

ERIC W. VAN STRYLAND

Office: Center for Research and
Education in Optics & Lasers
University of Central Florida
4000 Central Florida Blvd.
Orlando, Florida 32816-2700

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Cape Canaveral, FL 32920
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Present Position:

Professor of Optics (past dean) CREOL, The College of Optics and Photonics
Center for Research and Education in Optics & Lasers (CREOL)
University of Central Florida
Orlando, Florida 32816-2700

Personal: Date of Birth: June 3, 1947; Citizenship: USA

Education:

- Ph.D. Physics, University of Arizona 1976. Thesis Advisors: Dr. M.O. Scully and Dr. R.L. Shoemaker, Optical Sciences Center, University of Arizona
Research Areas: coherent transients, photoelectric detection, and heterodyne spectroscopy.
- M.S. Physics, University of Arizona, 1975;
- B.S. Physics, University of Humboldt 1970

He received a PhD in Physics in 1976, from the University of Arizona, Optical Sciences Center, Tucson, AZ, where he worked on optical coherent transients and photon counting statistics. He worked in the areas of femtosecond pulse production, multiphoton absorption in solids, and laser induced damage at the Center for Laser Studies at the Univ. of Southern California. He joined the physics department at the Univ. of North Texas in 1978 helping to form the Center for Applied Quantum Electronics. In 1987 he joined the newly formed CREOL (Center for Research and Education in Optics and Lasers) at the Univ. of Central Florida where he was Prof. of Physics and Electrical and Computer Engineering. NSF has funded him for the past 30 years and he has also been performing research for the DOD during this period. His current research interests are in the characterization of the nonlinear optical properties of materials and their temporal response as well as the applications of these nonlinear materials properties for optical switching, beam control etc. He helped develop the Z-scan technique with M. Sheik-Bahae with whom he also established the methodology for applying Kramers-Kronig relations to ultrafast nonlinearities and helped develop the field of cascaded second-order effects. The JQE publication on Z-scan has been noted as the most highly cited paper in the journal's 30 year history by a factor of 2. He is a fellow of the Optical Society of America (OSA), a past member of their Board of Directors, former co-chair of the Science and Engineering Council, a senior member of the Laser Institute of America and a former board member, a Fellow of IEEE LEOS, a Fellow of the SPIE, a Fellow of APS, and a member of the MRS. He also served as a topical editor for Optics Letters. He was elected as Vice President of the OSA which led to becoming President in 2006. He graduated 37 Ph.D.'s and published >300 papers and is on the ISI 'highly cited' list. In 2003 he was awarded the highest honor UCF bestows, the Pegasus Award. He was Director of the School of Optics/CREOL from July 1999 to May of 2004. With the elevation of the School to a College, he became its first Dean. In addition, Governor Jeb Bush established the Florida Photonics Center of Excellence (FPCE) in 2003 and he was the Director of that Center along with CREOL, both centers within the College. In a second round of centers of excellence, the College established the Townes Laser Institute named after the inventor of the maser and laser, Charles Hard Townes. In January, 2009 he retired as Dean but continues as a faculty member in the College, and he received UCF's Researcher of the Year Award. He became a Trustee Chair in 2012, and was awarded the R.W. Wood Prize of the OSA in 2012. See video: <http://spie.org/newsroom/van-stryland-video>

Experience:

- 2012- UCF Trustee Chair (funded chair position awarded on merit)
- 2003-6 President, Optical Society of America (elected position, President in 2006)
- 2003 Pegasus Professor of Optics – the highest award given by the University of Central Florida
- 2005-09 Dean of The College of Optics and Photonics
- 2004- Director, Florida Photonics Center of Excellence (begun with \$10M from Gov. Jeb Bush)
- 1999-09 Director, School of Optics/CREOL, University of Central Florida
- 1998- Prof. of Optics, Physics and Elec. & Comp. Eng. at CREOL at the University of Central Florida
- 1987-98 Prof. of Physics and Elec. & Comp. Eng. at CREOL at the University of Central Florida
- 1999 Visiting Fellowship, Res. School of Physical Sci & Eng., The Australian National Univ., Canberra
- 1999 Visiting Professor, Chemistry Dept., Macquarie University, Sydney, Australia
- 1995- Honorary Prof., School of Physics and Astronomy, University of St. Andrews, Scotland

1987-92 Adjunct Professor, The University of North Texas
 1987 Distinguished Research Prof., the Univ. of North Texas
 1986-87 Professor of Physics, The Univ. of North Texas
 1982-86 Associate Professor, Physics, The Univ. of North Texas
 1985 Visiting Prof., Physics, Heriot-Watt Univ., Edinburgh, Scotland
 (an awarded semester paid leave from NTSU)
 1983-85 Chairman, Center for Applied Quantum Electronics, Physics, The Univ. of North Texas
 (this is an elected position that is limited to a single two-year term by charter)
 1978-82 Assistant Professor, Physics, The Univ. of North Texas
 1976-78 Research Scientist, Center for Laser Studies, Univ. of Southern California
 1973-76 Research Associate, Optical Sciences Center, Univ. of Arizona
 1972-73 Research Assistant, Optical Sciences Center, Univ. of Arizona
 1970-72 Teaching Assistant, Physics, Univ. of Arizona

Academic and Professional Honors:

- UCF Trustee Chair 2012
- R.W. Wood Prize of the OSA, 2012
- Fellow of the Optical Society of America
- Fellow of the SPIE, Optical Engineering Society
- Fellow of IEEE-LEOS
- Fellow of APS
- Member of EU program “Nano2Fun” as external partner, 2013-
- Graduate Teacher of the Year Award, School of Optics, 1999
- Sabbatical leave from UCF (competitive proposal, full salary, 1 semester) 1999
- Elected to the Board of Directors of the Optical Society of America 1997
- Elected Vice President of the OSA in 2003 (become President Elect in 2005 and President in 2006)
- Researcher of the year for the College of Arts and Sciences and the University for 1990 (cash award plus \$5,000 research award) This is the highest award for research at the university
- Co-Recipient of the NTSU President’s Award (highest award presented by the University)
- Awarded a semester paid leave to Heriot-Watt University, Edinburgh, Scotland, 1985
- Invited membership into Phi-Kappa-Phi, 1991
- PEP Award from UCF, 1998 (permanent salary upgrade - 3 awarded at UCF in 1998)
- Appointed to the Mayor of Orlando’s (Glenda Hood) High Technology Advisory Board, 2001
- *R&D 200 award: Tandem- Configured Solid-State Optical Limiter -Hsing-Lin Wang,
- Duncan McBranch, Xu Sam, William Moreshead, Jean-Luc Nogues, David
- Hagan, Eric Van Stryland, Michael Ciftan
- Awarded UCF’s highest award Pegasus Professor (cash award), 2003.
- ISI – highly cited author, <http://isihighlycited.com/>
- Most cited article in 30-year history of IEEE Journal of Quantum Electronics, JQE. The original Z-scan paper, JQE QE-26, 760-769 (1989). See “Discovering Z-scan”, E. Van Stryland, LEOS Newsletter, 30th Anniversary Feature: Most Cited Article from JQE, Vol. 21, No 1, 2-29, Feb., 2007.
- Named by Florida Trend magazine in the November 2004 as one of the “174 Most Influential Floridians”, one of only 5 from the academic community selected for this honor.
- Scientific Advisory Board of the ICFO-Institut de Ciencies Fotoniques www.icfo.es, Barcelona, Spain, 2003-
- President of the Advisory Board for the Karlsruhe School of Optics and Photonics (KSOP), Karlsruhe Institute of Technology, <http://www.ksop.de/> Karlsruhe, Germany 2007-
- Plenary address: University and Industry Partnerships in Optics and Photonics, Karlsruhe Institute of Technology, Inauguration of the Karlsruhe School of Optics and Photonics, Karlsruhe, Germany, Nov. 5, 2007.
- Commencement address; Days of Optics and Photonics, KSOP, Karlsruhe Institute of Technology, Nov. 2013
- Advisory Board for Optics and Photonics Research Center, CePOF, ‘Centro de Pesquisa em Optica e Fotonica’, http://www.ifi.unicamp.br/foton/?pagina=centro&conteudo=e_capa&lingua=en, Unicamp, Campinas, Brazil 2005-2012 – latest meeting Dec 2-3, 2011
- Researcher of the Year Award, overall for UCF as well as for The College of Optics and Photonics, 2009 along with cash awards. This is the highest award for research at the university.
- 2013-14 IEEE Photonics Award Committee

Editorial Boards:

Member of the Editorial Board of "Review of Scientific Instruments" Jan. 1978 - Dec. 1981

Member of the Editorial Advisory Board of "Nonlinear Optics", Gordon and Breach, 1991-

Topical editor for Optics Letters; nonlinear optics, 1995-98

Associate editor of "The Handbook of Optics", Optical Society of America, 1994 – also 3rd ed. 2010

Co-editor of Materials for Optical Limiting, Materials Research Society, Vol. 374 (hardcover) 1995.

