

CURRICULUM VITAE

April 19, 2010

Personal Data

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Electrical & Computer Engineering
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Educational Background

B.Sc.(Electrical Engineering), Worcester Polytechnic Institute, 1956-58
M.Sc.(Electrical Engineering), Syracuse University, 1958-60
Thesis: Active RC-Network Synthesis
Ph.D. (Electrical Engineering), Cornell University, 1963-68
Dissertation: Spectral Analysis & Linear Time-Varying Systems

Awards and Honors

NASA-Jove Fellow, Goddard Space Flight Center July 1,1996-August 30,1996
Professeur Invite, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland (*Sabbatical*)
March 1, 1996 - June 30, 1996
Visiting Scholar, Dartmouth College, Department of Mathematics (*Sabbatical*)
August 1,1995 - February 29,1996
General Electric (CRD) Fellowship - (*Sabbatical*) June 1985 - August 1986
IBM, Fishkill, NY. IBM Fellowship - (*Sabbatical*) June 1975 - August 1976
Best Paper Award - *IEEE Trans.on Education* 1977

Journal Articles

1. G. Mirchandani and M. Elfataoui, "A Uniformly Convergent Approximation for Ideal Complex Half-Band Filters" *ISAST Transactions on Electronics and Signal Processing*, No.1, Vol.1, 2007 pp.24-29.
2. M. Elfataoui and G. Mirchandani, "A Frequency Domain Method for Generation of Discrete-Time Analytic Signals" *IEEE Trans. Signal Processing*, Sept. 2006, pp.3343-3352.
3. R. Foote, G. Mirchandani and D. Rockmore , "Two-Dimensional Finite Group-Based Signal Processing," *J. Symbolic Computation, Special Issue on Computer Algebra and Signal Processing*, Vol.37, Issue 2, February 2004, pp.187-207.
4. R. Foote, G. Mirchandani G, D. Rockmore D, D. Healy , and T. Olson , "A Wreath Product Group Approach to Signal Processing: Part I - Multiresolution Analysis, *IEEE Transactions on Signal Processing*, Jan. 2000, vol.48, No. 1, pp.102-132, (*31 pages.*)
5. G. Mirchandani , R. Foote, D. Rockmore , D. Healy and T. Olson, "A Wreath Product Group Approach to Signal Processing: Part II - Convolution, Correlation and Applications," *IEEE Transactions on Signal Processing*, March, 2000, vol.48, No.3, pp.749-767, (*19 pages.*)
6. G.Mirchandani, R.L.Zinser and J.Evans, "A New Adaptive Noise Cancellation Scheme in the Presence of Crosstalk," *IEEE Transactions on Circuits & Systems*, Vol.39, No.10, October 1992, pp.681-694.
7. G.Mirchandani and W.Cao, "On Hidden Nodes for Neural Nets". *IEEE Transactions on Circuits & Systems - Special Issue on Neural Networks*, Vol. 36, No.5, May, 1989, pp.661-664.
8. G. Mirchandani, and J.J. Coleman, "Computer-Flavored Circuit Theory-Revisited," *IEEE Transactions on Education*, Vol. E-20, pp. 40-44, February 1977.

Journal Articles Under Preparation

1. G.Mirchandani and S.Sharma, "An Adaptive Window for Quantifying Dominant Frequency in Atrial Fibrillation" (to be submitted by March 2010).
2. J.Evans, G. Mirchandani, R.Snapp & R.Foote, "Optimal Temperature Matching for Wavelet Accelerated Monte Carlo Methods in Determining Critical Phenomena" (to be submitted by March 2010)

