

**January 2003**

**NAME:** ROBERT E. YANTORNO  
**ADDRESS:** 305 Steel Road  
Havertown, PA 19083-5111  
**TELEPHONE:** (610) 789-6305  
**EDUCATION:** Ph.D., University of Pennsylvania, 1978  
B.S.E.S., University of Rhode Island, 1970

**ADDITIONAL EDUCATION:**

Signal Processing Development: Fundamentals, Architecture, Design, and Application for Programmable Single-Chip DSP Processing (short course), July 1986.

Speech Coding Principles, Techniques and Algorithms for Digital Voice Compression (short course), July, 1986.

Modern Spectral Analysis (short course), April 1985.

Excitable Membrane Training Program, Marine Biological Laboratory, Woods Hole, Mass, Summer 1973.

Photo-Electric Imaging Device (short course),  
University of Rhode Island, 1970

**SOCIETIES:**

1970	Institute of Electrical and Electronics Engineers Member, Signal Processing Society & Communications Society Member
1976-82	New York Academy of Science
1984-89	Chairperson IEEE Acoustics, Speech and Signal Processing, Philadelphia Section
1982	American Society for Engineering Education
1988-94	Acoustical Society of America
1988-93	Society for the History of Technology
1988-93	Professional and Organizational Development Network in Higher Education
1989	European Association For Signal Processing
1991	Sigma Xi

**TEACHING EXPERIENCE:**

- 1982 - Professor (2001) Electrical and Computer Engineering Department, Temple University
- 1985 - Adjunct Associate Professor School of Medicine, University of Pennsylvania.
- 1977 Teaching Assistant, Bioengineering Undergraduate Program, University of Pennsylvania
- 1971-72 Teaching Assistant, Electrical Engineering Department and Zoology Department, University of Rhode Island

**PROFESSIONAL EXPERIENCE:**

- 1966-68 Project Engineer, Bostich, In House Design and Development and Test Site Survey of Pneumatic Staplers and Systems.
- 1964-66 Electro-Mechanical Designer, Technirite Electronics. Design, Layout and Supervisor of Various Types of Heat Pen Recorders and Associated Equipment.
- 1962-64 Electric Boat Co., Groton, Conn. - Detail and Layout Draftsman

**CONSULTING:**

- 1998 - 2001 Research at the Speech Processing Lab, Rome, New York, U.S. Air Force Office of Scientific Research, Summer Faculty Research Program.
- 1991-92 Consultant - AT&T Bell Labs, Murray Hill - Information Principles Research Division, Speech Research Group, Bishnu S. Atal
- 1983 Specialized Electronics Instrumentation Design and Fabrication. Dr. M. Civan - Physiology Department, University of Pennsylvania and Dr. S. Takashima - Bioengineering Department, University of Pennsylvania

**AWARDS:**

- 2000 Lindback Award for Distinguished Teaching – university-wide award.
- 1993 Distinguished Faculty Award, College of Engineering and Architecture Alumni Assoc., Temple University  
Tau Beta Pi  
Phi Kappa Phi

**GRANTS:**

Air Force – US Department of the Air Force F30602-02-2-0501, Usable Speech Measures – Their Development and Fusion, 2002-2004.

Air Force – US Department of the Air Force F30602-00-1-0517, Development of Criteria and Method for Determination of Usable Co-channel Speech, 2000-2001.

Nortel - Funding for graduate student and Speech Processing Lab 1998-99.

Air Force Office of Scientific Research - Japan Industry and Technology Management Training - Sophomore Engineering Study in Japan Program - Director, 1993-98.

Summer Research Fellowship, Temple University, 1993.

Air Force Office of Scientific Research AFSOR-91-0443 United States - Japan Industry and Technology Management Training - Eagle Japan - Principal Investigator, 1992-93.

Ben Franklin Partnership Program, Joint Industry-University R & D Project, "Development of Controls for an Intraoral Larynx Sound Source", Principal Investigator, 9/91-9/92.

