993.
 - 27 David Zweidinger, "Implementation of an 11 bit audio digital pulse-width modulator in 2mm CMOS", M. Sc., University of Florida, 1993.

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- 26 Geoffrey Brooks, "Adaptive filtering for pixel level image prediction", M. Sc., University of Florida, 1992.
 - 25 Archana Vasanthakumar, "Quantification of the EEG response to stimulus under anesthesia", M. Sc., University of Florida, 1992.
 - 24 James Tracey, "Isolated-word speech recognition using the focused gamma neural network", M. Sc., University of Florida, 1992.
 - 23 Abir Zahalka, "Signal Detection with neural networks: an application to the recognition of epileptic spikes", M. Sc., University of Florida, 1992.
 - 22 Curt Lefebvre, "An object Oriented approach for the analysis of Neural Networks", M. Sc., University of Florida, 1991.
 - 21 Randal Chang, "A Pitch Detection algorithm for complex music signals based on the Q transform", M. Sc., University of Florida, 1991.
 - 20 Mohamed Ismail, "A real-time Speech Synthesizer", M.Sc., University of Florida, 1991.
 - 19 Alok Rathie, "Nonlinear Signal Processing using Neural Networks", M.Sc., University of Florida, 1991.
 - 18 Sina Eatemadi, "A new computer interface using event related potentials", M. Sc., University of Florida, 1991.
 - 17 Stephen Miller, "Graphical waveform scrolling methodologies", M.Sc., University of Florida, 1991.
 - 16 Hui-Huang Hsu, "Spike Visualization and analysis in phase space", M.Sc., University of Florida, 1991.
 - 15 Fang-S. Yu, "Display of EEG Chaotic Dynamics", M. Sc., University of Florida, 1990.
 - 14 Dean Brenner, "Classification of Dynamic Touch Sensor Signals using Neural Networks", M.Sc., University of Florida, 1990.
 - 13 James Richards, "A gradient based variable step-size LMS algorithm", M. Sc., University of Florida, 1990.
 - 12 David Bliss, "The implementation of an all digital audio system using PWM", M. Sc., University of Florida, 1989.

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- 11 Daraius Hathriam, "Adaptive Gain Stabilization of the Electrocardiogram", M. Sc., University of Florida, 1989.
 - 10 Tim Vath, "Electroencephalographic data control and display", M. Sc., University of Florida, 1989.
 - 9 Andy Adkins, "An all digital audio equalizer design", M. Sc., University of Florida, 1989.
 - 8 Steven Friedl, "The Auto Neo-cognitron", M. Sc., University of Florida, 1989.
 - 7 Haan-Go Choi, "Comparisons of smoothing algorithm for EEG analysis", M.Sc., University of Florida, 1988.
 - 6 Russ Walter, "Spike detection using a syntatic pattern recognition approach", M. Sc., University of Florida, 1988.
 - 5 Scott Orangio, "A Goal driven object-oriented interface for digital signal processing", M. Sc., University of Florida, 1988.
 - 4 Reinhold Urbschat, "SLICE simulation of analog, neuron-like circuits in an optimization problem", M.Sc., University of Florida, 1987.
 - 3 Rufus Cofer III, "A microcomputer based audio system for monitoring milling operations", M. Sc., University of Florida, 1988.
 - 2 Luis Menezes, "Digital Signal Processing of Geophysical Data", M.Sc., University of Aveiro, 1985.
 - 1 Ana Tome, "Microcomputer Implementation of a Digital Frequency Synthesizer", M.Sc., University of Aveiro, 1982.

PH.D. STUDENT in Academia

- 26 Austin Brockmeier, Post Doctoral Fellow at U. of Manchester.
- 25 Jihye Bae, Post Doctoral Fellow at U. of Miami.
- 24 Il (Memming) Park, Ph.D., 2010, Assistant Professor Department of Neurobiology and Behavior Stony Brook University.
- 23 Jack DiGiovanna, Ph.D., 2008, Research Fellow at Ecole Polytechnic Federal Lausanne, Switzerland.
- 22 Aysegul Gunduz, Ph.D., 2008, Assistant Professor Biomedical Eng. Dept, U. of Florida.
- 21 Ruijiang Liu, Ph.D., 2008, Assistant Professor of Radiation Oncology Member of Bio-X & Stanford Cancer Institute Stanford University.
- 20 Yiwen Wang, Ph.D., 2008, Associate Professor Quixi Academi, Zeijiang University, Hangzhou, China.
- 19 Phil Kim, Ph.D., 2005, Associate Professor, Ulsan National Institute of Science and Technology (UNIST), Ulsan, Korea.
- 18 Justin Sanchez, Ph.D., 2004, Associate Professor at the Biomedical Eng Dept, U. of Miami.
- 17 Deniz Erdogmus, Ph.D., 2002, Associate Professor, Electrical and Computer Eng. Dept., Northeastern University.
- 16 Vitor Tavares, Ph.D., 2001, Associate Professor, Electrical Eng. Dept, Faculdade Eng. U. Porto (FEUP), Portugal.
- 15 Hsiao-Chun Wu, Ph.D., 1999, Professor, Division of Electrical and Computer Engineering School of Electrical Engineering and Computer Science Louisiana State University.
- 14 Frank Candocia, Ph.D., 1998, Professor, Eng. Department, Florida Atlantic University.
- 13 John Fisher, Ph.D., 1997, Senior Research Scientist, MIT CSAIL.
- 12 Munchurl Kim, Ph.D., 1996, Professor, KAIST, Korea.

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- 11 Hui-Huang Hsu, Ph.D., 1994, Professor and Chair Department of Computer Science and Information Engineering, Tamkang University Taiwan.
 - 10 Russ Walters, Ph.D., 1993, Visiting Professor Rinker School of Building Construction University of Florida.
 - 9 Karl Gugel, Ph.D., 1993, Senior Lecture, ECE Dept, University of Florida.
 - 8 Jyh-Ming Kuo, Ph.D., 1993, National Taiwan University, Taipei.
 - 7 Armando Barreto, Ph.D., 1993, Department of Electrical & Computer Engineering Florida International University.
 - 6 Haan-Go Choi, Ph.D., 1992, Professor, School of Electronic Engineering, Kumoh National Institute of Technology, Korea.
 - 5 Bert deVries, Ph.D., 1991, Professor at Eindhoven University of Technology and Principal Scientist at GN ReSound Netherlands.
 - 4 Seung-Hun Park, Ph.D. 1990, Dept. of Biomed. Eng., Kon-Kuk Univ., Choongbuk, South Korea.
 - 3 Ana Maria Tome, Ph.D. 1990, Associate Professor, University of Aveiro, Portugal.
 - 2 Pei-Chen Lo, Ph.D. 1990, Professor, Department of Electrical Engineering, National Chiao Tung University Taiwan.
 - 1 Francisco Vaz, Ph.D. 1986, Full Professor and Vice Rector, University of Aveiro, Portugal.