

Georgios Ginis

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Education

STANFORD UNIVERSITY Stanford, CA

September 1997 – June 2002

Ph.D. in Electrical Engineering (conferred in June 2002), GPA 4.0/4.3

- Thesis advisor: John M. Cioffi.
- Thesis title: Multi-line Coordinated Communication for Broadband Access Networks.

M.S. in Electrical Engineering (conferred in June 1998), GPA 4.1/4.3

NATIONAL TECHNICAL UNIVERSITY OF ATHENS Athens, Greece

September 1992 – June 1997

Diploma in Electrical and Computer Engineering (conferred in June 1997), GPA 9.6/10.0

Academic Experience

STANFORD UNIVERSITY Stanford, CA

Research Assistant under Prof. J. M. Cioffi.

September 1998 – March 2002

- Studied and promoted dynamic spectrum management for digital subscriber lines.
- Contributed to the standardization of next generation digital subscriber line systems.
- Studied multi-user transmission techniques for multi-line broadband access networks.
- Investigated equalization for multiple-input-multiple-output communication systems.

STANFORD UNIVERSITY Stanford, CA

Teaching Assistant for the following graduate-level courses:

- Digital Communication I: Signal Processing (Winter Quarter, 1999).
- Digital Communications II: Coding (Spring Quarter, 2001).
- Digital Communications III: Advanced Topics (Spring Quarter, 2000).

Industry Experience

ADAPTIVE SPECTRUM AND SIGNAL ALIGNMENT (ASSIA), INC. Redwood City, CA

Executive Director of Technology

June 2005 – present

- Managing group of engineers performing research and development on next generation DSL network management services.
- Managing all technical aspects of product trials with customers.
- Responsible for portfolio of more than 40 patents and patent applications.
- Coordinating standards activities.

TEXAS INSTRUMENTS San Jose, CA

Systems engineer, Member Group Technical Staff

April 2002 – May 2005

- Contributor to architecture specification for the next generation Customer Premises

VDSL chipset.

- Systems lead for the next generation Central Office ADSL chipset.
- Project lead for the dynamic spectrum management technology project.
- Participated in standards bodies for DSL.

IKANOS COMMUNICATIONS

Fremont, CA

Systems engineer

January 2002 – March 2002

- Studied spectral compatibility of next generation DSL systems.
- Conducted research on novel decoding algorithms for DSL.

EFFUSION COMMUNICATIONS

Milpitas, CA

Systems engineer

October 2000 – January 2001

- Consulted startup company, and produced preliminary study for the design of a 10Gbps communication system over copper twisted-pairs.

SBC TECHNOLOGY RESOURCES INC.

Pleasanton, CA

Technical intern

June 2000 – September 2000

- Performed computer simulations to assess the impact of crosstalk on DSL services. Results had impact on network design.
- Evaluated the benefits of crosstalk mitigation techniques.
- Defined test procedure for DSL in-line filters.

COPPERCOM COMMUNICATIONS

Cupertino, CA

Technical intern

June 1998 – September 1998

- Participated in board design for DSL modem with voice over DSL capabilities.
- Implemented software for communication between DSP processor and ATM controller.

Related Experience

CO-CHAIR FOR THE FOLLOWING CONFERENCE SESSIONS:

- DSL Access and Gains from DSM, *World Telecommunications Congress 2008, IEEE Global Communications Conference (Globecom)*, New Orleans, December 2008 (planned).
- DSL Access and Gains from DSM, *Access 2007 Business Forum, IEEE Global Communications Conference (Globecom)*, Washington, DC, November 2007.

REVIEWER FOR THE FOLLOWING JOURNALS AND CONFERENCES:

- IEEE Transactions on Communications.
- IEEE Transactions on Signal Processing.
- IEEE Journal on Selected Areas of Communications.
- IEEE Transactions on Circuits and Systems.
- IEEE Communications Letters.
- EURASIP Journal on Applied Signal Processing.
- Signal Processing Journal.
- Transmission Technology Journal.
- International Symposium on Information Theory (ISIT).
- International Conference in Communications (ICC).
- Global Communications Conference (Globecom).

CONTRIBUTOR TO THE FOLLOWING STANDARDIZATION COMMITTEES:

- Technical Subcommittee NIPP-NAI (former T1E1.4).
- International Telecommunications Union (ITU), Study Group 4/Question 15.