Air Force Office of Scientific Research AFSOR-91-0443 United States - Japan Industry and Technology Management Training - Eagle Japan - Principal Investigator, 1991-92.

Research Initiation Grant, Temple University, 1991.

Ben Franklin Partnership Program, Joint Industry-University R & D Project, "Development of Controls for an Intraoral Larynx Sound Source", Principal Investigator, 11/90-8/91.

National Eye Institute Research Grant, (1 RO1 EYO 8343-01A1) Co-Investigator, "Transport by Ocular Epithelial Cells", 1990-1995.

Research Initiation Grant, Temple University, 1989.

NIH-EY 05240, Investigator, Electrophysiology of Ciliary Body Transport Processes, 1986-1991.

Research Initiation Grant, Temple University, 1983.

JSPS Research Fellowship - Investigation of Ca-ATPase of muscle sarcoplasmic reticulum, 1981.

NIH-5F32-NS-06000-02, Post doctoral Fellowship - Activation energy for muscle membrane anion movement, 1979-80.

MDA - Postdoctoral Fellowship - Activation energies for transmembrane anion movement in normal and myotonic muscle, 1978.

NSF - Calcium dependence of a muscle devoid of sarcoplasmic reticulum, (*Isostichopus badionotus*), Summer 1977.

NSF-POM 76.13459, Investigation of ionic currents of alypsia ventricle muscle under voltage clamp conditions, Summer 1976.

## **RESEARCH EXPERIENCE:**

- 1988 - General area of research is speech processing. Some specific areas are: usable speech, objective speech quality, speaker identification, co-channel speech, modeling of the human speech system and an artificial larynx, investigation into various ways in which to describe the mechanism used to excite the speech model, inverse filtering of speech for glottal waveform extraction, voice conversion, and fusion.
- 1983 Development of a patch clamp system for single channel recording from frog skin and rabbit iris ciliary body University of Pennsylvania, School of Medicine, Department of Physiology and Ophthalmology Department (Scheie Eye Institute).
- 1981-82 University of Osaka, Japan, Biology Department, Dr. Y. Tonomura. Investigation of Ca-ATPase in sarcoplasmic reticulum.
- 1978-80 University of Pennsylvania, Biochemistry/Biophysics Department, Dr. R. L. Barchi. Investigation of the electrical properties of mammalian muscle membrane as a function of external potassium and chloride.
- 1972-78 University of Pennsylvania, Bioengineering Department, Dr. S. Takashima and Dr. P. Mueller, Ph.D. thesis topic, the investigation of the dipole moment of Alamethicin.
- 1970-72 University of Rhode Island, Electrical Engineering Department, Research Assistant, Dr. P. Hubbell. Investigation of the electrical impedance plethysmograph and its application to cardiac output.
- 1970 University of Rhode Island, Electrical Engineering Department, Summer - Research Assistant, Dr. S. Nudelman. Development of a method for quantization of the operating characteristics of photo-imaging devices.
- 1969 University of Rhode Island, Electrical Engineering Department, Summer - Award from the National Science Foundation for Summer Undergraduate Research. Dr. A. Lindgren. Construction of a physical and computer model for the study of a non-linear wave function.

## **PUBLICATIONS:**

Yantorno, R. E., Smolenski, B. Y., and Chandra N., "Usable Speech Measures And Their Fusion." IEEE International Symposium on Circuits and Systems 2003 (submitted).

Smolenski, B. Y., and Yantorno, R. E., "Context Dependent Usable Speech Classification Using A Hidden Markov Model And Autoregressive Cauchy Processes." Systemics, Cybernetics, and Informatics 2003 (submitted).

Kizhanatham, A. R., Yantorno, R. E., and Smolenski, B. Y., "Peak Difference Autocorrelation of Wavelet Transform (PDAWT) Algorithm Based Usable Speech Measure." ICASSP, April 2003 (submitted).