Refereed Conference Articles

1. G. Mirchandani, S.Sharma, "Determining Dominant Frequency with Data-Adaptive Windows", *2010 International Conference on Image and Signal Processing*, Trois-Rivieres, Quebec, CA, June 2010.
2. G. Mirchandani, J. Evans, R. Snapp, R. Foote, "Looking through Wavelets to View the Ising Problem" *2009 IEEE Workshop on Statistical Signal Processing*, Cardiff, Wales, August 2009.
3. G. Mirchandani, J. Evans "Multiresolution in Multiscale: A New Role for Wavelets" *2009 Digital Signal Processing Education Workshop*, Marco Island, FL. January 2009.
4. M. Elfataoui, G. Mirchandani, "Analytic Functions, Singularities and Edges: A New Formalism" *Proceedings, ICASSP 2006 (Lecture Session)*, Toulouse, FR. pp.II-165 - II-68, June 2006.
5. M. Elfataoui, G. Mirchandani, "A Novel Method for Generating Complex Half-Band Filters" *Proceedings, ICASSP 2005*, Philadelphia, USA, pp. IV-381 - IV 384, March 2005.
6. M. Elfataoui, G. Mirchandani, "Discrete-Time Analytic Signals With Improved Shiftability" *Proceedings, ICASSP 2004 (Lecture Session)* Montreal, CA. pp. II-477 - II-480, May 2004.
7. Jun Ge and G. Mirchandani, "Softening the Multiscale Product Method for Adaptive Noise Reduction" *Proceedings, 2003 37th Annual Asilomar Conference on Signals, Systems and Computers*, pp.2124-2128, vol.2, November 2003.
8. G. Mirchandani, Jun Ge and Richard Foote, "On Discrete Multiresolution Analytic Signals" *Proceedings, ISSPA 2003*, Paris, France. pp.455-458, vol. 2, July 2003.
9. J. Ge and G. Mirchandani, "A Simple and Efficient Wavelet- Based Denoising Algorithm Using Joint Inter-and Intrascale Statistics" *Proceedings, ISSPA 2003*, Paris, France. pp. 429-432 vol.1, July 2003.
10. Jun Ge and G. Mirchandani, "A New Block-Matching Motion Estimation Algorithm" *Proceedings, ICASSP 2002*, Orlando, FL.
11. G. Mirchandani and X.Luo, "Multiresolution MRF-Based Texture Segmentation Using the Wreath Product Transform Phase" *Proceedings, ICASSP 2001*, Salt Lake City, Utah.pp.977-980, vol.2, May 2001.
12. X. Luo and G. Mirchandani, "Multiresolution Texture Segmentation with the DFT-based Complex Lapped Transform Phase", *Proceedings, 2001 IEEE-EURASIP Workshop on Nonlinear Signal and Image Processing*, Baltimore, MD, June 2001.
13. X. Luo, and G. Mirchandani, "An Integrated Framework for Image Classification," *Proceedings, ICASSP 2000*, Istanbul, Turkey, pp.620-623, vol.1, June 2000.
14. G. Mirchandani, R. Foote, D. Rockmore, D. Healy, T. Olson, "Wreath Product Cyclic Group-Based Convolution: A New Class of Noncommutative Filters," *Proceedings, ICASSP 2000*, Istanbul, Turkey. pp. 356-359, vol.1, June 2000.
15. V.Chickanosky and G.Mirchandani, "Wreath Products for Edge Detection," *Proceedings, ICASSP 1998*, Seattle, WA. pp. 2953-56, vol. 5, May 1998.
16. A.Palau and G.Mirchandani, "A Fast Symbol Coding Scheme with Specific Application in Bulk Compression," *Proceedings, 1998 Data Compression Conference*, Snowbird, Utah, March 29, 1998.
17. Valerie Chickanosky and G. Mirchandani, "Wreath Products for Edge Detection," *Proceedings of the Ninth Annual NASA-JOVE Retreat*, July 7-10, 1998. Outstanding Poster Award
18. G. Mirchandani and V. Chickanosky, "Representation Theory of Finite Groups and Directional Filtering of Images," *Proceedings of the Eighth Annual NASA-JOVE Retreat*, July 1-5, 1997.