- European Telecommunications Standards Institute (ETSI), Committee TM6.
- Broadband Forum, Test and Interoperability Working Group.
- Institute of Electrical and Electronic Engineers (IEEE), 802.3 CSMA/CD Ethernet-in-the-First-Mile Task Force.

PATENTS AWARDED:

- Behrooz Rezvani and George Ginis, *Method and apparatus for time-frequency domain forward error correction for digital communication systems*, United States Patent 6,976,202.
- Georgios Ginis, Wei Yu, Chaohuang Zeng and John M. Cioffi, *Dynamic digital communication system control*, United States Patent 7,158,563.
- Athur Redfern, Georgios Ginis, Fernando Mujica and Krista Jacobsen, *Spectrally flexible band plans with reduced filtering requirements*, United States Patent 7,342,937.
- Kazutomo Hasegawa, Georgios Ginis, Carlos Aldana and John M. Cioffi, *Joint reduction of NEXT and FEXT in xDSL systems*, United States Patent 7,394,752.
- Georgios Ginis, *Semi-distributed power spectrum control for digital subscriber line communications*, United States Patent 7,408,980.

PATENTS FILED:

- More than 20 patents filed with Stanford University, Texas Instruments, and ASSIA Inc.

Awards

- Stanford School of Engineering Fellowship (1997–1998).
- Awards by the Greek State Scholarship Foundation (1995–1996, 1996–1997).
- Awards by the Technical Chamber of Greece (1994–1995, 1995–1996, 1996–1997).
- IEEE Communications Society Award for Outstanding Paper on New Communication Topics (2008).

Professional Memberships

Member of the Institute of Electrical and Electronic Engineers (IEEE).

Languages

Fluency in Greek, some knowledge of German.

Journal Publications:

- 1 John M. Cioffi, Sumanth Jagannathan, Mehdi Mohseni, George Ginis, "CuPON: The Copper Alternative to PON 100 Gb/s DSL Networks," *IEEE Communications Magazine*, Vol. 45, No. 6, pp. 132-139, June 2007 (Award for outstanding paper on new communications topics).
- 2 R. Cendrillon, M. Moonen, G. Ginis, "A Near-Optimal Linear Crosstalk Canceler for Upstream VDSL," *IEEE Transactions on Signal Processing*, Vol. 54, Issue 8, pp. 3136-3146, August 2006.
- 3 G. Ginis, C. Peng, "Alien Crosstalk Cancellation for Multi-pair Digital Subscriber Line Systems," *EURASIP Journal on Applied Signal Processing, special issue on DSL*, Vol. 2006, pp. 1-12.
- 4 R. Cendrillon, M. Moonen, G. Ginis, K. Van Acker, T. Bostoen, P. Vandaele, "Partial Crosstalk Precompensation for Downstream VDSL," *Elsevier Signal Processing*, Vol. 84, Issue 11, pp. 2005-2019, November 2004.
- 5 R. Cendrillon, M. Moonen, G. Ginis, K. Van Acker, T. Bostoen, P. Vandaele, "Partial Crosstalk Cancellation for Upstream VDSL," *EURASIP Journal on Applied Signal Processing*, pp. 1433-1448, October 2004.
- 6 G. Ginis and J. M. Cioffi, "Optimum Bandwidth Partitioning with Analog-to-Digital Converter Constraints," *IEEE Transactions on Communications*, Vol. 52, Issue 6, pp. 1010-1018, June 2004.
- 7 K. B. Song, S. T. Chung, G. Ginis and J. M. Cioffi, "Dynamic Spectrum Management for Next Generation DSL Systems," *IEEE Communications Magazine*, Vol. 20, No. 10, pp. 101-109, Oct. 2002.
- 8 G. Ginis and J. M. Cioffi, "Vectored Transmission for Digital Subscriber Line Systems," *IEEE Journal on Selected Areas in Communications*, Vol. 20, No. 5, pp. 1085-1104, June 2002.
- 9 W. Yu, G. Ginis, and J. M. Cioffi, "Distributed Multiuser Power Control for Digital Subscriber Lines," *IEEE Journal on Selected Areas in Communications*, Vol. 20, No. 6, pp. 1105-1115, June 2002.
- 10 G. Ginis and J. M. Cioffi, "On the Relation between V-BLAST and the GDFE," *IEEE Communications Letters*, Vol. 5, No. 9, pp. 364-366, Sep. 2001.
- 11 S. N. Livieratos, G. Ginis and P. G. Cottis, "Availability and Performance of Satellite Links suffering from Interference by an Adjacent Satellite and Rain Fades," *IEE Proceedings-Communications*, Vol. 146, No. 1, pp. 61-67, Feb. 1999.