- Smolenski, B. Y., and Yantorno, R. E., "Fusion of Usable Speech Measures Using Quadratic Discriminant Analysis." ICASSP, April 2003 (submitted).
- Smolenski, B. Y., and Yantorno, R. E., and Wenndt, S. J., "Fusion of Co-Channel Speech Measures Using Independent Components and Nonlinear Estimation." IEEE International Symposium on Intelligent Signal Processing and Communication Systems, ISPACS, pp: , 2002.
- Chandra, N., and Yantorno, R. E., "Usable Speech Detection Using the Modified Spectral Autocorrelation Peak To Valley Ratio Using the LPC Residual". 4th IASTED International Conference Signal and Image Processing, pp:146-150, 2002.
- Kizhanatham, A. R., Yantorno, R. E., and Wenndt, S. J., "Co-channel Speech Detection Approaches Using Cyclostationarity or Wavelet Transform". 4th IASTED International Conference Signal and Image Processing, pp:126-131, 2002.
- Smolenski, B. Y., and Yantorno, R., E., Benincasa D. S., and Wenndt, S. J., "Co-Channel Speaker Segment Separation", ICASSP, pp:I125-I129, 2002 .
- Lovekin, J., Krishnamachari, K. R., Yantorno, R. E., Benincasa, D. S., and Wenndt, S. J., "Adjacent Pitch Period Comparison (APPC) as a Usability Measure of Speech Segments Under Co-channel Conditions". IEEE International Symposium on Intelligent Signal Processing and Communication Systems, pp:139-142, November, 2001.
- Yantorno, R. E., Krishnamachari, K. R., Lovekin, J. M., Benincasa D. S., and Wenndt, S. J., "The Spectral Autocorrelation Peak Valley Ratio (SAPVR) – A Usable Speech Measure Employed as a Co-channel Detection System.", IEEE Workshop on Intelligent Signal Processing, pp: 193-197, Hungary, May, 2001.
- Krishnamachari, K. R., Yantorno, R. E., Lovekin J. M., Benincasa, D. S., and Wenndt, S. J., "Use of Local Kurtosis Measure for Spotting Usable Speech Segments in Co-  
c
- Lovekin, J., and Yantorno, R. E., Benincasa, S., Wenndt, S., and Huggins, M., "Developing Usable Speech Criteria for Speaker Identification", ICASSP 2001, pp:421-  
4
- Yantorno, R. E., Benincasa, D, and Wenndt, S., "Effects of Co-channel Interference on Speaker Identification", SPIE International Symposium on Technologies for Law  
E
- Krishnamachari K. R., Yantorno, R. E., Benincasa, D. S., and Wenndt, S. J., "Spectral Autocorrelation Ratio as a Usability Measure of Speech Segments Under Co-channel Conditions". IEEE International Symposium on Intelligent Signal Processing and  
C
- Yang, W., and Yantorno, R.: Improvement of MBSD by Scaling Noise Masking Threshold and Correlation Analysis with MOS Difference Instead of MOS. IEEE ICASSP, Volume 2, pp: 673-676, 1999.

Di Raddo, C., Baren, R., Yantorno, R., Wheelan, S., and Castillo, M., Team Development and Assessment In a Senior Design Course, - ASEE Middle Atlantic Section Spring 1999 Regional Conference.

Yantorno, R. E. and McFann J-A.: Picturing Signals. Frontiers in Education Conference, November 1998.

Yang, W. and Yantorno, R.: Comparison of Two Objective Speech Quality Measures: MBSD and ITU-T Recommendation P.861. Second Annual IEEE Signal Processing Multimedia Conference, pp: 426-431, 1998.

Yang, W., Benbouchta, M., and Yantorno, R.: Performance of the Modified Bark Spectral Distortion as an Objective Speech Quality Measure. Proc. IEEE ICASSP, pp: 541-544, 1998.

Yang, W., Dixon, M., and Yantorno, R.: A Modified Bark Spectral Distortion Measure Which Uses Noise Masking Threshold. IEEE Workshop On Speech Coding For Telecommunications, pp: 55-56, Oct. 1997.