Professional Organizations:

- OSA, Optical Society of America; past member Education Council and Laser Safety Standards Committee, advisor Florida student section,
- OSA Fellow, chair of the Nonlinear Optics section of the technical council (1993)
- Chair of OSA's Quantum Electronics Division-Technical Council (1994-7)
- Elected to Board of Directors of the OSA, term 1998-2001 (awards committee, international rapid action committee)
- Elected Vice President of the OSA, term 2004, became President Elect in 2005 and President in 2006.
- Appointed member of the 2010-11 Ives Medal Committee and 2003 Max Born Award Committee of the OSA,.
- Appointed Co-Chair of the Science and Engineering Council of the Optical Society of America 2002-4
- Chair OSA Nominations Committee 2007, Chair of OSA's President's Advisory Committee 2008, also Chair Honorary Member Subcommittee 2008
- OSA Centennial executive committee: 2013-
- IEEE, Institute of Electrical and Electronic Engineers: Fellow, member NLO committee,
- Member of LEOS Ultrafast subcommittee, president of LEOS local section 1994
- 2013 IEEE Photonics Award Committee
- LIA: Laser Institute of America, senior member, past member Board of Directors 1992-4
- SPIE: Fellow, Optical Engineering Society
- APS, Fellow, American Physical Society
- MRS: Materials Research Society
- Phi-Kappa-Phi, honorary inductee 1991
- Sigma-Pi-Sigma

Conferences Organized:

- Organizer for the Picosecond Phenomena session of Lasers '82 in New Orleans
- Organizer for the Picosecond Phenomena session of Lasers '83 in San Francisco
- Co-Chairman and session organizer of Picosecond Session of SPIE, Los Angeles, CA, 1985.
- Program advisory committee for Southwest Conference on Optics, Albuquerque, NM, 1985.
- Member program committee on Ultrafast Phenomena Session, CLEO, 1987
- Conference Co-Chair for "Materials for Optical Switches, Isolators, and Limiters" at SPIE's 1989 Technical Symposium and session Chair
- Chairman of Local Organizing Committee for OPTCON 89 in Orlando, FL.
- Conference co-chair for "Ultrafast Conference" at OPTCON 90 for the SPIE
- Session chair "Ultrafast session" OSA annual meeting Orlando, Fl.
- Session organizer and chair for Electronics and Glass and Optical Materials Joint Meeting, American Ceramic Society, Crystal City, 1991
- Session organizer and chair for "Nonlinear Optical Phenomena" and "Applications of Nonlinear and Ultrafast Processes", 7th Interdisciplinary. Laser Science Conference, APS, ILS-90 Monterey 1991
- Member program committee of "Nonlinear Optics" meeting Maui, Hawaii, 1992
- Member program committee of Optical Materials and Fabrication section of CLEO '93
- Organizer and presider of Bilateral Workshop on Nonlinear Optics, Cocoa Beach, FL, Aug. 4-7, 1992.
- Member of the "Optical Materials and Fabrication" committee for QELS-92
- Member of the "Optical Materials and Fabrication" committee for QELS-93
- Conference Co-Chairman for "Materials for Optical Switches, Isolators, and Limiters" at SPIE's 1994 Technical Symposium Orlando, Fl
- Conference Co-Chairman for "Nonlinear Optical Materials for Switching and Limiting" at SPIE's 1994 Technical Symposium, Orlando, FL
- Member program committee of "Nonlinear Optics" meeting, Hawaii, 1994

- Symposium organizer “Materials for Optical Limiting”, 1994 MRS annual meeting
- Technical program committee, Nonlinear Optical Materials and Applications LEOS 94
- Co-director and lecturer, Scottish Univ. Summer School in Physics, New Perspectives in Laser Sources and Applications—a NATO Advanced Studies Institute, University of St. Andrews, Scotland, June 25-July 9 1995
- Member Program committee for CLEO '95, and CLEO '96
- Technical program committee IQEC'96, Australia, “Optical Materials and Devices”
- Member CLEO steering Committee 1996-99, OSA representative
- Conference Co-Chair “High Power Lasers and Applications” SPIE Photonics West'97, Feb 7-14, 1997, San Jose, CA.
- Member Program committee for IQEC '96, Sydney, Australia
- Member program committee for CLEO 97, NLO subcommittee 1997
- Lecturer, NATO Summer School on Beam Shaping and Control with Nonlinear Optics, Cargese Corsica France, Aug. 4-15, 1997.
- Conference Co-Chair “Third-order optical nonlinearities” SPIE's International Symposium on Optical Science, July 19-24, 1998, San Diego, CA.
- Chair of program committee for NLO subcommittee of CLEO 98, 1997-8
- Member CLEO/Europe steering Committee 1997-2000, OSA representative
- Member organizing committee “Third-order Nonlinear Optical Materials”, SPIE's Int. Symposium on Optical Science, San Diego, CA July 1998
- Conference Co-Chairman for “Nonlinear Optical Materials” at SPIE's 1999 Technical Symposium, Denver, CO
- Co-chair of the Optical Society of America's Annual meeting in Santa Clara, CA 1999
- Member scientific program committee of the First International Workshop on Optical Power Limiting, Cannes, France, June 28-July 1, 1998.
- Member scientific program committee of the NATO Advanced Research Workshop on “Multiphoton and Light Driven Multielectron Processes in Organics: Materials, Phenomena, Applications”, Menton, France, Aug. 1999.
- Program Co-chair of NLO 2000 in Maui, Hawaii, 2000
- Conference Co-Chairman for “Third-Order Nonlinear Optical Materials III” at SPIE's 45th Annual Meeting, San Diego, CA, July 30-Aug. 4, 2000.
- Member scientific program committee of the Second International Workshop on Optical Power Limiting, Venice, Italy, July 2-5, 2000.
- Session group chair, Workshop on Nanoscience for the Soldier; Displays, Detectors & Antennas, Duke, 2001.
- General Co-chair of NLO 2002 in Maui, Hawaii, 2002
- Lecturer (5), School on Optics, Campinas, Brazil, 2002.
- Conference co-chair for *Photonics, Communications and Devices, Optics in the Southeast*, Huntsville Alabama, 2002.
- Conference co-chair for *Optics in the Southeast*, Orlando, Florida, 2003.
- Conference organizing committee, 11th International Topical Meeting on Optics of Liquid Crystals, Clearwater Beach on Sand Key, FL, Oct. 2-7, 2005.
- Organizing committee, The Fourth International Symposium on Optical Power Limiting (ISOPL-4) and Intensity Dependent Processes, Dingle, Co. Kerry, Ireland, 5th June - 9th June 2006.
- Program committee, Nonlinear Optics, 18th Annual meeting of *LEOS 2005*, Sydney, Australia Oct. 23-27, 2005.
- International Advisory Board, for the Tenth International Conference on Organic Nonlinear Optics (ICONO'10), Santa Fe, New Mexico, May 18-23, 2008.
- Lecturer (5), Workshop on Modern Optics, INAOE, Tanantzintla, Puebla, Mexico, Sept. 2-3, 2007.
- Organizing committee, ISOPL'5, International Symposium on Materials and Devices for Nonlinear Optics, Porquerolles, France, June 26 – July 1, 2009.
- International Scientific Committee (ISC) of the 22th General Congress of the International Commission for Optics (ICO22), Puebla, Mexico, 2011
- Organizing committee and speaker for OSA for its first workshop in China with Christopher Dainty and Anthony Siegman- ‘CIOMP’, Changchun, China, Aug. 2011.
- Organizing committees for the inaugural Siegman International School on Lasers (1st school at Stanford 200), Chair Siegman School Steering committee, Chair Siegman School Program committee, 2012-14 (remain as consultant 2016)
- LAOP Organizing Subcommittee: Nonlinear Optics, Latin America Optics & Photonics Conference (LAOP) 2012,

San Paolo, Brazil, Nov. 11-13, 2012.

- Program committee: Pacific Rim Laser Damage: Optical Materials for High Power Lasers, Shanghai China, May 19-22, 2013. Also on program committee for PLD May 18-20, 2016 in Yokohama, Japan.
- Lecturer, OSA's Siegman International School on Lasers, ICFO, Barcelona, Spain, July 24-29, 2016.
- International Advisory Committee Photonics-2016, Dec. 4-8, 2016, Kanpur, India.

Other Professional Service:

Chair Florida fundraising for Educator's day at the annual OSA meeting in Orlando

OSA/Physics Judge for the 1991 International Science and Eng. Fair, Orlando, 1991

Served on the ONT/NIST Review Panel for the American Society for Engineering Education and the Office of Naval Technology in Washington, D.C., 1991 and 1993 (reviewed and recommended applicants for internships)

Taught experimental short course on picosecond pulse measurements for LIA/ICALEO in Orlando, 1989.

1993 National Defense Science and Eng. Graduate Fellowship Program panel for Battelle

Reviewer of the WPAFB Materials Directorate, this was a 5 year review where we spent 2 days and reported to the director of the labs and wrote a summary report.

