

## B.1. CV sent to inside reviewers

### *Curriculum Vitae*

#### **Almantas Galvanauskas, Ph.D.**

*University of Michigan  
Department of Electrical Engineering and Computer Science  
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#### **EDUCATION:**

Royal Institute of Technology, Stockholm, Sweden, 1990-1992

**Ph.D. in Physics**, 1992

Area of specialization: Ultrafast Diode Lasers

Thesis title: “*Ultrafast Optoelectronics with Semiconductor Diode Lasers*”

Vilnius University, Vilnius, Lithuania, 1982-1986

**Diploma in Physics** (equivalent to M.S.)

Area of specialization: Semiconductor Physics

#### **FIELDS OF INTEREST:**

Fiber and integrated optics: fiber lasers and amplifiers, nonlinear fiber and waveguide devices; Ultrafast science and technology: ultrashort-pulse lasers, ultrafast-waveform shaping, ultrafast measurements, THz radiation; Nonlinear optics: quasi-phase-matched nonlinear interactions, electrically poled ferroelectric materials and poling technology; Semiconductor lasers; Photonic band-gap materials and devices; Laser plasma generation of EUV and X-ray radiation

#### **EXPERIENCE:**

Associate Professor, Department of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, MI, 2002-present

- Projects on kW power and energy scaling of fiber lasers and novel fiber designs
- Projects on extreme ultraviolet light generation for next-generation lithography tools using fiber lasers
- Projects on novel ultrashort-pulse laser techniques (novel pulse compression and pulse shaping technologies)
- Projects on beam shaping and combining exploiting parametric interactions and spatial soliton formation
- Projects on studying laser-driven propulsion

Group leader, IMRA America, Inc., Ann Arbor, 2001

- R&D of high-power and high-energy femtosecond fiber lasers and nonlinear devices.

Research scientist, IMRA America, Inc., Ann Arbor, 1994 – 2000

- Leading a research project on high-power and high-energy femtosecond fiber systems.
- Leading a research project on parametric chirped pulse amplification systems.
- Coordination of several engineering projects on building high power fiber-based lasers.
- Responsible for research and development of multifunctional quasi-phase-matched nonlinear devices.
- Co-coordination of a research project on the development of nonlinear optical waveguide devices and their applications.

Postdoctoral researcher, IMRA America, Inc., Ann Arbor, 1993 – 1994

- Demonstration of first high-energy (microjoule) femtosecond fiber systems.

Staff researcher, Institute of Optical Research, Stockholm, 1992 – 1993

Visiting scientist/graduate student, Royal Institute of Technology, Stockholm, 1990 – 1992

- Development and study of a fast-tuning technique using tunable laser diodes and its application to ultrashort pulse generation and ultrafast measurements.
- Study of using nonlinear optical waveguides for ultrafast measurement techniques.

Staff researcher/graduate student, Semiconductor Physics Institute, Vilnius, Lithuania, 1986 – 1992

- Study of ultrafast processes in narrow-band-gap semiconductor materials.
- Development of electro-optic and photoconductive sampling techniques based on gain-switched diode lasers.

## **ACHIEVEMENTS:**

### ***Research:***

- Demonstrated kW fiber laser systems.
- Demonstrated fiber-laser driven extreme ultraviolet (EUV) generation.
- Demonstrated novel devices for arbitrary-optical-waveform generation based on hybrid fiber-optic and MEMS technologies.
- Pioneered the development and study of large-core fiber amplifier technology. This allowed to challenge traditional peak-power limitations in fiber-optics and to demonstrate femtosecond fiber systems with  $\sim 1$  mJ pulse energies and  $> 10$  W average powers.
- Pioneered the development of compact chirped-pulse-amplification circuitry for use in high-power femtosecond fiber systems. This includes introduction of fiber-grating pulse stretchers and compressors, the first demonstration of volume Bragg-grating pulse stretchers and compressors, and the pioneering experiments on pulse compression and arbitrary shaping in a periodic quasi-phase-matched structures in electric-field poled lithium niobate.
- Pioneered the development and study of a parametric chirped pulse amplification method in quasi-phase-matched materials to replace conventional regenerative amplifiers. This includes demonstration of all-diode-pumped parametric systems using microchip and fiber based pump sources.
- Demonstrated first wavelength-tunable fiber lasers using parametric interactions in quasi-phase-matched materials.
- Contributed to the development of highly nonlinear optical waveguides in periodically poled lithium niobate for efficient fiber-pumped parametric and frequency-mixing interactions.
- Pioneered the development of a fast-tuning technique using tunable-wavelength semiconductor lasers for arbitrary-rate ultrashort pulse generation and for real-time picosecond-pulse oscilloscopic measurements.