Sadiku, M. N. O., and Yantorno, R. E.: Technology and You: An Engineering Service Course for Non-Engineering Students. Frontiers in Education Conference, Fall 1997.

Yantorno, R. E.: What Should a Freshman Engineering Course Contain ?, ASEE Middle Atlantic Section Regional Conference, Apr. 26-27, 1996.

Wheelan, S. A., Yantorno, R. E., Tilin, F., and Lisk, A. R.: Engineering Education and Teamwork, ASEE Middle Atlantic Section Regional Conference, Apr. 26-27, 1996.

Yang, W., and Yantorno, R.: Development of a Burst Model for Speech Transmission with Cell Losses in an ATM Network. etaCOM 1st Annual Conf., pp: 20-23, May 1996.

Myrick, R. and Yantorno, R.: Vocal Tract Modeling as Related to the Use of an Artificial Larynx. 19th Northeastern Bioengineering Conference, pp: 75-77, March 1993.

Alzamora, D., Silage, D. and Yantorno, R.: Implementation of a Software Model of the Human Glottis on a TMS 32010 DSP to Drive an Artificial Larynx. 19th Northeastern Bioengineering Conference, pp: 212-214, March 1993.

Carre, D.A., Yantorno, R.E. and Civan, M.M.: Cell-attached Patch Clamping of Rabbit Ciliary Epithelium. 65th Annual Meeting of the Association for Research in Vision and Ophthalmology, 1993.

Civan, M. M., Peterson-Yantorno, K., Coca-Prados, M., Yantorno, R. E.: Regulatory Volume Decrease in Cultured Non-pigmented Ciliary Epithelial Cells. Exp. Eye Res. 54: 181-191, 1992.

Yantorno, R. E., Carre, D. A., Coca-Prados, M., Krupin, T. and Civan, M. M. : Whole-cell Patch Clamping of Ciliary Epithelial Cells During Anisosmotic Cell Swelling. Amer. J. Physiol.:Cell Physiol. 262, C501-C509, 1992.

Yantorno, R. E.: Teaching Apprenticeships in Electrical Engineering. Amer. Soc. Engr. Ed., Annual Conference, New Orleans, LA, 1991.

- Yantorno, R. E.: Technical Communications for Engineers. Amer. Soc. Engr. Ed. Annual Conference, New Orleans, LA, 1991.
- Yantorno, R. E., and Civan, M. M., Patch Clamping of Non-Pigmented Ciliary Epithelial Cells, 9th International Congress of Eye Research, Helsinki, Finland 1990.
- Civan, M. M., Coca-Prados, M., Krupin, T. and Yantorno, R. E.: Whole-cell Patch Clamp Analysis of Ciliary Epithelial Cells During Anisosmotic Cell Swelling. FASEB J. 4:A549, 1990.
- Yantorno, R. E., Coca-Prados, M., Krupin, T. and Civan, M. M.: Volume Regulation of Cultured, Transformed, Non-Pigmented Epithelial Cells from Human Ciliary Body. Exp. Eye Res. 49: 423-437, 1989.
- Yantorno, R. E., Coca-Prados, M., Krupin, T. and Civan, M. M.: Volume Regulation of Cultured, Transformed, Non-Pigmented Epithelial Cells From Human Ciliary Body. Invest. Ophthalm. Vis. Sci. 30 (Suppl.):169, 1989.
- Takashima, S., Asami, K., and Yantorno, R. E.: Determination of Electrical Admittances of Biological Cells. J. of Electrostatics 21:225-244, 1988.
- Yantorno, R. E., Coca-Prados, M., Krupin, T., Civan, M. M.: Volume Regulation of cultured, transformed, non-pigmented epithelial cells from human iris-ciliary body. Proc. Int. Soc. Eye Res. V: 114, 1988.
- Yantorno, R., Krupin, T. and Civan, M. M.: Selective and non-selective channels in intact rabbit ciliary epithelium. Invest. Ophthalmol. Vis. Sci. 28(Suppl.):374, 1987.
- Yantorno, R. E., Krupin, T., Moolchandani, J. and Civan, M. M.: Simultaneous Transepithelial and Single Channel Measurements of Rabbit Ciliary Epithelium. Proc. Int. Soc. Eye Res. IV, 1986.
- Yantorno, R. E. and Civan, M. M.: Single channel currents in basolateral membrane of isolated frog skin epithelium. Biophys. J. 49:160a, 1986.
- Yantorno, R. E., Liebowich, S., Krupin, T., Moolchandani, J. and Civan, M. M.: Single channel measurements from intact rabbit ciliary epithelium. Invest. Ophthalmol. Vis. Sci. 27:178, 1986.
- Yamamoto, T., Yantorno, R. E. and Tonomura, Y.: Comparative Study of the Kinetic and Structural Properties of Monomeric and Oligomeric Forms of Sarcoplasmic Reticulum ATPase. J. Biochem. 95: 1783-1791, 1984.
- Yantorno, R. E., Yamamoto, T. and Tonomura, Y.: Energy transfer between fluorescent dyes attached to the  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$  - ATPase in the sarcoplasmic reticulum. J. Biochem. 94:1137-1145, 1983.
- Yantorno, R. E., Takashima, S. and Mueller, P.: Dipole moment of Alamethicin as related to voltage dependent conductance in lipid bilayers. Biophys. J. 38:105-110, 1982.
- Yantorno, R. E. and Barchi, R. L.: Voltage-dependent steady-state passive electrical membrane properties of mammalian skeletal muscle. Fed. Proc. 39(6):2075, 1980.