Taught a "Hands-on Nonlinear Optics Workshop", at SPIE's 11th Annual International Symposium on AeroSense April 22, 8:30 am -5:30 pm, 1997.

Member of the Academic Review Committee for the Optical Sciences Center, U. of Arizona reporting to their Provost.

Taught a "Hands-on Nonlinear Optics Workshop", at SPIE's 12th Annual International Symposium on AeroSense April, 1998.

Applied Optics review committee for the OSA, 1998

Associate editor of "The Handbook of Optics", Volume III - IV, Optical Society of America, 1999.

Editorial Board of the "Encyclopedia of Modern Optics", Elsevier, 2001.

Associate editor, "Fiber Optics Handbook; Fiber, Devices, and Systems for Optical Communications", Optical Society of America, McGraw-Hill, 2000.

Graduate Evaluation Committee at the University of Dayton to evaluate the Electro-Optics program, a joint offering by ECE and Physics, Director- Joseph Haus, (EVS wrote the draft report) Dec. 2002

Reviewer for South Carolina Research Centers of Excellence entitled: Research Center of Economic Excellence in Photonic Materials by Clemson University – 2003

Member CREAM (Center for Research and Education in Advanced Materials) Advisory Board – Norfolk State University, 2003-2008

Associate editor of "The Handbook of Optics", 3rd Edition, Optical Society of America, 2006 -

Appointed by the Mayor of Orlando, Glenda Hood to "The Mayor's High Technology Advisory Board, 2001.

Nanosecond optical limiter exceeds dynamic range of 7500, Laser Focus World, Newsbreak, July 2000.

Academic review committee for optics program at the University of New Mexico, Nov. 2011.

Consultant: U.S. Navy, U.S. Army, Battelle, Westinghouse, Lawrence Livermore National Laboratory (reviewer for optical materials research program), Schwartz Electro-Optics, Technical Management Concepts Inc.

Research Interests:

Characterization of the nonlinear optical properties of materials (particularly semiconductors)

Multiphoton absorption and associated nonlinear refraction

Laser Induced Damage

Measurement of ultrashort relaxation times

Ultrashort pulse production

Ultrasensitive detection of nonlinear optical properties

See videi: <http://spie.org/newsroom/van-stryland-video>

Patents:

Patent with M.J. Soileau SN 213, 873, "Optical Power Limiter Based on Two-Photon Absorption", filed June 30, 1988
Issued: Monolithic optical power limiter based on two-photon absorption, no. 4,846,561.

Patent with David Hagan US 8,778,703 B2, "Extremely Non-Degenerate Two Photon Absorption Optical Sensing Methods, Apparatus and Applications", Jul. 15, 2014.

Patent disclosure with Z. Wang, D. Hagan and G. Assanto, "Phase-insensitive, single wavelength, all-optical transistor based on second-order optical nonlinearities", April 23, 1996.

Patent disclosure with Arthur Dogariu and David Hagan, "Ultrafast Mechanical Chopper", March, 1997
Copyright with M. Sheik-Bahae and A.A. Said, "Z-scan", filed Aug. 19, 1993
Patent disclosure with Mihaela Balu and David J Hagan, "White-Light Continuum Z-scan", July, 2006.

DOCTORAL DISSERTATIONS

1. James B. Clark jointly with A.L Smirl and B.R. Russell, "Picosecond Spectroscopy of Rhodamine B", Physics, 1981.
2. Milton Woodall, "Nonlinear Absorption Techniques and Measurements in Semiconductors, Physics, 1985.
3. Mehrdad Mohebi, "Dispersion of the Nonlinear Refractive Index of CS, in the Spectral Range of 9-11 μm ", Physics, 1987.
4. Nastaran Mansour, "Nonlinear Absorption Initiated Laser-Induced-Damage in neutron-Irradiated Fused Silica, Fluorozirconate Glass and Cubic Zirconia", Physics, 1988.
5. Edesly Canto-Said, "Picosecond Degenerate Four-Wave-Mixing in Semiconductors, Physics, 1989.
6. Yuen Yuan Wu, "Semiconductor Nonlinearities for Passive Spatial Beam Control", Physics, 1990.
7. Kamjou Mansour, "Characterization of Optical Nonlinearities in Carbon Black Suspensions in Liquids", Physics, 1990.
8. Ali A. Said, "Development and Application of a Nonlinear Optical Characterization Techniques", Physics, 1991.
9. Steve Miller, "Sensitive Detection of Nonlinear Absorption", Physics, 1991.
10. Choong-Bum Park, "Characterization of Femtosecond Dye Lasers and GaAs-AlGaAs Multiple Quantum Well P-I-N Structures", Electrical Engineering, 1992.
11. Tai-Huei Wei, "Nonlinear Optical Absorption and Refraction Study of Metallophthalocyanine Dyes", Physics, 1992.
12. Jiangwei Wang, "The Dispersion and Symmetry of Optical Nonlinearities in Semiconductors", Electrical and Computer Engineering, 1993.
13. Richard DeSalvo, "On Nonlinear Refraction and Two-Photon Absorption in Optical Media", Physics, 1993.
14. Tiejun Xia, "Modeling and Experimental Studies of Nonlinear Optical Self-Action", Physics, 1994.
15. Michael P. Hasselbeck, "High Intensity Laser Interactions with Narrow Gap Semiconductors", Electrical and Computer Engineering, 1996
16. Sungwon Kim, "Cascaded All-Optical Transistors", Physics, 1997
17. Arthur Dogariu, "Spectral and Temporal Response of optical Nonlinearities", Physics, 1997
18. T. Sean Ross, "A Picosecond Visible Optical Parametric Oscillator as a Tool for Nonlinear Spectroscopy", Electrical and Computer Engineering, 1998
19. JinHong Lim, "Nonlinearities of Polymethine and Squarylium Molecules for Optical Limiting", Physics, 1998
20. Edward Miesak, "Femtosecond Tunable Light Source", Electrical and Computer Engineering, 1999
21. Dmitriy Kovsh, "Laser Beam Propagation Through Bulk Nonlinear Media: Numerical Simulation and Experiment", School of Optics, 1999.
22. Sidney Yang, "Optimization of Passive Optical Limiters", Electrical and Computer Engineering, 2000
23. Raluca Negres, "Ultrafast Nonlinear Spectrometer for Materials Characterization", School of Optics, 2001.
24. Slava Dubikovskiy, "Optical Limiting: Numerical modeling and Experiment", School of Optics, 2003.
25. Richard Lepkowitz, "Study of the Excited-State Absorption Properties of Polymethine Molecules", School of Optics, 2004.
26. Joel Hales, "Chemical Structure - Nonlinear Optical Property Relationships for a Series of Two-Photon Absorbing Fluorene Molecules", School of Optics, 2004.
27. Mihaela Balu "Experimental Techniques for Nonlinear Material Characterization: A Nonlinear Spectrometer Using a White-Light Continuum Z-Scan", College of Optics and Photonics, 2006.
28. Jie Fu, "Molecular Structure – Nonlinear Optical Property Relationships for a Series of Polymethine and Squaraine Molecules", College of Optics and Photonics, 2006.
29. Peter Olszak, "Nonlinear Absorption and Free Carrier Recombination in Direct Gap Semiconductors", College of Optics and Photonics, 2010.
30. Gero Nootz, "Experimental and Theoretical Study of the Optical Properties of Semiconductor Quantum Dots", College of Optics and Photonics, 2010.
31. Claudiu Cirloganu, "Experimental and Theoretical Approaches to Characterization of Electronic Nonlinearities in Direct-Gap Semiconductors", College of Optics and Photonics, 2010.
32. Honghua Hu, "Third Order Nonlinearity of Organic Molecules", College of Optics and Photonics, 2012.
33. Davorin Peceli, "Nonlinear Optical Properties of Organic Molecules and Semiconductors", College of Optics and Photonics, 2013.

34. Manuel R. Ferdinandus, "Techniques for characterization of third order optical nonlinearities", College of Optics and Photonics, 2014.
35. Trenton Ensley, "White Light Continuum for Broadband Nonlinear Spectroscopy", Spring 2015.
36. Himansu Pattanaik, "Two-Photon Absorption in Bulk Semiconductors and Quantum Well Structures and Its Applications", Spring, 2015.
37. Matthew Reichert, "Nonlinear Optics of Simple Molecules and Two-Photon Semiconductor Lasers", summer 2015.

also served on 45 other doctoral dissertation committees

MASTERS THESES

Marcus Seidel	Eric Van Stryland	Optics	MS	2011	Summer
"Characterization of the Nonlinear Refractive Index of Carbon Disulfide Over an Extended Spectral and Temporal Range"					
Simona Cordreanu	Eric Van Stryland	Physics	MS	2000	Fall
Vladislav Dubikovskiy	Eric Van Stryland	Physics	MS	2000	Spring
Richard Lepkowicz	Eric Van Stryland	Optics	MS	2000	Spring
Evgueni Novikov	Eric Van Stryland	Optics	MS	1999	Summer
Raluca Negres	Eric Van Stryland	Physics	MS	1998	Spring
Timothy Houston, independent study, "Laser Animation project". ECE, 1998.					
Niholas Croglio	Eric Van Stryland	EE	MS	1994	Summer
"Femtosecond Measurement Technique to Determine Nonlinearities in Semiconductors"					
Richard DeSalvo	Eric Van Stryland	Physics	MS	1993	Summer
Charles Wamsley	Eric Van Stryland	EE	MS	1992	Fall
Peter Chen	Eric Van Stryland	EE	MS	1989	Spring
"Single Mode CO2 Laser Operation"					
Jayant Malhotra	Eric Van Stryland	EE	MS	1989	Spring
"Laser Induced Darkening in Semiconductor Doped Glasses"					
Paul Shepherd, "Short Cavity Dye Laser Theory, Short Cavity Dye Laser Construction and Operation", North Texas State Univ., 1981.					