19. H.Cai and G.Mirchandani, "A New Embedded Image Codec Based On The Wavelet Transform and Binary Position Coding," *Proceedings, ICIP 1996*, pp. 537-540, vol.2, September 1996.
20. D.Healy, G.Mirchandani, T.Olson and D.Rockmore, "Wreath Products For Image Processing," *Proceedings, ICASSP 1996*, pp.3582-3585, vol.6, May 1996.
21. H.Cai and G.Mirchandani, "Wavelet Transform and Bit-Plane Encoding," *Proceedings, ICIP 1995*, pp. 578-581, vol.1, October 1995.
22. A.Palau and G.Mirchandani "Image Coding with Discrete Transforms using efficient energy-based adaptive zonal filtering," *Proceedings, ICASSP 1994* Adelaide, Australia, April 1994.
23. Z.Wang and G.Mirchandani, "Automatic Transfer from C to Flow graph for Multiprocessor DSP Implementation," *Proceedings, ICASSP 1993* pp.III-49 to III-52, April 1993.
24. G.Mirchandani, P.Twombly, R.B.Pegram and J.Michel, "Generation and Implementation of DSP Parallel Programs from a Signal Processing Design Environment," *Proceedings, ICASSP 1992*, San Francisco, CA. pp. 577-580, March 1992.
25. R.B.Pegram, G.Mirchandani and J. Stuart, "Deterministic Time Programming and Parallelism with C40s," *Proceedings, TI Educators Conference*. Houston, TX. August 4-6, 1992.
26. J.Michel, G.Mirchandani, and S.Wald, "Prognosis with Neural Nets Using Statistically Based Feature Sets," *Proceedings of the Fifth Annual IEEE Symposium on Computer Based Medical Systems*," Durham, N.C. pp. 695-702, June, 1992.
27. G.Mirchandani, P.Twombly, R.B.Pegram and F.L.Stone, "Scheduling and Simulation of Neural Nets on a DSP Accelerator," *Proceedings, ICASSP 1990*, Albuquerque, N.M. pp. 1771-1774, April 1990.
28. G.Mirchandani, W.Cao. and B.Bosworth, "Efficient Implementation of Neural Nets Using an Optimal Relationship between Number of Patterns, Input Dimension and Hidden Units," *Proceedings, ICASSP 1989*, Glasgow, Scotland, pp. 2521-2553, May 1989.
29. G.Mirchandani, P.Twombly, "A Software Development Tool for Scheduling Signal Processing Algorithms on Multiprocessors with Arbitrary Interconnectivity," *Proceedings, ICASSP 1989*, Glasgow, Scotland, pp. 1146-1149, May, 1989.
30. G.Mirchandani and D.Ogden, "Experiments in Partitioning and Scheduling Signal Processing Algorithms for Parallel Processing," *Proceedings, ICASSP 1988*, New York, NY, pp. 1690-1693, April 1988.
31. G.Mirchandani and G.McGuire, "Performance Characteristics and Speed-Up Rates of the NEC mPD7281 Data Flow Processor in Parallel Processing," *Proceedings, ICASSP 1987*, Dallas, TX., pp. 1015-1018, April 1987.
32. G.Mirchandani, R.C.Gaus and K.Bechtel, "Performance Characteristics of a Hardware Implementation of the Crosstalk Resistance Adaptive Noise Canceller," *Proceedings, ICASSP 1986*, Tokyo, Japan, pp.93-96, April 1986.
33. R.L.Zinser, G.Mirchandani and J.B.Evans, "Some Experimental and Theoretical Results Using A New Adaptive Filter Structure for Noise Cancellation in the Presence of Crosstalk," *Proceedings, ICASSP 1985*, Tampa, FL, pp. 1253-56, March 1985.
34. G.Mirchandani, "Adaptive Noise Cancelling in the Presence of Cross talk," *Proceedings, 1985 GOSAM Symposium*, Syracuse, NY. May 1985.
35. G.Mirchandani and L.Dunlop, "Piece-Wise Time-Invariant Approximation of Linear Time-Varying Systems," *Proceedings, 14th Midwest Symposium on Circuit Theory*, Denver, CO.,6.4.1 - 6.4.15, May 1971.
36. G.Mirchandani and W. Abadeer, "On the Determination of Eigen-Values of A Symmetric Network Using Bartlett's Theorem," *Proceedings, 14th Midwest Symp. on Circuit Theory*, Denver, CO. pp. 7.2.1 - 7.2.9, May, 1971.
37. G. Mirchandani, (*Invited Paper*) "Spectral Theory and Linear Time- Varying Systems", *Proceedings, 14th Midwest Symposium on Circuit Theory*, pp. 9.4.1 - 9.4.9, May 1971.
38. G.Mirchandani, "Application of Integral Transforms to the Design of A Linear Time-Varying Matched Filter," *Proceedings, Fifth Annual Princeton Conf. on Information Sciences & Systems*, pp. 428-429, March 1971.