Hill, R. B. and Yantorno, R. E.: Inotropism and contracture of aplysiid ventricles as related to the action of neurohumors on the resting and action potential of molluscan hearts. Amer. Zool. 19: 145-162, 1979.

Takshima, S. and Yantorno, R.: Capacitance changes of squid axon membrane during potentials. Biophys. J. 21(3):206a, 1979.

Hill, R. B., Sanger, J. W., Deutsch, C. and Yantorno, R. E.: Contraction in a muscle with negligible sarcoplasmic reticulum: the longitudinal retractor of the sea cucumber *Isostichopus badionotus* (Selenka), Holothuria *Aspidochirota*. J. Exp. Zoology 206(2): 137-150, 1978.

Yantorno, R. E., Takashima, S. and Mueller, P.: The dipole moment of a voltage dependent conductance producing antibiotic Alamethicin. Biophys. J. 17(2):87a, 1977.

Takashima, S., Yantorno, R. and Novack, R.: Dipole moment changes and voltage dependent membrane capacity of squid axons. Biochim. Biophys. Acta 469:74-88, 1977.

Takashima, S. and Yantorno, R.: Investigation of voltage dependent membrane capacity of squid giant axon. Annals N.Y. Acad. Sci. 303:306-321, 1977.

Takashima, S., Yantorno, R. and Pal, N. C.: Electrical properties of squid axon membranes. II. Effects of partial degradation by phospholipase A and pronase on electrical characteristics. Biochim. Biophys. Acta 401: 15-25, 1975.

## **MASTERS THESES**

### **Advisor**

Ping Zhou: "A Modified Objective Speech Quality Measure", May 1993.

Reginal Myrick: "Vocal Tract Modeling for Compensation for an Artificial Larynx", May 1993.

Dante Alzamora: "Implementation of a Software Model of the Glottis on a TMS 320 Digital Signal Processor", May 1993.

Hongmin Fan: "Wavelet Decomposition of the Excitation for the LPC Speech Model", August 1993.

Wonho Yang "Speech Quality and Packetized Voice Communications", December 1995.

Qi Han: "Multiband Excitation Coding Using Psychoacoustical Properties", January 1996.

Myron Dixon "Development of a Just Noticeable Distortion Measure for the Bark Scale Speech Quality Measure" December 1996.