Most other masters degree students who have worked with me have obtained their degrees on a courses only option. I also served as major advisor to 7 masters students at the University of North Texas who took a non thesis-course only option, and served on 16 masters committees at the University of Central Florida.

COURSES TAUGHT:

Nonlinear Optics, Laser Physics, Laser Principles, Optical Properties of Materials, Quantum Optics, Laser Engineering, Introduction to Wave Optics, Electro-Optics Laboratory, Optics, Coherent Optics, Special Topics in Quantum Optics, Physics for Poets, Physics for Athletes, Interaction of Light with Matter; Phy6447, PSC1512 (3053C), EEL6560, EEL5451, EEL5441, PHY6938, PHY6434, PHY5431, PHY5446, EEL5451L, PHY4424, OSE 6334, OSE5312, also Fall 2011 (Semiclassical Laser Theory)

PUBLICATIONS

Book Chapter

1. "Nonlinear Refractive Index: inorganic materials", L. Chase and E. Van Stryland, in Handbook of Laser Science and Technology; supplement 2: Optical Materials, section 8, pp. 269-288, Ed. M. Weber, CRC Press, 1994.
2. "Two Photon Absorption: inorganic materials", E. Van Stryland and L. Chase, in Handbook of Laser Science and Technology; supplement 2: Optical Materials, section 8, pp. 299-328, Ed. M. Weber, CRC Press, 1994.
3. "Application of Nonlinear Optics to Passive Optical Limiting", E.W. Van Stryland, D. Hagan, T. Xia, and A. Said, pp 841-860, in Nonlinear Optics of Organic Molecular and Polymeric Materials, ed. H.S. Nalwa and S. Miyata, CRC Press Boca Raton (1997).
4. "Cascading: A Promising Approach to Nonlinear Optical Phenomena Revisited", G. Stegeman, R. Schiek, L. Torner, W. Torruellas, T. Baek, D. Baboiu, Z. Wang, E. Van Stryland, D. Hagan, and G. Assanto in Novel Optical Materials and Applications, I.C. Khoo, F. Simoni and C. Umeton ed., John Wiley & Sons, Interscience Div., New York, pp. 47-96 (1995).
5. "Cascading: Modelling a New Route to Large Optical Nonlinearities and All-Optical Devices", G. Stegeman, R. Schiek, G. Krijnen, W. Torruellas, M. Sundheimer, E. Van Stryland, C. Menyuk, L. Torner and G. Assanto, chapter in Guided Wave Optoelectronics; device characterization, analysis, and design, Proceedings of 4th WRI international conference on guided wave optoelectronics, ed. by T. Tamir, H. Bertoni and G. Griffel, (Plenum Press, New York), 371-9 (1995).
6. "Third-Order and Cascaded Nonlinearities", E.W. Van Stryland, in Laser Sources and Applications ed. A. Miller and D.M. Finlayson, 15-62 (1996).
7. "Z-Scan", E. W. Van Stryland and M. Sheik-Bahae, in Characterization Techniques and Tabulations for Organic Nonlinear Optical Materials, pp 655-692, eds. Mark Kuzyk and Carl Dirk, Marcel Dekker (1998).
8. "Characterization and Modeling of Nonlinear Optical Absorption and Refraction", E.W. Van Stryland, M. Sheik-Bahae and D.J. Hagan, in Nonlinear and Quantum Optics, ed. N. Bloembergen, pp. 527-578, Research Trends in Physics Series, Institute for Advanced Studies Press, 1997.
9. "Z-scan Technique for Nonlinear Materials Characterization", Eric Van Stryland and M. Sheik-Bahae, in Materials Characterization and Optical Probe Techniques, Critical Reviews of Optical Science and Technology, Vol CR69, 501-524, SPIE 1997.
10. "Introduction to Ultrafast and Cumulative Nonlinear Absorption and Refraction", E. W. Van Stryland, in Beam shaping and control with nonlinear optics, Eds. F. Kajzar and R. Reinisch, Plenum, p. 39, New York 1998.
11. "Optical Nonlinearities in the Transparency Region of Bulk Semiconductors" book chapter with M. Sheik-Bahae, Eds. Elsa Garmire and Alan Kost, Chap. 4, 257-318, Nonlinear Optics in Semiconductors I, Academic Press, 1999.
12. "Nonlinear Absorption", E. W. Van Stryland and D. J. Hagan, chapter in "Encyclopedia of Optical Engineering", Vol. 2, 1475-1481, Marcel Dekker, 2003.
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PRESENTATIONS AT MEETINGS

Invited

1. "Lasers in Medicine - A Scientist's Overview", M. Bass, and E.W. Van Stryland, IEEE%OSA Conference on Laser Engineering and Applications (CLEO), San Diego, CA., 1978.
2. "Picosecond Laser-Induced Damage", M.J. Soileau, Eric W. Van Stryland, Thomas F. Boggess, and Arthur L. Smirl, Lasers '83, San Francisco, CA., December 12-16, 1983.
3. "Laser Light Induced Bulk Damage to Optics", M.J. Soileau, E.W. Van Stryland and William E. Williams, Critical Review Paper, Southwest Conference on Optics, Albuquerque, NM, 1985.
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5. "Passive Switching of Picosecond Light Pulses", M.J. Soileau, E.W. Van Stryland and S. Guha, Southwest Conference on Optics, Albuquerque, NM, 1985.
6. "Nonlinear Absorption and Associated Refraction in Semiconductors", E.W. Van Stryland, H. Vanherzeele, S. Guha, M.A. Woodall and M.J. Soileau, IV International Symposium, Ultrafast Phenomena in Spectroscopy, UPS 85, Reinhardbrunn, GDR, October 23-26, 1985.
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12. "Nonlinear Optics Characterization as Applied to Optical Limiting", Workshop on Inorganic Materials for Nonlinear Optical Materials, Kirtland Air Force Base, Feb. 14-16, 1989.
13. "Passive Spatial Beam Control", E.W. Van Stryland and M.J. Soileau, DARPA Program on Eye Protection Against the Battlefield Laser Threat, Arlington, Virginia, Jan. 24-25, 1989.
14. "Sensitive, Single Beam n_2 Measurements", E.W. Van Stryland, M. Sheik-Bahae, A.A. Said, T.H. Wei, D.J. Hagan, Y.Y. Wu, and M.J. Soileau, Interdisciplinary Laser Science Conference ILS-V, Stanford, California, Aug. 28-31, 1989.
15. "Measurement of the Fast Electronic n_2 Associated with Two-Photon Absorption in Semiconductors", E.W. Van Stryland, M. Sheik-bahae, D.J. Hagan, T.H. Wei, A.A. Said, J. Young, E. Canto and A. Miller, Lasers 89, New Orleans, Dec. 1989.
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17. "Semiconductor Nonlinearities for Optical Limiting", E.W. Van Stryland, D.J. Hagan, M. Sheik-bahae and M.J. Soileau, conference on Nonlinear Optics: Materials, Phenomena and Devices, Kauai, Hawaii, July 16-20, 1990.
18. "Nonlinear Optical Characterization of Organic Materials", M.J. Soileau, T.H. Wei, M. Sheik-Bahae, D.J. Hagan, Martine Sence, and E.W. Van Stryland, III International Topical Meeting on Optics of Liquid Crystals, Optical Properties and Applications of Liquid Crystals and Organic Materials, Cetraro, Italy, Oct. 1-5, 1990.
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21. "Passive Spatial Beam Control", E.W. Van Stryland and M.J. Soileau, DARPA Program on Eye Protection Against the Battlefield Laser Threat, Washington, D.C. Nov. 26-27, 1990.
22. "Measurement and Understanding of Optical Nonlinearities", E.W. Van Stryland, Nonlinear Optics 1991, Adelaide, Australia, 1991.
23. "Introduction to Ink-Based Limiting", E.W. Van Stryland, First DOD Workshop on Liquid Cell Power Limiters, Wash., D.C., Feb. 1991.
24. "Nonlinear Refraction and Absorption Measurements by the Z-Scan", D.J. Hagan, M Sheik-Bahae, A.A. Said, and E.W. Van Stryland, joint meeting of the Glass and Optical Materials Division and Electronics Division of the American Ceramic Society, Crystal City, VA, Oct. 20-23, 1991.
25. "Characterization of Nonlinear Optical Materials", E.W. Van Stryland, M. Sheik-Bahae, G. Stegeman, and D. J. Hagan, American Association for Crystal Growth, Fourth Conference on Crystal Growth, Atlantic City, NJ, Oct.2-4, 1991.
26. "Wavelength Dependence of Nonlinear Absorption and Refraction in Solids", M.J. Soileau, M. Sheik-Bahae, D.C. Hutchings, D.J. Hagan and E.W. Van Stryland, XIV International Conference on Coherent and Nonlinear Optics, Leningrad, 1991.
27. "Overview of Nonlinear Characterization Techniques", G. Stegeman and E.W. Van Stryland, Electronics and Glass and Optical Materials Joint Meeting, American Ceramic Society, Crystal City, Oct. 20-23, 1991.
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29. "Measurement of Nonlinear Absorption and Refraction of Light by Matter", D.J. Hagan, M. Sheik-Bahae, M.J. Soileau and E.W. Van Stryland, AAPT Winter meeting Orlando, FL, 1992.
30. "Measurement and Theory of Dispersion of n , in Solids", E. W. Van Stryland, M. Sheik-Bahae, D.C. Hutchings and D.J. Hagan, 22nd Winter Colloquium on Quantum Electronics, Snowbird, Utah Jan. 5-8, 1992.
31. "Z-Scans and Nonlinear Kramers-Kronig Relations", E.W. Van Stryland, M. Sheik-Bahae, D.C. Hutchings and D.J. Hagan, invited lecture at the International School on Nonlinear Photonics and Optical Physics, Capri, Italy, June 1-5, 1992.
32. "Very Large Third Order Nonlinearities via Cascading of Second Order Nonlinearities", G.I. Stegeman, M. Sheik-Bahae, and E.W. Van Stryland, IQEC Vienna, 1992