39. G.Mirchandani, "A Generalized Characterization of Linear Time-Varying Systems," *Proceedings, Fourth Annual Princeton Conference on Information Sciences & Systems*, pp. 94-97, March 1970.
39. G.Mirchandani, "Spectral Filtration of Signals Using Time-Varying Networks," *Conference Record, Third Asilomar Conference on Circuits & Systems*, pp. 285-288, December 1969.

Courses Taught (Last 10 AYrs)

AY	Fall	Spring
AY09-10	<i>Signals&Sytems, DSP, DSPLab.</i>	<i>Feedback&OptimalControl</i>
AY08-09	<i>Signals&Sytems, DSP, DSPLab.</i>	<i>ImageProcessing</i>
AY07-08	<i>Signals&Sytems, DSP, DSPLab.</i>	<i>Wavelets</i>
AY06-07	<i>Signals&Sytems, DSP, DSPLab.</i>	<i>ImageProcessing</i>
AY05-06	<i>Signals&Sytems, DSP, DSPLab.</i>	<i>ImageProcessing, AdvancedDSP</i>
AY04-05	<i>Signals&Sytems, DSP, DSPLab.</i>	<i>Wavelets</i>
AY03-04	<i>Signals&Sytems, ComputerVision</i>	<i>Wavelets, AdvancedDSP</i>
AY02-03	<i>Sabbatical</i>	<i>Sabbatical</i>
AY01-02	<i>Signals&Sytems, DSP, DSPLab.</i>	<i>Wavelets, Comm.Systems</i>
AY99-01	<i>Signals&Sytems, DSP, DSPLab.</i>	<i>AdvancedDSP, Comm.Systems</i>

Seminars

1. *Wavelets & Denoising*, Jun Ge & Gagan Mirchandani Department of Computer Science, UVM October 10, 2003
2. *Wavelets with a Difference*, Department of Computer Science, UVM October 18, 2002,
3. *Application of Finite Group Theory to Signal Processing*, AFOSR Program Review, The University of Vermont, Burlington, VT. June 6, 2002
4. *Wavelets with Invariance: Non-Abelian Groups and Signal Processing*, Department of Mathematics and Statistics, UVM, November 19, 1998 & December 3, 1998,
5. *Some Problems in Adaptive Filtering and Image Coding*, Indian Institute of Science, Bangalore, India, August 14, 1992
6. *Signal Processing and Multiprocessing: From block diagram to parallel code to hardware implementation*, CS-EE Department, UVM, March 13, 1992
7. *Analysis of a New Adaptive Filtering Structure for Removing Signal from Noise*, CS-EE Department, UVM, December 7, 1990
8. *Signal Processing with the ADSP-2100 in a Multiprocessor Configuration*, Analog Devices, Norwood, MA, May 17, 1991
9. *Neural Networks*, Department of Psychology, The University of Vermont, October 13, 1988
10. *Neural Networks*, Department of Anatomy and Neurobiology, The University of Vermont, September 22, 1988
11. *Decomposing DSP Algorithms for Parallel Processing*, General Electric Co., Corporate Research and Development, Schenectady, N.Y. June 2, 1987
12. *(Invited Talk) Fast Implementation of Signal Processing Algorithms*, General Motors Research, Warren, MI., May 20, 1987
13. *A Technique for the Decomposition of Signal Processing Algorithms*, CSEE Department, UVM, October 2, 1986