### **Engineering:**

- Development of the first commercial fiber chirped pulse amplifier (FCPA-2), winner of Laser Focus World “Commercial Technology Achievement Award 2001”.
- First research prototypes of high-energy parametric chirped pulse amplifiers, exhibited at CLEO’98 and CLEO’99.

### **Publications:**

Author and co-author of approximately 100 papers, conference contributions (invited and regular) and 27 inventions (invention disclosures, pending applications and granted patents). See *Publications Supplement to CV* with the detailed list of the papers, presentations and inventions.

## **COURSES TAUGHT**

### **Undergraduate**

*Principles of Optics* (EECS #334, Winter 2003, Winter 2004, Winter 2005)

### **Graduate**

*Optical Waves in Crystals* (EECS #538, Winter 2002, Fall 2002, Fall 2003)

*Photonic Crystals* (EECS #598 Special Topics, Fall 2004)

## **COURSES INTRODUCED AND DEVELOPED**

### **Graduate**

*Photonic Crystals* (EECS #598 Special Topics, Fall 2004)

## **ADVISEES (Ph.D. students):**

Kai-Hsiu Liao	EECS Department	graduate student
Ming-Yuan Cheng	EECS Department	graduate student
Yu-Chung Chang	EECS Department	graduate student
Chi-Hung Liu	EECS Department	graduate student
Kai-Chung Hou	EECS Department	graduate student
Craig Swan	Physics Department	graduate student

## **PROFESSIONAL SERVICE**

- Guest Editor for IEEE JSTQE special issue on “Ultrafast Optics and Optoelectronics” for 2006
- Member of the program committee for Conference on Laser and Electro-Optics CLEO’2002, CLEO’2003 and CLEO’2004 subcommittee “Fiber and Guided-Wave Lasers, Amplifiers and Sensors”
- Member of the program committee for PHAST 2005
- Member of the program committee for CLEO Europe/EQEC’2003 and 2005, subcommittee "Fiber, Waveguide and Integrated Optics Lasers and Amplifiers".
- Member of the program committee for EUROPHOTON 2004 (Organized by European Physical Society)
- Member of the program committee for OSA Annual Meeting 1998
- Program committee Division chair for OSA Annual Meeting 2002 & 2003
- Member of the program committee for SPIE Photonics West 2002, 2005 and 2006
- President of the Local Chapter of the Optical Society of America, Ann Arbor, September 2003 – September 2004

## UNIVERSITY SERVICE

- Committee Member, Graduate Admissions, Fall 2005 – Winter 2006
- Committee Member, ECE Curriculum subcommittee, Fall 2005 – Winter 2006
- Committee Member, Graduate Admissions, Fall 2004 – Winter 2005
- Committee Member, ECE Curriculum subcommittee, Fall 2004 – Winter 2005
- Committee Member, EECS Curriculum Committee, Fall 2003 – Winter 2004
- Committee Member, EECS Curriculum Committee, Winter 2003

*Publications Supplement to Curriculum Vitae*

**Almantas Galvanauskas, Ph.D.**

**Refereed Journal Publications**

Aghapi G. Mordovanakis, Kai-Chung Hou, Yu-Chung Chang, Ming-Yuan Cheng, John Nees, Bixue Hou, Anatoly Maksimchuk, Gerard Mourou, and Almantas Galvanauskas, **Demonstration of fiber-laser-produced plasma source and applications to efficient extreme UV light generation**, submitted to Optics Letters

T. Fuji, N. Ishii, C.Y. Teisset, X. Gu, Th. Metzger, A. Baltuška, N. Forget and D. Kaplan, A. Galvanauskas, F. Krausz, **Parametric amplification of few-cycle carrier-envelope phase-stable pulses at 2.1  $\mu\text{m}$** , submitted to Optics Letters

Kabir Udeshi, Kai-Hsiu Liao, Long Que, Yogesh B. Gianchandani and Almantas Galvanauskas, **Programmable Optical Waveform Shaping on a Microchip**, submitted to Applied Physics Letters