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35. "Cascaded χ^2 : χ^2 Nonlinear Refraction", E. Van Stryland, Bilateral Workshop on Nonlinear Optics 1992, Cocoa Beach, FL, Aug. 4-7, 1992.
36. "Characterization of Nonlinear Absorption and Nonlinear Refraction in Advanced Optical Materials", E.W. Van Stryland, M. Sheik-Bahae, D.J. Hagan, OE-LASE '93, Los Angeles, CA, Jan. 18-22, 1993.
37. "Novel Techniques for the Characterization of NLO Crystals", E.W. Van Stryland, 1993 Gordon Research Conference on Crystal Growth, Oxnard, CA, March 15-19, 1993.
38. "Phase Shifting and Switching Via Cascaded Nonlinearities", E. W. Van Stryland, G. Stegeman, M. Sheik-Bahae, J. D. DeSalvo, and D.J. Hagan, 23rd Winter Colloquium on Quantum Electronics, Snowbird, Utah Jan. 5-8, 1993.
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51. "Cascaded Optical Nonlinearities in Organic Structures", William E. Torruellas, Petar Vidakovic, and Joseph Zyss, Gijs J.M. Krijnen, Hugo J.W.M. Hoekstra, Zuo Wang, Dug Y. Kim, Yongson Baek, Matthias Jaegger, D. Hagan, E. Van Stryland, and George I. Stegeman, IQEC, Sydney, Australia, July 15-19, 1996.
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91. **Plenary address:** "Nonlinear Optical Spectroscopy", E. W. Van Stryland, J. Hales, K. Belfield and D. J. Hagan, Optical Society of Korea Annual meeting Kwanju, Korea, Feb. (2004)
92. "Nondegenerate Two-Photon Absorption Spectroscopy", E. W. Van Stryland, J. Hales, K. Belfield and D. J. Hagan, PQE, Snowbird, Utah, 2003.
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97. "Nonlinear Spectroscopy of Organic Molecules", Eric Van Stryland, Joel Hales, Mihaela Balu, David Hagan, 5th Iberoamerican Meeting On Optics and 8th Latinoamerican Meeting on Optics, Lasers and Their Applications: RIAO/OPTILAS 2004, Margarita, Venezuela, Oct. 4-7, 2004.
98. "Recent Advances in Third-Order Nonlinear Optical Materials", Seth R. Marder, Stephen Barlow, Luca Beverin, Jean-Luc Brédas, Sung-Jae Chung, Jie Fu, David J. Hagan, Sei-Hum Jang, Amalia Leclercq, Alex Jen, Seth R. Marder, Peter Pacher, Joseph W. Perry, Mariacristin Rumi, Eric W. Van Stryland, Natalie Thompson, Neil Tucker, Shijun Zheng, Egbert Zojer, SPIE Invited Talk for NP422 Nonlinear Optics, 2004.
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102. "Nonlinear Optics", E. Van Stryland, Glass & Optical Materials Division Fall 2004 Meeting, Cape Canaveral, FL Nov. 8-12, 2004.

103. "Two-Photon Absorption and Excited State Absorption in Organic Molecules", D. J. Hagan, J. Hales, R. Lepkowitz, O Przhonska, K. D. Belfield and E. W. Van Stryland, Annual Meeting of American Ceramic Society, (Indianapolis, June, 2004).
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105. "Nonlinear Optical Materials Characterization", 2nd Symposium on Lasers and their Applications, Universidade Federal de Pernambuco, Recife, Brazil, Sept. 15-16, 2005.
106. "Nonlinear Optical Spectroscopy: absorption and refraction", 2nd Symposium on Lasers and their Applications, Universidade Federal de Pernambuco, Recife, Brazil, Sept. 15-16, 2005.
107. Keynote Address: "Advances in Third-Order NLO Materials", S. Marder, S. Chung, S. Zhang, T. Odani, J. Cho, S. Barlow, E. Van Stryland, D. Hagan, J. Fu, J. Hales, M. Rumi, A. Biesso, S. Chi, J.W. Perry, SPIE Photonics West, Conference 6117, Organic Photonic Materials and Devices VIII, Jan. 2006.
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106. "Nonlinear Spectroscopy in Semiconductors Quantum Dots", Eric Van Stryland, Lazaro Padilha Jie Fu, Mihaela Balu, David Hagan, Carlos L. Cesar, Luiz C. Barbosa, Carlos H. B. Cruz, 12th Conference on Laser Optics, St Petersburg, Russia, June 26-30, 2006.
109. "Pathways to Strong Two-Photon Absorption in π -Conjugated Organic Molecules", David J. Hagan, Eric W. Van Stryland, Jie Fu, Shijun Zheng, Luca Beverina, Toru Odani, Sung-Jae Chung, Stephen Barlow, Olga V. Przhonska, Alexei D. Kachkovski, Yuriy L. Slominsky and Seth Marder, ISOPL, Dingle, Ireland, 2006.
110. "Broadband Z-scan characterization of NLO materials using high energy, high quality, supercontinuum generated by filamentation in krypton", Mihaela Balu, David J. Hagan, Eric W. Van Stryland, ISOPL, Dingle, Ireland, 2006.
111. "Measuring the Spectral Dependence of Nonlinear Absorption and Refraction", E. Van Stryland, D. Hagan, M. Balu, J. Fu, C. Cirloganu, S. Webster, Annual meeting of the American Chemical Society, Polmer Branch, San Francisco, Sept. 2006.
112. **Keynote Address:** E. Van Stryland, "University and Industry Partnerships in Optics and Photonics", 26th Annual Meeting of the Optical Engineering Society of Taiwan with OPT2006, Optics and Photonics in Taiwan, National Tsing Hua University, Taiwan, Dec. 15-16, 2006.
113. "Characterization of NLO properties of Organic Molecules and Quantum dots by White-Light Continuum Z-scan" L.A. Padilha, G. Nootz, M. Balu, D. J. Hagan, E. W. Van Stryland, Conference on Novel Optical Materials and Applications, Cetraro, Italy, June 2007.
114. "Nonlinear Optical Spectroscopy: Absorption and Refraction", Congreso Nacional de Fisica (National Meeting on Physics), and the Reunión Anual de Optica (Annual Meeting on Optics) Veracruz City, Mexico, Nov. 1, 2007.
115. **Plenary address:** University and Industry Partnerships in Optics and Photonics, University of Karlsruhe, Inauguration of the Karlsruhe School of Optics and Photonics, Karlsruhe, Germany, Nov. 5, 2007.
116. Eric W. Van Stryland, Mihaela Balu, David J. Hagan, Gero Nootz, Scott Webster, Lazaro Padilha, Claudio Cirloganu, Peter Olzsak, Seth Marder, Joe Perry, "White-Light Continuum Z-scan Nonlinear Optical Spectroscopy", PQE XXXVII (Physics of Quantum Electronics conference), Snowbird, Utah, Jan. 6-10, 2008.
117. E.W. Van Stryland, M. Balu, D.J. Hagan, G. Nootz, S. Webster, O. Przhonska, S. Marder, S. Barlow, S. Zheng, and K. Belfield, "White light continuum Z-scan for nonlinear optical spectroscopy" ICONO10/ICOPE 2008, Session M4 in Chi(3) and Nonlinear Absorption, Santa Fe, NM (2008).
118. "Development of near IR cyanine dyes for nonlinear optical applications", Olga V. Przhonska, Scott Webster, Lazaro A. Padilha, Mykhailo V. Bondar, Andriy O. Gerasov, Yuriy P. Kovtun, Mykola P. Shandura Yuriy L. Slominsky, Alexey D. Kachkovski, David J. Hagan, Eric W. Van Stryland, 11th International Conference on Methods and Applications of Fluorescence: Spectroscopy, Imaging and Probes, Budapest, Hungary, Sept. 6-9, 2009.
119. "Materials for Third-Order Nonlinear Optics", Seth R. Marder, Stephen Barlow, Luca Beverina, Jean-Luc Brédas, David J. Hagan, Joel M. Hales, Jon Matichak, Lazaro Padilha, Joseph W. Perry, Yanrong Shi, Eric W. Van Stryland, Scott Webster, Shijun Zheng, Optical Probes conference, Beijing, China, June, 2009.
120. **Keynote lecture:** Eric Van Stryland, David Hagan, Olga Przhonska, Seth Marder, Scott Webster, Lazaro Padilha, "Nonlinear Absorption Spectroscopy of Organic Dyes", at the 5th International Symposium on Materials and Devices for Nonlinear Optics (ISOPL5), Ile de Porquerolles, France (June 2009).
121. E. Van Stryland, D. Hagan, S. Webster, L. Padilha, MJ Soileau, "Nonlinear optical spectroscopy: absorption and refraction", Boulder Damage Symposium, Boulder CO, Sept. 20-23, 2009.