14. *Noise Cancellation with Application to Array Processing*, Underwater Systems Div., General Electric Co., Syracuse, N.Y., Feb. 15, 1985
15. *Removing Signal from Noise: A New Method with Application to Image Restoration*, Image and Signal Processing Group, General Electric, CRD, Schenectady, N.Y., April 23, 1985

Ph.D. Dissertations Supervised

1. *“Analytic Signals from Analytic Functions: A New Concept in Signal Processing”*, Mohamed Elfataoui, Ph.D. dissertation, UVM, May, 2007.
Employed: Ascension Technology, Burlington, VT.
2. *“Practical Denoising With Sub-optimal Solutions”*, Jun Ge, Ph.D dissertation, UVM, May 2004. (Partially Supported on DEPSCoR Grant)
URL: http://sitemaker.umich.edu/jun.ge/my_cv
Employed: Post Doc. Department of Radiology, University of Michigan, Ann Arbor, MI.
3. *“Edge Detection and Image Registration with the Wreath Product Transform ”* (expected title,) Valerie Chickanosky, Ph.D dissertation, UVM, (expected completion: May 2009.) (Partially Supported on NASA Grant)
Employed: IBM, Essex Junction, VT
4. *“Phase and the Wreath Product Transform: Some Applications and an Extension”*, Xuling Luo, Ph.D dissertation, UVM, April 2000. (Partially Supported on DEPSCoR Grant)
5. *“Image Compression Using The Wavelet Transform”*, H.Cai, Ph.D dissertation, UVM, October 1996.
Employed: Bose Radio
6. *“A Development System for the Parallel Implementation of Digital Signal Processing Algorithms”*, Peter A.Twombly, Ph.D. Dissertation, UVM, May 1991.
Employed: IBM, Essex Junction, VT
7. *“The Reliability of Random Linear Systems”* Lawrence J. Dunlop, Ph.D. Dissertation, May 1973.
Employed: IBM, Essex Junction, VT

M.Sc. Thesis Supervised

1. *Spectral Analysis of Atrial Fibrillation Electrograms* Shruti Sharma, UVM, (January, 2010)
2. *“Discrete-time Analytic Signals With Improved Shiftability.”*, Mohamed Elfataoui, M.Sc. Thesis, UVM, Feb. 2004.
3. *“Fast Signal Processing Using Multiple Programmable Signal Processors: Algorithm Decomposition and Multiprocessor Configurations”*, Gerald A. McGuire, M.Sc. Thesis, October 1987.
4. *“Image Compression on Parallel DSPs Using a New Hybrid Coding Method ”*, P. Y-Rao, M.Sc Thesis,, UVM, May 1993.
5. *“Two-Dimensional Invariant Pattern Classification Using a Neural Network”*, Frederic L. Stone, M.Sc. Thesis, UVM, May 1991.

Current M.Sc. Students

1. *John Evans*, General Topic: Wavelets in Multiscale Systems. Expected completion date: January 2010.
2. *Xi Ouyang*, General Topic: Wavelets in Multiscale Systems. Expected completion date: May 2010.
3. *Ben Schilling*, General Topic: Wavelets in Multiscale Systems. Expected completion date: May 2011.
4. *Katie Gallo*, General Topic: Source Identification in 3D Trackers. Expected completion date: May 2011.

Senior Projects

1. *Real-Time Implementation Using the Speedy C33 DSP Kit*, Spring Semester, 2004.

Research Proposals (Awarded)