Guoqing Chang, Herbert G. Winful, Almantas Galvanauskas, and Ted Norris, **Incoherent self-similarities of the coupled amplified nonlinear Schrodinger equations**, submitted to Physical Review Letters

Chi-Hung Liu, Almantas Galvanauskas, Victor Khitrov, Bryce Samson, Upendra Manyam, Kanishka Tankala, and David Machewirth, and Stefan Heinemann, **High power single-polarization and single-transverse-mode fiber laser with an all-fiber cavity and fiber-grating stabilized spectrum**, accepted for publication in Optics Letters

Guoqing Chang, Herbert G. Winful, Almantas Galvanauskas, and Theodore B. Norris, **Self-similar parabolic beam generation and propagation**, PHYSICAL REVIEW E **72**, 016609 (2005)

M.-Y. Cheng, Y.-C. Chang, P. Mamidipudi, R. Changkakoti, P. Gatchell, and A. Galvanauskas, **High energy and high peak power nanosecond pulse generation with beam quality control in 200- $\mu\text{m}$  core highly multimode Yb-doped fiber amplifiers**, Optics Letters **30**, p. 358 – 360 (2005)

Liu, C.-H.; Ehlers, B.; Doerfel, F.; Heinemann, S.; Carter, A.; Tankala, K.; Farroni, J.; Galvanauskas, A, “**810 W continuous-wave and single-transverse-mode fibre laser using 20- $\mu\text{m}$  core Yb-doped double-clad fibre,**” Electronics Letters Volume 40, Issue 23, 11 Nov. 2004 Page(s):1471 - 1472

Guoqing Chang, Almantas Galvanauskas, Herbert G. Winful, Theodore B. Norris, “**Dependence of parabolic pulse amplification on stimulated Raman scattering and gain bandwidth,**” Optics Letters **29**, p. 2647-2649 (2004)

Before joining University of Michigan

- A. Galvanauskas, "Mode-Scalable Fiber-Based Chirped Pulse Amplification Systems", *IEEE Journal on Selected Topics in Quantum Electronics*, vol. 7, No. 4, July/August p. 504 - 517 (2001)
- Y. S. Lee, T. Meade, T. B. Norris, A. Galvanauskas, "Tunable narrow-band terahertz generation from periodically poled lithium niobate", *Appl. Phys. Lett.* 78, 3583 (2001)
- A. Galvanauskas, G. C. Cho, A. Hariharan, M. E. Fermann, D. Harter, "Generation of high-energy femtosecond pulses in multi-mode core Yb-fiber CPA systems", *Opt. Lett.* 26, 935 (2001)
- G. Imeshev, M. M. Fejer, A. Galvanauskas, D. Harter, "Generation of dual-wavelength pulses by frequency doubling with quasi-phase-matching gratings", *Optics Letters* 26, p. 268-270 (2001)
- Y.-S. Lee, T. Meade, M. L. Naudeau, T. B. Norris, A. Galvanauskas, "Domain mapping of periodically poled lithium niobate via terahertz wave form analysis", *Appl. Phys. Lett.* 77, 2488 (2000)
- Y.-S. Lee, T. Meade, M. DeCamp, T. B. Norris, A. Galvanauskas, "Temperature dependence of narrow-band terahertz generation from periodically poled lithium niobate", *Appl. Phys. Lett.* 77, 1244 (2000)
- Y.-S. Lee, T. Meade, V. Perlin, H. Winful, T. Norris, A. Galvanauskas, "Generation of narrow-band terahertz radiation via optical rectification of femtosecond pulses in periodically poled lithium niobate", *Appl. Phys. Lett.* 76, 2505 (2000)
- M. E. Fermann, A. Galvanauskas, M. Hofer, Ultrafast pulse sources based on multi-mode optical fibers, *Appl. Phys. B* 70, S13 - S23 (2000)
- G. Imeshev, M. A. Arbore, M. M. Fejer, A. Galvanauskas, M. Fermann, and D. Harter, Ultrashort-pulse second-harmonic generation with longitudinally nonuniform quasi-phase-matching gratings: pulse compression and shaping, *J. Opt. Soc. Am. B* 17, 304 (2000)
- M. E. Fermann, A. Galvanauskas, M. L. Stock, K. K. Wong, D. Harter and L. Goldberg, Ultrawide tunable Er soliton fiber laser amplifier in Yb-doped fiber, *Opt. Lett.* 24, 1428 (1999)
- A. Galvanauskas, K. K. Wong, K. El Hadi, M. Hofer, M. E. Fermann, D. Harter, M. H. Chou and M. M. Fejer, Amplification in 1.2 – 1.7  $\mu\text{m}$  communication window using OPA in PPLN waveguides, *Electr. Lett.* 35, 731 (1999)
- M. Hofer, M. E. Fermann, A. Galvanauskas, D. Harter and R. S. Windeler, Low-noise amplification of high-power pulses in multimode fibers, *IEEE Phot. Techn. Lett.* 11, 650 (1999)
- M. Hofer, M. E. Fermann, A. Galvanauskas, D. Harter and R. S. Windeler, High-power 100 femtosecond pulse generation by frequency doubling of an erbium/ytterbium fiber master oscillator power amplifier, *Opt. Lett.* 23, 1840 (1998)