122. E. Van Stryland, "Towards a Nonlinear Optical Spectrophotometer", SPRC (Stanford Photonics Research Center) 2009 Annual Symposium, Stanford, Ca Sept. 14-16, 2009.
123. D.J. Hagan, S. Webster, L. A. Padilha, O. V. Przhonska, S. R. Marder and Eric W. Van Stryland, "Characterization of Nonlinear Absorption and Refraction in Organic Molecules", ICOPE 2009/ICONO 2009 (International Conference on Organic Photonics and Electronics and the 11th International Conference on Organic Nonlinear Optics), Beijing China, Sept. 20-25, 2009.
124. "Materials for Third-Order Nonlinear Optics", Seth R. Marder, Stephen Barlow, Luca Beverina, Jean-Luc Brédas, David J. Hagan, Joel M. Hales, Jon Matichak, Lazaro Padilha, Joseph W. Perry, Yanrong Shi, Eric W. Van Stryland, Scott Webster, Shijun Zheng, SPIE Conference on Optics & Photonics in San Diego, CA (August 2009).
125. "Large Two-Photon Absorption Enhancement with Extremely Nondegenerate Photons", Eric Van Stryland, Claudiu Cirloganu, Dmitry Fishman, Scott Webster, Lazaro A. Padilha, and David Hagan, CLEO, Baltimore, MD, May 1-6, 2011.
126. "Extreme Nondegenerate Two-Photon Absorption in Semiconductors", Eric Van Stryland, Claudiu Cirloganu, Dmitry Fishman, Scott Webster, Lazaro A. Padilha, and David Hagan, 41st Winter Colloquium on the Physics of Quantum Electronics, Snowbird, Utah, Jan. 2-6, 2011.
127. **Keynote address** for *14th Annual Southeast Ultrafast Conference*, "Extreme Nondegenerate Two-Photon Absorption and Spectroscopy", E. Van Stryland, D. Fishman, T. Ensley, S. Webster, and D. Hagan, Oakridge, TN, Jan. 13-14, 2011.
128. Eric W. Van Stryland, Claudiu M. Cirloganu, Lazaro A. Padilha, Dmitry Fishman, Scott Webster, and David J. Hagan, "Extreme Nondegenerate Two-Photon Absorption", International Commission on Optics (ICO-22 conference), Puebla, Mexico, Aug. 15-19 (2011).
129. **Keynote address**, E.W. Van Stryland, T. Ensley, H. Hu, M. Seidel, D. Peceli, D. Fishman, S. Webster, and D.J. Hagan, "Nonlinear Spectroscopy" 12th International Conference on Organic Nonlinear Optics and the International Conference on Organic Photonics and Electronics (ICONO12/ICOPE) Invited, Dublin, Ireland, Sept. 6-9 (2011).
130. "Development of Materials for Third-Order Nonlinear Optics", Seth Marder, Stephen Barlow, Jean-Luc Bredas, San-Hui Chi, David J. Hagan, Joel M. Hales, Yesudas Kada, Hsin-Chieh Li, Jon Matichak, Shino Ohira, Lazaro Padilha, Joseph W. Perry, Eric W. Van Stryland and Scott Webster; MRS Fall meeting, Symposium K, Materials for High Power Photonics, Boston, Nov. 28-Dec. 2, 2011.
131. Keynote: David J. Hagan, Trenton Ensley, Honghua Hu, Marcus Seidel, Davorin Peceli, Dmitry Fishman, Scott Webster, and Eric W. Van Stryland, "Nonlinear Spectroscopy of Organics (and other materials)", INWPB, St. Germain au Mont D'or, France, October 27 (2011).
133. "Writing Research Papers for International Research Journals & Conferences", E. Van Stryland, CIOMP-OSA International Summer Session: Lasers and Their Applications, Changchun, China, (2011).
134. **Plenary talk**, E.W. Van Stryland, "Nonlinear Spectroscopy Comes of Age", 2012 PSROC annual meeting of the Physical Society of Republic of China, Taiwan, Jan. 17-19, 2012.
135. **Keynote address**, "Nondegenerate 2-Photon Absorption Spectroscopy and Detection", Eric Van Stryland, Himansu S. Pattanaik, Dmitry A. Fishman, Scott Webster, David J. Hagan, NLO50, 50 Years of Nonlinear Optics International Symposium, ICFO, Barcelona, Spain, Oct. 7-10, 2012.
136. **Plenary address**: "The Making of a New Discipline: Optics and Photonics, CREOL@25", Eric W. Van Stryland, LIA - 2013 International Laser Safety Conference, Orlando, FL, Feb. 18-21 (2013).
137. "Nonlinear Spectroscopy: absorption and refraction", VIII Symposium of lasers and their applications, University of Pernambuco, Recife, Brazil, Sept. 25, 2013.
138. "The Making of a New Discipline: Optics and Photonics", VIII Symposium of lasers and their applications, University of Pernambuco, Recife, Brazil, Sept. 27, 2013.
139. David J. Hagan, Honghua Hu, Manuel R. Ferdinandus, Trenton R. Ensley, Matthew Reichert, Eric W. Van Stryland, "New Methods for Measuring Nonlinear Refraction: Beam Deflection and Dual-Arm Z-Scan", MRS Spring meeting, paper JJ7.02, San Francisco, April 2014.
140. E.W. Van Stryland, M. Reichert, M.R. Ferdinandus, H. Hu, P. Zhao, J.M. Reed, T.R. Ensley, & D.J. Hagan, "Spectroscopic Tools for Nonlinear Absorption and Refraction", International Commission on Optics, ICO, Santiago de Compostella, Spain, August 2014.
141. Tutorial: Nano2Fun workshop in Antwerp Belgium, EU funded program on nonlinear organics, Nonlinear Spectroscopy: absorption and refraction, Antwerp, Belgium, Sept. 2014.
142. **Keynote presentation**: "Experimental tool for nonlinear spectroscopy: absorption and refraction", E. Van Stryland, T. Ensley, M. Reichert, D. Hagan, SPIE Laser Damage 2014, NIST, Boulder, CO, Sept. 14-17, 2014.