1. *Wavelets and the Ising Problem - A Gateway to Monte Carlo and Molecular Dynamic Simulations* **Gagan Mirchandani**. Co-PIs: Robert Snapp & Richard Foote, VSGC, VT-NASA EPSCoR Amount: \$28,000. Budget Period: Sept.1, 2009 - August 31, 2010.
2. *Towards a Multiscale Transform - Using Wavelet Solutions for Multiscale Modelling* Co-PIs: **Richard Foote, Gagan Mirchandani & Robert Snapp** Interdisciplinary Research Grant, UVM. Amount: \$30,000. Budget Period: December 1, 2008 - October 31, 2010.
3. *Wavelets in Complex Systems* PI: **Gagan Mirchandani**, NASA Space Grant and Development Program Amount: \$10,000. Budget Period: June 1, 2008 - August 31, 2008.
4. *Application of Finite Groups to Signal Processing* PI: **Richard Foote**, Co-PIs: Gagan Mirchandani, Dan Rockmore. DEPSCOR. Amount: \$265,000. Budget Period: June 1, 2000 - May 31, 2004.
5. *"Multiresolution Analysis Using Representation Theory of Finite Groups"*, NASA-JOVE, PI: **Gagan Mirchandani**, Amount: \$12,000, Period: June 1, 1999- Aug. 31, 1999.
6. *"Multiresolution Analysis Using Representation Theory of Finite Groups"*, NASA-JOVE, PI: **Gagan Mirchandani**, Amount: \$286,337, Period: Sept.1, 1996- May 31, 1999
7. *Multiresolution Analysis Using Representation Theory of Finite Groups,"* NASA-JOVE, **Gagan Mirchandani**, Phase I, Amount \$8,000, Period: May 1996-August 1996.
8. *"Development and Application of the SDS to Multiprocessing with the ADSP 21020 Processors."*, **Gagan Mirchandani**, Analog Devices, Norwood, MA. Amount: \$92,950 Period: Sept. 1, 1992 - August 31, 1994
9. *Parallel Processing for Digital Signal Processing,* **Gagan Mirchandani**, Post-Doctoral Fellowship, Dynamic Engineers, Houston, TX., Amount \$13,000. Period: November 1, 1991 - December 30, 1992.
10. *"A Software Development System for the Parallel Implementation of Digital Signal Processing Algorithms."*, **Gagan Mirchandani**, Analog Devices, Norwood, MA. Amount: \$79,170 Period: Sept. 1, 1990 - August 31, 1992
11. *"Fast Implementation of Signal Processing Algorithms."*, **Gagan Mirchandani**, Analog Devices, Norwood, MA. Amount: \$105,000 Period: Sept. 1, 1987 - August 31, 1990
12. Principal Investigator, Analog Devices, Norwood, MA. *"Fast Implementation of Signal Processing Algorithms,"*, Amount: \$10,000. Period: June 1, 1987 - August 31, 1987
13. G.E. *Graduate Student Fellowship,* **Gagan Mirchandani**, General Electric Co. - CRD, Schenectady, NY. Amount: \$9,736. Period: Sept. 1, 1986 - May 31, 1987
14. *Image and Parallel Processing,* **Gagan Mirchandani**, General Electric Co., - CRD, Schenectady, NY. Amount: \$18,000 Period: June 1, 1986 - August 31, 1986
15. *Image and Parallel Processing,* **Gagan Mirchandani**, General Electric Co. - CRD, Schenectady, NY. Amount: \$15,405. Period: Sept. 16, 1985 - May 31, 1986

Research Proposals (Not Awarded)

1. *Algebraic Approaches to Multiresolution Analysis and Wavelets.* Submitted to NSA: Nov. 12, 1999. Amount : \$166,560. Budget Period: 11/1/00 to 10/30/02. PI: Richard Foote. Co-PI: Gagan Mirchandani. (*not awarded*)
2. *Collaborative Research: Algebraic Approaches to Multiresolution Analysis and Wavelets.* Submitted to NSF: Dec. 1, 1999. Amount: \$444,097. Budget Period: 07/01/00 to 06/30/03. PI: Richard Foote. Co-PIs: Gagan Mirchandani, Dan Rockmore.(*not awarded*)
3. *Multiresolution Analytic Functions With Applications to Multidimensional Image Processing* Richard Foote, Gagan Mirchandani (Both Co-PIs). DEPSCoR Grant. Submitted: Oct.20, 2004. Amount: \$546,548 Budget Period: 06/01/05 - 05/31/08 (*not awarded*)
4. *From a Graduate-Level Signal Processing Environment to an Undergraduate DSP and Multimedia Lab: Adaptation and Implementation.* Submitted NSF CCLI Program. November 13, 1998. Amount: \$19,838. (*not awarded*)