- A. Galvanauskas, M. A. Arbore, M. M. Fejer and D. Harter, Chirped pulse amplification circuits for fiber amplifiers, based on chirped-period quasi-phase-matching gratings, *Opt. Lett.* 23, 1695 (1998)
- G. Imeshev, A. Galvanauskas, D. Harter, M. A. Arbore, M. Proctor, M. M. Fejer, Engineerable femtosecond pulse shaping by second-harmonic generation with Fourier synthetic quasi-phase-matching gratings, *Opt. Lett.* 23, 864 (1998)
- A. Galvanauskas, A. Hariharan, D. Harter, M. A. Arbore and M. M. Fejer, High-energy femtosecond pulse amplification in a quasi-phase-matched parametric amplifier, *Opt. Lett.* 23, 210 (1998)
- M. Arbore, A. Galvanauskas, D. Harter, M. H. Chou and M. M. Fejer, Engineerable compression of ultrashort pulses by use of second-harmonic generation in chirped-period-poled lithium niobate, *Opt. Lett.* 22, 1341 (1997)
- M. E. Fermann, A. Galvanauskas, G. Sucha, and D. Harter, Fiber lasers for ultrafast optics, *Appl. Phys. B* 65, 259 (1997) (invited paper)
- A. Galvanauskas, M. A. Arbore, M. M. Fejer, M. E. Fermann, and D. Harter, Fiber-laser-based femtosecond parametric generator in bulk periodic poled LiNbO<sub>3</sub>, *Opt. Lett.* 22, 105 (1997)
- M. A. Arbore, M. M. Fejer, M. E. Fermann, A. Hariharan, A. Galvanauskas, and D. Harter, Frequency doubling of femtosecond erbium-fiber soliton lasers in periodically poled lithium niobate, *Opt. Lett.* 22, 13 (1997)
- A. Galvanauskas, P. A. Krug, and D. Harter, Nanosecond-to-picosecond pulse compression with fiber gratings in a compact fiber-based chirped-pulse-amplification system, *Opt. Lett.* 21, 1049 (1996)
- J. D. Minelly, A. Galvanauskas, M. E. Fermann, D. Harter, J. E. Caplen, Z. J. Chen, and D. N. Payne, "Femtosecond pulse Amplification in Cladding-Pumped Fibers", *Opt. Lett.* 20, 1797 (1995)
- A. Galvanauskas, M. E. Fermann, D. Harter, K. Sugden, I. Bennion, "All-Fiber Femtosecond Pulse Amplification Circuit Using Chirped Bragg Gratings", *Appl. Phys. Lett.* 66, 1053 (1995)
- M. E. Fermann, A. Galvanauskas, D. Harter, "All-fiber source of 100 nJ sub-picosecond pulses", *Appl. Phys. Lett.* 64, 1315 (1994)
- A. Galvanauskas, M. E. Fermann, D. Harter, "High-power amplification of femtosecond optical pulses in a diode-pumped fiber system", *Opt. Lett.* 19, 1201 (1994)
- A. Galvanauskas, M. E. Fermann, P. Blixt, J. A. Tellefsen, D. Harter, "Hybrid Diode-Laser Fiber - Amplifier Source of High Energy Ultrashort Pulses", *Opt. Lett.* 19, 1043 (1994)

A. Galvanauskas, P. Blixt, and J. A. Tellefsen, Jr., "Generation of femtosecond nanojoule-energy optical pulses from a diode laser and fiber based system", *Appl. Phys. Lett.*, 63, 1742 (1993)