Majid Benbcouchta "A Waveform Synchronization Algorithm in the Context of Objective Measures of Speech Quality". August 1998.

- K. Krishnamachari “Development of Usable Speech Measures of Co-channel Speech in the Context of Speaker Identification”, May 2001.
- Jereme Lovekin “Development of Usable Speech Measures for Co-channel Speech.” (ongoing).
- Arvind Kizhanatham “Detection of Co-channel Speech and Usable Speech.” December 2002.
- Nishant Chandra “Detection Of Usable Speech Under Co-Channel Or Non-Stationary Noise Conditions.” December 2002.
- Nithya Sundaram “A Linear Prediction Based Usable Speech Measure.” (ongoing).
- Ananth Iyer “Enhancement of A Speaker Identification System for Usable Speech.” (ongoing).
- Jashmin Shah “Decision Level Fusion of Usable Speech Measures.” (ongoing).

### **Committee Member**

- Xiaohong Ding "Fixed Register Length Two Dimensional FFT Utilizing the TMS320 Digital Signal Processor", July 1984.
- Ou Zhao "Mathematical Operations of Image Algebra and Morphology for Image Processing", Sept. 1989.
- Qi Huang "Optimal Reconstruction of Non-uniformly Sampled Bandlimited Signal", May 1993.
- Dolores Howry, "A Comparison of Three Data Compression Methods For Two Types of Biological Signals", Jan. 1994.
- Jun Yuan, "Digital Image Archiving System with Near Optimal Compression", May 1994.
- Roger Gahman "An i486 Implementation of a Code Excited Linear Prediction (CELP) Coder Compliant with Federal Standard 1016", Aug. 1994.
- Yang Wang "An Approach to Muscle Coordination Evaluation by Computer EMG Analysis", Aug. 1994.
- Yong Sun "Software Implementation of G-TOR: A Hybrid ARQ Protocol" May 1996.
- Mohammad Tofighi "Performance Evaluation of the IEEE 802.11 MAC Standard for Wireless LANS.", May 1998.
- Xiaohui Zhu “Object-Oriented Modeling of an ATM Switch” December 1999.
- Leonard Colavito “Characteristics of Stopping Rules in Iterative Decoding”, November 2001.
- Idrus Andrew Moses “Investigation of the Performance of a Modified Turbo Code Over

Gaussian and Fading Channels.” (ongoing).

## **Ph.D. DISSERTATIONS**

### **Advisor**

- Wonho Yang "An Objective Speech Quality Measure Based on Audible Distortion and Its Evaluation with Degradation Mean Opinion Score." May 1999.
- Brett Smolenski “ Fusion of Usable Speech Measures.” (onging).
- Bill Hicks “Reconstruction of Two Speakers’ Utterances from Co-channel Speech.” (ongoing).

### **Committee Member**

- Murat Tanyel "Enhancement of EEG by Linear Prediction and Nonlinear Filtering", June 1990. (Drexel University)
- Hettie Graff, "A Study of the Faculty and Teaching Assistants at a Large Middle States Urban University: Motivational and Support Requirements for Teaching", May 1994.
- Ou Zhao, "Categorized Vector Quantization for Image Compression Using a Simplified Distortion Measure", Jan. 1996.
- Dennis Rauschmayer "Exploitation of Common and Differential Mode Near End Crosstalk Correlation for Improved Performance in Twisted Pair Channels", July, 1997.
- Rajeev Bhatia “Development of a Non-Parametric Neural Network Based System for Complex Signal Analysis”, May 2001.