Equipment Grants

1. TI DSP University Program, Equipment: 4 TMS3206713 DSK Boards, Code Composer Studio Software. \$20,000. Awarded June 2009.
2. Sonitech International, Inc., Wellesley, MA. 2 SPIRIT-40 AT/ISA Boards with dual C40s. Awarded September 1, 1992.
3. Texas Instruments, Inc., Houston, TX. "A Third Generation Digital Signal Processing Laboratory," \$29,971. Awarded June, 1991.
4. Comdisco, Inc. "Signal Processing WorkSystem" \$35,000. Awarded May 1990.
5. Texas Instruments, Inc., Houston, TX. "A Second Generation Digital Signal Processing Laboratory," \$59,984.00. Awarded July, 1988.

Other Proposals Submitted

1. *Analytic Functions, Hilbert Transforms and Phase Retrieval*
Submitted to: VT NASA EPSCoR Program. Amount:\$6,000 Activity: \$4,000 Graduate Student Wages.
Budget Period: January, 2005 - August 31, 2005 (*Awarded*)
2. *Real-Time Digital Signal Processing - A Laboratory at Many Levels*
Submitted to: UVM Instructional Incentive Grant Program. Amount:\$7,500 Submitted Date: April 5, 2004 Activity: Lab development. Summer salary for graduate student. Equipment purchase.
Budget Period: Summer 2004 (*Awarded*)
3. *IBM Ph.D Fellowship Nomination*
Date submitted: October 25, 2004. *not awarded*.
4. *Raytheon Integrated Defense Systems, Waltham, MA and C.S.Draper Labs, Cambridge, MA.*
Project: Pre-GOALI Award (Grant Opportunities for Academic Liason with Industry).
Date submitted: January 2004. (*not awarded*)
5. *TI DSP University Program Donation Request Equipment*
4 6713 Boards. Code Composer Studio Software. Amount: 4 x 395 =1,580. CCS for C6xx = \$3,595. Total: \$ 5,175 Date: May 27, 2004 Application: For use in EE-289 DSP Lab (*awarded*).

Patent Applications

Title: Discrete-time Analytic Signal Generation Method And System
Inventors: Mohamed Elfataoui, Gagan Mirchandani
Provisional Patent Application filed on July 28, 2004.
Filed by: Downs Rachlin Martin. Attorney Docket No.:02962-00084

Consultation

1. General Dynamics, Armament and Technical Products, April 2006.
2. General Electric, CRD, Schenectady, NY
3. IBM, Fishkill, NY

Service

1. *Chair, ECE Search Committee*, October 2006 - March 2007.
2. *Graduate Studies Coordinator, ECE Program*, Sept. 2006-09.
3. *Member, CEMS, Faculty Standards Committee*, AYs 2003-04, 2004-05, 2005-06, 2006-08.
4. *Chair, ECE Search Committee*, October 2005 - March, 2006
5. *Chair, Department Graduate Studies Committee*, AY 2005-06.

6. *Delegate - CEMS, United Academics, AYs 2003-04, 2004-05, 2005-06.*
7. *Organizer (with R. Foote) Innovative Signal Processing for Military Digital Communication, Yearly AFOSR Program Review, UVM, June 6-8, 2002.*
8. *Member, Chairperson Review, Mathematics & Statistics, UVM, March 1998*
9. *Member, Chairperson Search Committee, Mathematics & Statistics, July 1998.*

Professional Society Membership & Activity

1. International Program Committee, Circuits, Signals & Systems (CSS 2004) for IASTED International Conference on Signal Processing, Honolulu, Hawaii. August 23- 25, 2004. Duties: Help organize conference. Review all submitted papers (15).
2. Member IASTED Technical Committee on Signal Processing. Term 2002-2005
3. Reviewer for IEEE Transactions on Information Theory. IEEE Transactions on Circuits & Systems, IEEE Transactions on Image Processing, Journal of the Acoustic Society of America, KAIS (Knowledge & Information Systems).
4. Life Member IEEE
Technical Societies: Signal Processing, Image Processing, Information Theory