A. Galvanauskas, J.A. Tellefsen, Jr., A. Krotkus, M. Öberg, and B. Broberg, "Real-time picosecond electro-optic oscilloscope technique using a tunable semiconductor laser", *Appl. Phys. Lett.*, 60, p. 145-147 (1992)

A. Galvanauskas, A. Krotkus, E. Adomaitis, D. Grossenic, and E. Klose, "Picosecond optoelectronic characterisation of diode lasers", *Optical and Quantum Electronics*, 24, 1181 (1992)

A. Galvanauskas, A. Krotkus, J.A. Tellefsen, Jr., M. Öberg, and B. Broberg, "Fibre compression of chirped optical pulses from a tunable DBR laser-diode", *Electr. Lett.*, vol. 27, n. 25, p. 2394-2396 (1991)

A. Galvanauskas, J. Webjörn, A. Krotkus, and G. Arvidsson, "Autocorrelation measurements of picosecond laser-diode pulses by means of quasi-phase-matching LiNbO<sub>3</sub> channel waveguides", *Electr. Lett.*, vol. 27, n. 9, p. 738-740 (1991)

Adomaitis E., Balynas V., Galvanauskas A., and Krotkus A., "Optoelectronic devices for high-speed measurements of semiconductor devices", *Elektronnaja promyshlennost (USSR)*, n. 3, p. 16 (1990)

Galvanauskas A., Krotkus A., Portnoi E.L., and Stel'makh N.M. "Electrooptic sampling with the use of a picosecond injection laser", *Sov. Techn. Phys. Lett. (USA)*, vol. 16, n. 1, p. 54-5 (1990). Translation of: *Pis'ma Zh. Tekn. Fiz. (USSR)*, vol. 16, n. 2, p. 29-33 (1990)

Galvanauskas A., Krotkus A., Lazutka A., Portnoi E.L., and Stel'makh N.M., "Generation and sampling of picosecond electrical pulses by semiconductor-laser device", *Sov. Techn. Phys. Lett. (USA)*, vol. 15, n. 7, p. 526-7 (1989). Translation of: *Pis'ma Zh. Tekn. Fiz. (USSR)*, vol. 15, n. 13, p. 72-5 (1989)

Galvanauskas A., Vaitiekunas F., Krotkus A., and Sutkus K., "Picosecond optoelectronic switching with the aid of a semiconductor injection laser", *Sov. J. Quantum Electron. (USA)*, vol. 19, n. 5, p. 686-7 (1989). Translation of: *Kvant. Elektronika*, vol. 16, n. 5, p. 1057-69 (1989)

Galvanauskas A., Gorelenok A., Dobrovolskis Z., Kershulis S., Pozhela J., Reklaitis A., and Shmidt N., "Transport phenomena and alloy scattering in In<sub>1-x</sub>Ga<sub>x</sub>As<sub>1-y</sub>P<sub>1-y</sub>", *Sov. Phys.-Semicond. (USA)*, vol. 22, n. 9, p. 1055-8 (1988). Translation of: *Fiz. i Tekn. Poluprovodn. (USSR)*, vol. 22, n. 9, p. 1672-7 (1988)

Adomaitis A., Galvanauskas A., Dobrovolskis Z., Krotkus A., Pozhela J., Zhilinskas E., and Janushonis S., "Measurement of field-effect transistor speed using a picosecond optoelectronic device", *Sov. Microelectronics (USA)*, vol. 17, n. 3, p. 125-8 (1988). Translation of: *Mikroelektronika*, vol. 17, n. 3, p. 214-8 (1988)

## Invited Papers in Refereed Conference Proceedings



Kai-Hsiu Liao, Vadim Smirnov\*, Kabir Udeshi<sup>+</sup>, Ming-Yuan Cheng, Leon Glebov\*, Yogesh B. Gianchandani<sup>+</sup>, and Almantas Galvanauskas, "Bragg Gratings in Femtosecond Fiber Lasers: From Programmable Pulse Shapers to Compact Volume-Grating Pulse Compressors", LEOS 2005, October 2005, Sydney, Australia

T. Fuji, N. Ishii, Th. Metzger, L. Turi, A. Baltuska, F. Krausz, and A. Galvanauskas, "Infrared chirped parametric amplification with self-stabilized carrier-envelope phase," Frontiers in Optics 2005, the 89th OSA Annual Meeting, Laser Science XXI, Oct. 2005, Tucson, Arizona, USA