143. Eric W. Van Stryland, Honghua Hu, Trenton R. Ensley, Matthew C. Reichert, Manuel R. Ferdinandus, David J. Hagan, "Nonlinear absorption and refraction spectroscopic tools", SPIE Optics & Photonics, 9181, San Diego, CA, Aug. 20-21, 2014.
144. **Keynote presentation:** "New methods for characterizing the nonlinear optical properties of organic materials.", Hagan, D. J., Ensley, T. R., Reichert, M, Ferdinandus, M, R, Hu, H. and Van Stryland, E. W., (Keynote Presentation) 13th International Conference on Frontiers of Polymers and Advanced Materials, 13th ICFAM, Marrakesh, Morocco, April 2015.
145. "Optimization of the Electronic Third-order Nonlinearity of Cyanine-like Molecules for All Optical Switching", H. Hu, T.R. Ensley, M. Reichert, M.R. Ferdinandus, D. Peceli, O.V. Przhonska, S.R. Marder, A. K-Y Jen, J.M. Hales, J.W. Perry, D.J. Hagan, & E.W. Van Stryland, Photonics West, San Francisco, Jan. 2015.
146. "Nonlinear Materials Characterization and Modeling", David Hagan and Eric Van Stryland, US-Israel Emerging Technology, Discussions Workshop, 2-3 December 2015 in Boston, MA.
147. "Nondegenerate Nonlinearities and 3-level models", Eric Van Stryland, Foundations of Nonlinear Optics, Lehigh University, Bethlehem, PA, August 4-5, 2015.
148. "Characterization and modeling of nonlinear refraction and absorption", David J. Hagan* and Eric W. Van Stryland, XIV Brazilian MRS, Rio De Janeiro Sept. 27-Oct. 1, 2015.
149. "Characterization of nonlinear refraction and absorption" David J. Hagan, Trenton R. Ensley, Matthew Reichert, Eric W. Van Stryland (Invited Paper) SPIE Pacific Rim Laser Damage Conference, Shanghai (May 2015)
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 113. "Two-photon absorption studies of polymethine, squaraine and tetraon dyes", Jie Fu, Olga V. Przhonska, Lazaro

A. Padilha, Scott Webster, David J. Hagan, Eric W. Van Stryland, Mikhail V. Bondar, Yuriy L. Slominsky, Alexei D. Kachkovski, *Frontiers in Optics*, OSA annual Meeting, Rochester, NY, October, 2006.

114. "Experimental and Theoretical Analysis of Two-Photon Absorption in Semiconductor Quantum-Dots", L.A. Padilha, J. Fu, G. Nootz, D. J. Hagan, E. W. Van Stryland, C. L. Cesar, L. C. Barbosa, C. H. Brito Cruz, D. Buso, and A. Martucci, *Frontiers in Optics*, OSA annual Meeting, Rochester, NY, October, 2006.

115. "Study of the Dispersion of Nonlinear Refraction in InSb", Claudio Cirlogannu, David Hagan, Eric Van Stryland, *Frontiers in Optics*, OSA annual Meeting, Rochester, NY, October, 2006.

116. "Two-Photon Absorption in Core-Shell and Core-Only Semiconductor Quantum-Dots"

G. Nootz, L.A. Padilha, D. J. Hagan, E. W. Van Stryland, *Frontiers in Optics*, OSA Annual Meeting, San Jose, paper FMG3, October, 2007.

117. "Three-photon absorption in semiconductors" Peter D. Olszak, Scott Webster, Lazaro A. Padilha, Milton Woodall, David J. Hagan, Eric W. Van Stryland, *Frontiers in Optics*, OSA Annual Meeting, San Jose, October, 2007.

118. L. Padilha, G. Nootz, M. Balu, D. Hagan, E. Van Stryland, S. Zheng, S. Barlow, and S. Marder, "Nonlinear Optical Characterization of Organic Molecules Using a White-Light Continuum Z-Scan" in *Frontiers in Optics*, OSA Technical Digest (CD) (Optical Society of America, 2007), paper FMG2.

119. S. Webster, L. Padilha, H. Hu, O. Przhonska, D. Hagan, E. Van Stryland, M. Bondar, I. Davydenko, Y. Slominsky, and A. Kachkovski, "Excited State Absorption and Femtosecond Lifetime Dynamics in a New Series of Near IR Dyes," in *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference and Photonic Applications Systems Technologies*, OSA Technical Digest (CD) (Optical Society of America, 2008), paper QTuF5.

120. S. Webster, S. Odom, D. Peceli, L. Padilha, O. Przhonska, H. Hu, G. Nootz, A. Kachkovski, S. Barlow, H. Anderson, S. Marder, D. Hagan, and E. Van Stryland, "Temporal and Spectral Nonlinear Absorption Characterization of a Hybrid Porphyrin-Squaraine-Porphyrin Macromolecule," in *Laser Science XXIV*, OSA Technical Digest (CD) (Optical Society of America, 2008), paper LWC4.

121. C. Cirloganu, P. Olszak, L. Padilha, S. Webster, D. Hagan, and E. Van Stryland, "Spectral Behavior of Three-Photon Absorption in Zinc-Blende Semiconductors," in *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference and Photonic Applications Systems Technologies*, OSA Technical Digest (CD) (Optical Society of America, 2008), paper CFX2.

122. G. Nootz, L. Padilha, T. Ensley, S. Webster, D. Hagan, E. Van Stryland, S. Hoogland, and E. Sargent, "Carrier Dynamics and Two Photon Processes in PbS Quantum Dots," in *Frontiers in Optics*, OSA Technical Digest (CD) (Optical Society of America, 2008), paper FWE3.

123. "Resonance Enhancement of the Two-Photon Absorption in PbS Quantum Dots", G. Nootz, L. Padilha, S. Webster, D. Hagan, E. Van Stryland, L. Levina, V. Sukhovatkin, and E. Sargent, in *Frontiers in Optics*, OSA Technical Digest (CD) (Optical Society of America, 2010), paper FThO2.

124. "Three-photon Absorption In Semiconductors", C. Cirloganu, P. Olszak, L. Padilha, S. Webster, D. Hagan, and E. Van Stryland, in *Laser Science*, OSA Technical Digest (CD) (Optical Society of America, 2010), paper LTuG3.

125. E.W. Van Stryland, C.M. Cirloganu, D.A. Fishman, S. Webster, L. A. Padilha, and D.J. Hagan, "Extremely non-degenerate two-photon absorption in semiconductors" *American Physical Society (APS March Meeting)*, Dallas, TX, March 21-25 (2011).

126. O. Kahl, D. Fishman, S. Webster, D.J. Hagan, E.W. Van Stryland, "Understanding thermal nonlinearities in metal nanoparticles for plasmon-enhanced two-photon absorption" *CIOMP-OSA International Summer Session: Lasers and Their Applications*, Changchun, China, July 31-Aug. 5 (2011).

127. O. Kahl, D. Peceli, S. Webster, C. Toro, L.A. Padilha, D. Fishman, J.P. Fontana, A. Agarwal, N.A. Kotov, P. Palffy-Muhoray, D.J. Hagan, and E.W. Van Stryland, "Linear and Nonlinear Optical Response of Metal Nanoparticles in Various Hosts", *AFOSR 2011 Joint Electronics Program Review*, Arlington, VA, May 23-26 (2011).

Talks with limited Distribution

1. "Generation and Measurement of Subpicosecond Pulses," E.W. Van Stryland, Texas Academy of Sciences, March 8-10, 1979, Arlington, Texas.
2. "Picosecond Measurement of Exciplex Formation," J.B. Clark, B.R. Russell, E.W. Van Stryland, and A.L. Smirl, Texas Academy of Science, March 8-10, 1979, Arlington, Texas.
3. "Short Cavity Rhodamine 6G Dye Laser," P.D. Sheperd and E.W. Van Stryland, Texas Academy of Sciences, March 6-8, 1980, Corpus Christi, Texas.
4. "Picosecond Reorientation of Rhodamine Dyes in Solution," James B. Clark, E.W. Van Stryland, Arthur L. Smirl, and B.R. Russell, Texas Academy of Sciences, March 6-8, 1980, Corpus Christi, Texas.
5. "Photoacoustic Measurement of Nonlinear Absorption in Solids," M.A. Woodall and E.W. Van Stryland, The