Conference Publications:

- 1 George Ginis, "Downstream DSL Vectoring" *OFDM Workshop*, Santa Clara University, October 2007 (Invited speaker).
- 2 George Ginis, "Vectored DSL" *Access 2006 Business Forum, IEEE Global Communications Conference (Globecom)*, San Francisco, November 2006 (Invited speaker).
- 3 R. Cendrillon, M. Moonen, T. Bostoen, G. Ginis, "The Linear Zero-Forcing Crosstalk Canceller is Near-optimal in DSL Channels," *Proceedings of IEEE Global Communications Conference (Globecom)*, Dallas, December 2004.
- 4 R. Cendrillon, G. Ginis, M. Moonen, J. Verlinden, T. Bostoen, "Improved Linear Crosstalk Precompensation for DSL," *Proceedings of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Vol. 4, pp. 1053-1056, May 2004.
- 5 R. Cendrillon, M. Moonen, R. Suci, G. Ginis, "Simplified Power Allocation and TX/RX Structure for MIMO-DSL," *Proceedings of IEEE Global Communications Conference (Globecom)*, San Francisco, Vol. 4, pp. 1842-1846, December 2003.

- 6 R. Cendrillon, M. Moonen, G. Ginis, K. Van Acker, T. Bostoen, P. Vandaele, "Partial Crosstalk Cancellation Exploiting Line and Tone Selection in Upstream VDSL," *Proceedings of Sixth Baiona Workshop on Signal Processing in Communications*, Spain, September 2003.
- 7 G. Ginis, Y. Bar-Ness and J. M. Cioffi, "Blind Adaptive MIMO Decision Feedback Equalization using Givens Rotations," *Proceedings of IEEE International Conference in Communications (ICC)*, New York, NY, Vol. 1, pp. 59-63, May 2002.
- 8 A. Agrawal, G. Ginis and J. M. Cioffi, "Channel Diagonalization through Orthogonal Space-Time Coding," *Proceedings of IEEE International Conference in Communications (ICC)*, New York, NY, Vol. 3, pp. 1621-1624, May 2002.
- 9 V. Stojanovic, G. Ginis and M. A. Horowitz, "Transmit Pre-emphasis for High-Speed Time-Division-Multiplexed Serial-Link Transceiver," *Proceedings of IEEE International Conference in Communications (ICC)*, New York, NY, Vol. 3, pp. 1934-1939, May 2002.
- 10 G. Ginis and J. M. Cioffi, "On the Convergence of the Generalized DFE to the MMSE-DFE," *Proceedings of IEEE Global Communications Conference (Globecom)*, San Antonio, TX, Vol. 2, pp. 1327-1335, Nov. 2001.
- 11 W. Yu, G. Ginis and J. M. Cioffi, "An Adaptive Multiuser Power Control Algorithm for VDSL," *Proceedings of IEEE Global Communications Conference (Globecom)*, San Antonio, TX, Vol. 1, pp. 394-398, Nov. 2001.
- 12 G. Ginis and J. M. Cioffi, "Vectored-DMT: A FEXT Canceling Modulation Scheme for Coordinating Users," *Proceedings of IEEE International Conference in Communications (ICC)*, Helsinki, Finland, Vol. 1, pp. 305-309, June 2001.
- 13 G. Ginis and J. M. Cioffi, "A Multi-user Precoding Scheme achieving Crosstalk Cancellation with Application to DSL Systems," *Proceedings of the 34th Asilomar Conference*, Pacific Grove, CA, pp. 1627-1631, October 2000.

Contributions to Standardization Groups:

Over 100 contributions submitted to NIPP-NAI, ITU-T Q4/SG15 and Broadband Forum.