T. Fuji, N. Ishii, T. Metzger, L. Turi, A. Baltuska, F. Krausz, and A. Galvanauskas, "Infrared optical parametric chirped pulse amplifier for high harmonic generation", Ultrafast Optics V, Sep. 2005, Nara, Japan

T. Fuji, T. Metzger, N. Ishii, A. Baltuska, F. Krausz, and A. Galvanauskas, "Efficient 50-THz-wide phase-stabilized chirped pulse parametric amplification at 2100 nm", CLEO Europe, CF6-6, 06 Jun. 2005, Munich, Germany

M.-Y. Chen, Y.-C. Chang, P. Mamidipudi, R. Changkakoti, D. Engin, and A. Galvanauskas, "Extreme Energy Pulsed Fiber Lasers", paper TF21-2-WED at CLEO/Europe-EQEC June 2005, Munich, Germany

K.-H. Liao, K. J. Udeshi, L. Que, Y. B. Gianchandani, and A. Galvanauskas, "A Programmable On-Chip Ultrashort-Pulse Shaper Using a Micromachined Actuator Array and a Chirped Fiber Bragg Grating", paper CFK6 at CLEO /QELS May 2005, Baltimore, MD

M.-Y. Cheng, Y.-C. Chang, P. Mamidipudi, R. Changkakoti, D. Engin, and A. Galvanauskas, "High peak power amplification: real limits on pulsed generation in optical fibers", Optical Fiber Communications March 2005, Anaheim, CA

C.-H. Liu, B. Ehlers, F. Doerfel, S. Heinemann, A. Carter, K. Tankala, J. Ferroni, and A. Galvanauskas, "700-W single transverse mode Yb-doped fiber laser", CLEO/QELS May 2004, San Francisco, CA

Before joining University of Michigan:

A. Galvanauskas, Z. Sartania, M. Bischoff, "Millijoule femtosecond all-fiber system", *Conference on Lasers and Electro-Optics (CLEO 2001)*, Baltimore, MD, May 6 – 11, 2001, paper CMA1

"*Tunable narrow-band terahertz generation from periodically-poled lithium niobate*", T. Meade, Y. -S. Lee, T. B. Norris and A. Galvanauskas, CLEO/QELS 2001' – Invited Paper

A. Galvanauskas, "Generation of high power ultrashort pulses using multi-mode core fiber based systems ", *Advanced Solid-State Lasers'2001*, Seattle, January 2001

M. E. Fermann, A. Galvanauskas and M. Hofer, "Multi-mode fiber femtosecond lasers and amplifiers", *Ultrafast Optics*, Ascona, Switzerland, July 12 - 16, 1999, paper TU-1

M. E. Fermann and A. Galvanauskas, "Ultra-high peak power fiber amplifiers", in *Optical Amplifiers and Their Applications*, Technical Digest (Optical Society of America, Washington DC, 1998), pp. 210 – 212

M. Fejer, M. A. Arbore, G. Imeshev, A. Galvanauskas, and D. Harter, "Quasi-phase-matching for ultrafast nonlinear optics", in *Conference on Lasers and Electro-Optics*, vol. 6, 1998 OSA Technical Digest Series (Optical Society of America, Washington, D.C., 1998), p. 16

A. Galvanauskas, A. Hariharan, D. Harter, M. A. Arbore, M. M. Fejer, "Parametric chirped pulse amplifiers based on periodically poled lithium niobate", *Ultrafast Optics*, Monterey, California, August 4 –7, 1997, paper WB-6

M. Fermann and A. Galvanauskas, "Fiber based ultrafast pulse sources", *Ultrafast Optics*, Monterey, California, August 4 –7, 1997, paper TA-8

A. Galvanauskas, "High power CPA circuits: towards simpler, smaller and cheaper", *Optical Society of America Annual Meeting*, October 12 – 17, 1997, Long Beach, California, paper WLL4

A. Galvanauskas, *Fiber-laser-based femtosecond parametric generators and amplifiers*, in *Conference on Lasers and Electro-Optics*, vol. 11, 1997 OSA Technical Digest Series (Optical Society of America, Washington, D.C., 1997), pp. 344 – 345

M. E. Fermann, A. Galvanauskas, G. Sucha, D. Harter, M. Hofer, "Advanced ultrafast fiber laser systems", *OSA Annual Meeting*, October 20 – 24, 1996, Rochester, NY, paper MTT2

A. Galvanauskas, "Femtosecond watt-level fiber amplification circuits", *IEEE Lasers and Electro-Optics Society Annual Meeting (LEOS '96)*, Boston, 1996