## **TEACHING:**

### **Related Activities**

- Coordinated university-wide national NUTU interactive videoconference “Changing Practices in Evaluating Teaching”, March 24, 2000.
- Developed and shared a session titled “Is a Teaching Philosophy Essential for Good Teaching, Temple University Teaching Matters Conference, February 25, 2000.
- Arranged for college-wide teaching and learning seminar, February 14, 2000 topic was No HTML Required – Creating a Course Web Site with Blackboard’s CourseInfo, Tom Fanrak, Computer Instructional Services.
- Paper presented at ASEE Mid-Atlantic section - Spring 1999.
- Arranged for college-wide teaching and learning seminar, April 19, 1999 topic was An Economist Uses the Web, Andy Buck, Department of Economics.
- Arranged for college-wide teaching and learning seminar, March 15, 1999 topic was resources for on-line course development, Dave Feeney, Temple Distance Education Project Director.
- Arranged for college-wide teaching and learning seminar, February 8, 1999 topic was concern for students, Peter Jones, Criminal Justice Department.

Arranged for college-wide teaching and learning seminar, September 28, 1998, topic was active learning techniques, Mel Silberman, Adult and Organizational Development Department.

Attended faculty town meeting - "The Impact of Technology on Teaching and Learning", April 9, 1998.

Organizer of College-wide seminar on "Active Learning Techniques for the College Classroom" Sept. 28, 1998.

Coordinated university-wide national NUTU interactive videoconference "Evaluating Teacher Performance", 11/97.

Attended CAS ATTIC Peer Review workshop, 4/96

Organizer of College-wide seminar on "Integrating Communication Technologies into the Learning Process: Experiences with the World Wide Web, Bulletin Board, and Electronic Mail", (2/10/95).

Attended half-day workshop on "Course and Curriculum Design" (1/94)

Attended half-day workshop on "Connecting Teaching Goals with Learning Goals" (10/93)

Attended a half-day workshop on "Peer Evaluation Techniques" (3/93)

Attended three day workshop on "Using Teaching Portfolios to Improve and Assess Teaching Performance" (2/25-2/27 1993)

Attended two half-day workshops on "Teaching Portfolio" development (1992)

Coordinated "I would have a discussion if..." interactive video conference (1991)

Conducted Departmental mini-workshops on teaching

Director of Departmental Teaching Apprenticeship Program

Conducted all-day orientation program for College's incoming teaching assistants

Attended three University all-day workshops on writing

Attended one half-day college workshop on evaluation of writing

Attended two "Writing Across the Curriculum" interactive video conferences

Developing a Teaching Awareness Program within the College

### **Courses Developed and Taught**

EE 001	Introduction to Electrical Engineering
EE 005/006	Electrical Engineering Profession*
ENGR 163	Electrical Engineering Science I *
ENGR 164	Electrical Engineering Science II *
EE 210	Signals: Continuous and Discrete *
EE 300	Analog and Digital Communications
EE 310	Digital Signal Processing *
EE 410/310	Digital Signal Processing and Analysis*
ENGR 540	Signal Analysis
EE 542	Applications in Digital Signal Processing and Analysis *
EE 648	Adaptive Filters *
EE 742	Speech Synthesis and Recognition *
EE 792	Seminar in Signals
EE C050	Science & Technology: Yesterday, Today & Tomorrow
EE C051	Technology & the 21st Century

EE C054     Technology and You?  
EE H094     Engineering: From Pyramids to Microchips

### **Laboratories Developed and Supervised**

ENGR 163    Electrical Engineering Science I \*  
ENGR 164    Electrical Engineering Science II \*  
ENGR 066    Electrical Devices and Systems II  
EET 104     Introduction to Electrical Circuits  
EE 311      Digital Signal Processing Software Laboratory (partially developed)\*

### **Courses Taught**

ENGR 066    Electrical Devices and Systems II  
EET 211     Electrical Networks \*  
EE 256      Digital Circuit Design  
EE C020     The Evolution of Modern Electronic Systems  
EET 104     Introduction to Electrical Circuits  
EET 182     Automatic Control Systems  
IH X051     Intellectual Heritage I

**NOTE:** Asterisk indicates courses or laboratories into which I have integrated the computer.

### **Additional Teaching Information**

One Graduate student received Honorable Mention from NFS (1989).  
Undergraduate Senior Design Team won the IEEE Bendix Award (1986).

