

Chi-Hao Cheng

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EDUCATION

Ph.D. in Electrical and Computer Engineering. 1998.
The University of Texas at Austin.
M.S. in Electrical and Computer Engineering. 1996.
The University of Texas at Austin.
B.S. in Control Engineering. 1991.
National Chiao-Tung University, Taiwan.

PROFESSIONAL EMPLOYMENT

8/04-Present	• Assistant Professor: Miami University, Oxford, OH.
1/04-7/04	• Senior Research Engineer: Defiant Photonics (merged with EZCONN), Plano, TX.
7/03-12/03	• Senior Research Engineer: Oxpert (also known as Power Ideas), Richardson, TX.
8/99-5/03	• Research Engineer, Senior Research Engineer: Chorum Technologies, Richardson, TX.
1/99-7/99	• Postdoctoral Research Associate. Department of Electrical and Computer Engineering, UT at Austin.

ACTIVITIES

1/97-present	Senior Member, Institute of Electrical and Electronics Engineers (IEEE).
4/97-present	Member, Sigma Xi.
3/05-present	Member, ASEE
7/06-present	Member, SPIE

SELECTED PUBLICATIONS

- **Chi-Hao Cheng** and David J. Goode, "Michelson Interferometer Based Interleaver Design Algorithm Based on IIR Filter Model," The Proc. of SPIE Optics East, October, 2006.
- **Chi-Hao Cheng,** "Signal processing for optical communication," IEEE Signal Processing Magazine, Volume 23, Issue 1, pp. 88-96, Jan. 2006.
- **Chi-Hao Cheng,** "Asymmetrical Interleaver Structure Based on the Modified Michelson Interferometer," Optical Engineering, Paper Number 115003, Volume 44, Issue 11, November, 2005.
- **Chi-Hao Cheng** and Tiejun J. Xia, "A Novel Bandwidth and Center Wavelength Tunable Interleaver," Optical Engineering, Paper Number 085002, Volume 44, Issue 8, August, 2005.
- **Chi-Hao Cheng,** "Signal Processing for Optical Wavelength Interleaver Design," The Proc. of Asia-Pacific Optical Communications Conference and Exhibition, November 2005 (APOC 2005).
- **Chi-Hao Cheng,** "The Signal Processing Approach for the Birefringent Material Based Mach-Zehnder Interferometer Design," The Proc. of IEEE International Midwest Symposium on Circuits and Systems, August 2005 (MWSCAS 2005).
- **Chi-Hao Cheng,** "IIR Filter Model for the Generalized Michelson Interferometer," The Proc. of IEEE 2005 Summer Topicals, June 2005.
- Mufit Ozden and **Chi-Hao Cheng,** "Optimizers with Learning Distributions

in Simulation Models: An Application to All-pass Dispersion Compensator of Fiber Optics,” The Proc. of the Industrial Simulation Conference, June 2005.

- **Chi-Hao Cheng** and J.-C. Chiao “Dynamic Chromatic Dispersion Compensators – Introduction,” OPTO News and Letters, No. 104, October 2003 (in Chinese).
- Chongyang Chen, David Z. Chen, Daniel L. Peterson, Jr., **Chi-Hao Cheng**, Sihan Lin, Hui Fang, Tiejun Xia, Kuangyi Wu, and Gan Zhou, “ A Newly Developed Dispersion Compensation Module for ULH/Metro Applications,” The Proc. of the Second IASTED International Conference on Communications, Internet, and Information Technology, November 2003.
- **Chi-Hao Cheng**, Tizhi Huang, and Tiejun J. Xia, “Low Cost Approach to Increase Capacity of Existing Network,” The Proc. of NFOEC, September 2003.
- Jung-Chih Chiao, Xiang-Jun Zhao, **Chi-Hao Cheng**, T. J. Xia, and Tizhi Huang, “Network Performance of Dynamic WDM Power Equalizers,” The Proc. of NFOEC, September 2002.
- **Chi-Hao Cheng**, Leo Lin, Terry Towe, T. J. Xia, Charles Wong, Kuangyi Wu, and Jung-Chih Chiao, “Spectral Slicers without Cascaded Dispersion Penalty,” The Proc. of the 28th European Conference on Optical Communication (ECOC), September 2002.
- **Chi-Hao Cheng**, Leo Lin, Terry Towe, T. J. Xia, Charles Wong, Kuangyi Wu, and Jung-Chih Chiao, “Network performance for Cascaded Dispersion-Free Interleaver Multiplexers,” The Proc. of ITCOM, July 2002.
- Jung-Chih Chiao, **Chi-Hao Cheng**, Xiang-Jun Zhao and Tizhi Huang, “Performance of Liquid-Crystal Dynamic Optical Gain Flatteners,” The Proc. of 2002 SPIE Opto Canada Conference, May 2002.
- **Chi-Hao Cheng** and Edward J. Powers, “Optimal Volterra Kernel Estimation Algorithms for a Nonlinear Communication System for PSK and QAM Inputs,” IEEE Transactions on Signal Processing, vol. 49, no.1, pp. 147-163, January, 2001.
- Gan Zhou; Kuang-Yi Wu, and **Chi-Hao Cheng**, “Adjustable Chromatic Dispersion Compensation,” US Patent 6,559,992.
- Tiejun Xia; **Chi-Hao Cheng**; ShuXin Li; Jian-Yu Liu; and Kuang-Yi Wu, “Bandwidth Variable Wavelength Router and Method of Operation,” US Patent 6,515,786.
- **Chi-Hao Cheng**, Jian-Yu Liu, Kuang-Yi Wu, and Charles Wong, “Dispersion Compensation for Optical Systems,” US Patent 6,396,609.

GRANTED US PATENTS

PENDING US PATENT APPLICATIONS

- Tiejun Xia, **Chi-Hao Cheng**, Shuxin Li, Jian-Yu Liu, Kuang-Yi Wu, “Bandwidth Variable Wavelength Router and Method of Operation,” US Patent Application 20030030881.
- Tiejun Xia, Kuang-Yi Wu, Gan Zhou, **Chi-Hao Cheng**, “System and Method for Tunable Dispersion Compensation,” US Patent Application 20020181106.
- **Chi-Hao Cheng**, Charles Wong, Tiejun Xia, Kuang-Yi Wu, Leo Lin,” System and Method for Tailoring Dispersion within an Optical Communication System,” US Patent Application 20020131142.
- Gan Zhou, Kuang-Yi Wu, **Chi-Hao Cheng**, “Adjustable Chromatic Dispersion Compensation,” US Patent Application 20020067487.