A. Galvanauskas, "Compact ultrahigh-power laser systems", *Int. Soc. of Optical Engineering Conf. on Lasers and Applications, OE LASE 95*, San Jose, 1995, paper 2377-14

A. Galvanauskas and M. E. Fermann, "High power fiber pulse sources", *IEEE Lasers and Electro-Optics Society Annual Meeting, LEOS 94*, Boston, 1994, paper UO3.1

## Refereed Conference Proceedings (Contributed Papers)

N. Ishii, T. Fuji, C. Y. Teisset, T. Metzger, S. Kohler, A. Baltuska, F. Krausz, N. Forget, D. Kaplan, and A. Galvanauskas, "Few-cycle high-energy infrared pulse generation by use of optical parametric chirped pulse amplification", *Mid-infrared coherent source 2005*, Nov. Barcelona, Spain

Yu-Chung Chang, Aghapi Mordovanakis, Kai-Chung Hou, John Nees, Bixue Hou, Anatoly Maksimchuk, Gerard Mourou, Almantas Galvanauskas, "Fiber Laser Driven EUV Generation," *CLEO/QELS*, May 2005, Baltimore MA, USA, paper CFH6

Kai-Hsiu Liao, Chi-Hung Liu, Almantas Galvanauskas, Emilie Flecher, Vadim I. Smirnov, Leonid B. Glebov, "A Novel Chirped Pulse Amplification System Based on a Monolithic Large Aperture Bulk-Bragg-Grating Stretcher/Compressor", Advanced Solid State Photonics (ASSP), February 2005, Vienna, Austria, paper ME3

Chi-Hung Liu, Almantas Galvanauskas, Victor Khitrov, Bryce Samson, Upendra Manyam, Kanishka Tankala, David Machewirth, Stefan Heinemann, "306W All-Fiber Based Linearly Polarized Single-Mode Ytterbium Fiber Laser", Advanced Solid State Photonics (ASSP), February 2005, Vienna, Austria, paper MC1

K. Udeshi, K.-H. Liao, L. Que, A. Galvanauskas, and Y.B. Gianchandani, "A Micromachined Platform for Localized Index Modulation in Chirped Fiber Bragg Gratings and Its Application to Ultrafast Optical Pulse Shaping," *IEEE/ASME International Conference on Micro Electro Mechanical Systems (MEMS 05)*, Miami, FL, Jan. '05, pp. \*\*\*

E. Flecher, V. I. Smirnov, L. B. Glebov, K. Liao, A. Galvanauskas, "High efficiency linearly-chirped bulk Bragg gratings in photo-thermo-refractive glass for ultrashort pulse stretching and compression", SPIE Photonics West, Optoelectronics 2005: Optical Components and Materials II, San Jose, January 2004, Published in Proceedings SPIE vol. #5723 [paper 5723-06]

Kai-Hsiu Liao, Kabir Udeshi, Long Que, Yogesh B. Gianchandani, Almantas Galvanauskas, "Monolithic fiber-grating and MEMS based devices for controllable ultrafast pulse shaping", Fiber Lasers II: Technology, Systems, and Applications, edited by L. N. Durvasula, Andrew J. W. Brown, Johan Nillson, Proceedings of SPIE Vol. 5709 (SPIE, Bellingham, WA, 2005) pp. 13 - 17

Chi-Hung Liu, Bodo Ehlers, Stefan Heinemann, and Almantas Galvanauskas, "kW-power fiber lasers with single-transverse mode output, " Invited paper at Advanced Laser Application Conference (ALAC), September 2004, Ann Arbor, MI

Chi-Hung Liu, Bodo Ehlers, Stefan Heinemann, and Almantas Galvanauskas, "kW-power Yb-doped fiber lasers with single-transverse mode output," Solid State and Diode Laser Technology Review (SSDLTR), June 2004, Albuquerque, New Mexico

M. Igarashi and A. Galvanauskas, "Adiabatic diffraction-limited beam propagation of intense self-focusing beams in multimode-core fibers," CLEO/QELS May 2004, San Francisco, CA

Guoqing Chang, Almantas Galvanauskas, Herbert G. Winful, and Theodore B. Norris, "Dependence of parabolic pulse evolution and compression on SRS threshold," CLEO/QELS May 2004, San Francisco, CA

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## Inventions

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**Pending**

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