### **SERVICE:**

#### **University**

Distance Education (subcommittee of the Teaching, Learning and Technology Roundtable)  
University Graduate Board (elected)  
    Fellowship Subcommittee (chair)  
    Nominations and Elections Committee (chair)  
Educational Programs and Policies Committee (elected - 4 times)  
    Intellectual Heritage Advisory Committee  
    Science & Technology Core Subcommittee ( 2 times)  
    Honors Program Committee  
    Studies in Racism Subcommittee  
    Honors Program Faculty Working Committee  
    Ad hoc University Writing Subcommittee  
        Subcommittee for First Year Writing and Reading Experience  
Middle States Task Force - Subcommittee on Faculty Development  
Telecommunications Committee  
Excellence Seminar Group

Symposium on the Freshman Year Curriculum  
Academic Planning Council Undergraduate Education Subcommittee  
Academic Planning Council  
Vice Provost for Undergraduate Studies Selection Committee  
East Asian Studies Steering Committee  
    Long Range Planning Subcommittee  
University Teaching Fellows Selection Committee

## **College**

Undergraduate Affairs Committee  
Temple Coordinator of Engineering Alliance for Global Education Program  
Co-Coordinator Engineering Sophomore Fall Semester of Study in Japan  
Director Technical Communications Program  
Promotion and Tenure Committee\*  
Planning and Budget Committee  
Graduate Affairs Committee (3 different terms)  
President of the Collegial Assembly (elected)  
Member Faculty Council (elected)  
Curriculum and Instruction Committee (chair)  
Academic Standing Committee  
Coordinator Alexander Learner Lecture  
Coordinator College Colloquium Series  
Coordinator Dr. James Botkin Lecture  
Educational Computer Committee  
Medical School Liaison Director  
Carnell Professorship Selection Committee  
CAD/CAM Computer Committee  
Structures Committee (co-chair)  
Recruitment and Retention Committee  
Undergraduate Affairs Committee (chair)\*

## **Departmental**

Head of Signals Group  
EE Undergraduate Curriculum Committee  
Admissions & Academic Standing Graduate Program (chair)  
IEEE Student Branch Counselor  
Academic Advisory Committee  
Promotion & Tenure Committee (elected)  
Ph.D. Comprehensive Exam Oversight Committee (chair)  
Ph.D. Comprehensive Exam  
Graduate Student Academic Development Oversight Committee  
Graduate Student Selection  
Ph.D. Selection Committee  
Biomedical Engineering Emphasis Committee

**NOTE:** An asterisk indicates current involvement in that service activity.

### **Professional**

Co-chair of Educational Committee Philadelphia Section of the IEEE  
Local Arrangements chair, Speech Coding workshop for fall 1997.  
Member of organization committee of Signal Processing Society of the  
Philadelphia Section for all-day seminar on "New Trends in Adaptive  
Signal Processing", Fall 1995  
Financial Chair IEEE-SP International Symposium on Time-Frequency and  
Time-Scale Analysis, 10/94  
Chair IEEE Acoustics, Speech and Signal Processing Society, Philadelphia  
Chapter (4 years), organizing:  
(3) all-day Digital Signal Processing workshops  
(1) all-day speech processing educational seminar  
(1) all-day digital signal processing software workshop  
(1) digital signal processing software short course

### **Reviewer For -**

#### **Books**

Holt, Rinehart & Winston  
Prentice-Hall  
Saunders College Pub.  
McGraw-Hill Pub. Co.  
Harcourt Brace Jovanovich Inc.  
Berkeley-Cambridge Press  
Oxford University Press

#### **Journals**

IEEE Signal Processing Society Transactions  
IEEE Signal Processing Magazine  
IEEE Transactions on Education  
IEEE Transactions on Dielectrics and Electrical Insulation  
IEEE Transactions on Biomedical Engineering  
Journal of Investigative Ophthalmology & Visual Science  
Annals of Biomedical Engineering