- University of Texas at Austin, March 19-21, 1981, Austin, Texas.
6. "Pulsewidth and Focal Volume Dependence of Optical Damage," William E. Williams, E.W. Van Stryland, M.J. Soileau and Arthur L. Smirl, The University of Texas at Austin, March 19-21, 1981, Austin, Texas.
 7. "Nonlinear Transmission of Picosecond Optical Pulses in Semiconductors," Steven A. Miller, M.A. Woodall, Eric W. Van Stryland, and M.J. Soileau, Stephen F. Austin University, March 3-5, 1983, Nacogdoches, Texas TAS joint meeting with the American Physical Society.
 8. "A 10.6 μm Optical Power Limiter," Mehrdad Mohebi, M.J. Soileau, E.W. Van Stryland, Stephen F. Austin University, March 3-5, 1983, Nacogdoches, Texas; TAS joint meeting with the American Physical Society.
 9. "Detection of χ^3 Nonlinear Optical Processes in Materials by Pulsewidth Modulation Techniques," Milton A. Woodall, Eric W. Van Stryland, and Steven A. Miller, American Physical Society joint meeting with AAPT, November, 1983, Denton, Texas.
 10. "Investigation of Optical Nonlinearities Using Pulse Delay Modulation," Steven A. Miller, and Eric W. Van Stryland, American Physical Society joint meeting with AAPT, April, 1983, Dallas, Texas.
 11. "Optical Limiting", D.J. Hagan, E.W. Van Stryland, Y.Y. Wu, and M.J. Soileau, Optical Society of America Florida Section Quarterly Meeting, Melbourne, Fl., 1987.
 12. "Ultrafast Phase Conjugation in Semiconductors", E. Canto, D.J. Hagan, and E.W. Van Stryland, E. Miesak, and M.J. Soileau, Optical Society of America Florida Section Quarterly Meeting, Orlando, Fl., 1987.
 13. "Optical Limiting with Semiconductors", Y.Y. Wu, D.J. Hagan, M.J. Soileau, and E.W. Van Stryland, 53rd annual meeting of the Florida Academy of Sciences, Jacksonville, Florida, March 30-April 1, 1989.
 14. "Z-Scan: A Sensitive Method for Determining Refractive Nonlinearities", A.A. Said, M. Sheik-bahae, M.J. Soileau, and E.W. Van Stryland, 53rd annual meeting of the Florida Academy of Sciences, Jacksonville, Florida, March 30-April 1, 1989.
 15. Invited; "Nonlinear Absorption and Refraction in Solids", E. Van Stryland, one day symposium on Laser Probing of Semiconductor Materials and Devices, sponsored by Coherent Laser Products Div., Orlando, Fl., Dec. 1989.
 16. "Studies of Self-Protecting Optical Limiting", T. Xia, D. Hagan, A. Said, and E. Van Stryland, The 2nd Conference of Chinese Young Scientists, Beijing, July 26-28, 1995.
 17. "Laser Beam Shape Variations Due to the Thermal-acoustic Effect in Absorbing Solutions", S. Yang, D. Kovsh, E. Van Stryland, and D. Hagan, Florida Academy of Sciences meeting, Rollin's College, Orlando, FL, March 27, 1998.
 18. Invited; "Femtosecond Continuum Measurement of Nonlinear Absorption Spectra", Eric Van Stryland, Joel Hales, and David Hagan, 6th Annual Coherent Spectroscopy and Ultrafast Conference, sponsored by Coherent Laser Products Div., University of Florida, Gainesville, FL, January 17-18, 2003.
 19. Invited; "Nonlinear Spectroscopy: Absorption and Refraction", Eric Van Stryland, 8th Annual Coherent Spectroscopy and Ultrafast Conference, sponsored by Coherent Laser Products Div., Florida State University, Tallahassee, FL, 2005.
 20. Optics and Photonics Research at CREOL & FPCE, Eric Van Stryland, FRC Tech Transfer Conference, Coral Gables, Florida, May 30, 2007.
 21. "Nonlinear Transmission in Bulk and Nanostructured Materials from Infrared to Visible", David J. Hagan and Eric W. Van Stryland, Tri Services Information Exchange, Hilton Head, SC, April 14-15, 2008.
 22. "Nonlinear Optical Spectroscopy and Applications of Nondegenerate Two-Photon Absorption, E. Van Stryland, Townes Winter Symposium, CREOL, Orlando, FL., March 11-15, 2013.
 23. "Absorption saturation dynamics of [M(R,R'-timdt)₂] metal-dithiolenes", A. Pintus, Massimiliano Arca, F. A. Devillanova, E. W. Van Stryland, S. Webster, Scuola Nazionale di Chimica Bioinorganica, Napoli 14-16 Settembre 2008.

COLOQUIA

1. "Optical Heterodyne Spectroscopy," Optical Sciences Center, University of Arizona, 1975.
2. "Optical Coherent Transients," Center for Laser Studies, University of Southern California, 1976.
3. "Nonlinear Laser Calorimetry," Physics Department, University of Southern California, 1977.
4. "Production and Measurements of Femtosecond Pulses," Physics Department, North Texas State Univ., 1978.
5. "Powerful Ultrashort (100 fsec) Laser Pulses," Physics Department, Midwestern University, 1978.
6. "Powerful Ultrashort (100 fsec) Laser Pulses," Physics Department, University of Texas at El Paso, 1978.
7. "Production and Measurement of Femtosecond Pulses," Physics Department, University of Arkansas, 1979.
8. "Production and Measurement of Femtosecond Pulses," Physics Department, Univ. of Texas at Dallas, 1979.
9. "Short Powerful Pulsed Lasers," Physics Department, San Angelo State University, 1980.
10. "Nonlinear Optical Absorption in Semiconductors," Physics Department, Univ. of Texas at Arlington, 1981.

11. "Laser Induced Damage; The Ultimate Problem in Nonlinear Optics," Physics Dept., Oklahoma State Univ., 1983.
12. "High Power Short Pulse Lasers and Applications," Physics Department, University of Dallas, 1984.
13. "Nonlinear Absorption and Laser Induced Damage", Physics and Chem. Dept., Univ. of Toronto, Canada, 1984.
14. "Nonlinear Absorption and Nonlinear Refraction," Physics Dept., Univ. of California at Davis, Livermore Branch, 1985.
15. "Interaction of High Power Lasers with Matter," North Texas Materials Research Society, Dallas, 1985.
16. "Nonlinear Absorption and Nonlinear Refraction in Semiconductors," The Aerospace Corp., California, 1985.
17. "Nonlinear Absorption and Nonlinear Refraction in Semiconductors," Los Alamos National Laboratories, Los Alamos, NM, 1985.
18. "Two-Photon Absorption and Refraction in Semiconductors," Royal Signals and Radar Establishment, Malvern, England, 1985.
19. "Nonlinear Absorption and Refraction", Physics Department, University College, London, England, 1985.
20. "Two-Photon Absorption and Nonlinear Refraction in Semiconductors," Physics Department, Heriot Watt University, Edinburgh, Scotland, 1985.
21. "Nonlinear Absorption and Refraction in Semiconductors," Physics Dept., Imperial College, London, 1985.
22. "Nonlinear Absorption and Associated Refraction in Semiconductors," Center for High Technology Materials, University of New Mexico, Albuquerque, NM, 1986.
23. "Nonlinear Absorption and Nonlinear Refraction in Semiconductors," Optical Sciences Center, University of Arizona, Tucson, AZ, 1986.
24. "Two-Photon Absorption, Self-Defocusing, and Optical Limiting in Semiconductors," The University of Tennessee Space Institute, Tullahoma, TN, 1986.
25. "Nonlinear Absorption and Nonlinear Refraction in Semiconductors," Electrical Engineering Dept., University of Central Florida, Orlando, FL, 1986.
26. "Two-Photon Absorption, Self-Defocusing and Optical Limiting in Semiconductors," Naval Research Laboratories, Washington, DC, 1986.
27. "Switching and Bistability in Semiconductor Thin Film Devices", Vilnius Univ., Vilnius, Lithuania, USSR, 1987.
28. "Semiconductor Nonlinearities and Their Uses for Optical Power Limiting", Physics Dept., UCF, 1987.
29. "Semiconductor Nonlinearities and Their Uses for Optical Power Limiting", Sandia National Laboratories, Albuquerque, N.M., 1989.
30. "Optical Nonlinearities as Applied to Optical Limiters", Westinghouse Research and Development Center, Pittsburgh, PA., 1989.
31. "Optical Nonlinearities as Applied to Optical Limiters", DuPont Research and Development Center, Wilmington, Delaware, 1989.
32. "Optical Nonlinearities as Applied to Optical Limiters", Martin Marietta Laboratories, Baltimore, MD, 1989.
33. "Optical Nonlinearities as Applied to Optical Limiters", Martin Marietta Laboratories, Orlando, FL, 1989.
34. "Nonlinear Optics for Optical Limiting", Center for Laser Science, University of Iowa, Iowa City, IA, 1989.
35. "Dispersion of the Nonlinear Refractive Index Originating from Two-Photon-Absorption", Optical Sciences Center, University of Arizona, 1989.
36. "Nonlinear Optics for Optical Limiting", Liquid Crystal Institute, Kent State University, Kent, Ohio, 1989.
37. "Nonlinear Absorption and Refraction of Light by Solids", Ontario Laser and Lightwave Research Centre, McLennan Physical Laboratories, Toronto, Canada, 1992.
38. "Nonlinear Absorption and Refraction in Semiconductors", Physics Dept., University of Florida, Nov. 1994.
39. "Kramers-Kronig Relations in Nonlinear Optics", Eric Van Stryland, Macquarie Univ., Sydney, Australia, 1999
40. "Dispersion Relations in Nonlinear Optics", Eric Van Stryland, Australian National University, Canberra, Australia, 1999
41. "Kramers-Kronig Relations in Nonlinear Optics", E. Van Stryland, Univ. of Queensland, Brisbane, Australia, 1999
42. "Optical Limiting Using Nonlinear Materials", Eric Van Stryland, University of Florida, Gainesville, Florida, March 13, 2001
43. "Nonlinear Optical Spectroscopy", EWHA Women's University, Korea, Feb. 2004.
44. "Nonlinear Optical Spectroscopy", E. Van Stryland, Physics, Northwestern, University, Chicago, Ill., 2005.
45. "Measuring Nonlinear Absorption and Refraction", Florida Institute of Technology, 2005.
50. "Nonlinear Optical Spectroscopy, OSA local Chapter, Boulder, CO 2005.
51. "Nonlinear Optical Spectroscopy", E. Van Stryland, Physics, Northwestern, University, Chicago, Ill., 2005.
52. "Nonlinear Optical Spectroscopy", OSA local student Chapter at Ecole Polytechnique University, Montreal, Canada, July 18, 2005.

