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Education

- Rice University:** Ph.D in Electrical Engineering, May 1994
Thesis Title: *Ultrafast Carrier Relaxation in C₆₀*
Thesis Advisor: Dr. N.J. Halas
- Rice University:** MEE in Electrical Engineering, May 1987
- Rice University:** BS in Electrical Engineering May 1986

Professional Affiliations and Service

- American Physical Society, member International Laser Science Division. Organized and chaired ILS session at 1997 OSA Annual Meeting.
- Optical Society of America, member. Organized session for 2000 OSA Annual Meeting. Reviewer for Optics Letters and Journal of the Optical Society of America B.
- Institute of Electrical and Electronics Engineers, member. Reviewer for IEEE Journal of Quantum Electronics

Research Interests and Experience

- Visiting Assistant Professor, Oklahoma State University. 1995 - present. Research Associate, Oklahoma State University, 1994-1995. Terahertz optoelectronics stressing applications in time resolved spectroscopy of gas samples, combustion, and impulse ranging.
- Graduate Student, Rice University, 1986-1994. Time resolved carrier dynamics in semiconductors and disordered systems especially nonexponential relaxation. Nonlinear optics stressing harmonic generation of ultrashort pulses. Electron beam pumped excimer lasers.

Teaching Experience:

- Taught Microcomputer Architecture, ECEN3213, 1997-1999
- Taught Electromagnetic Fields, ECEN3613, 1999-2000.
- Taught Optical Electronics, ECEN4813, Spring 2000.
- Taught Engineering Optics, ECEN3813, Fall 2000.
- Taught Introduction to Engineering, ENGR111, two sections, Fall 1999, 2000.
- Mentored student research groups on original design projects for the Senior Design capstone program at Oklahoma State University.

Honors and Awards

- NSF CAREER Award: 2000
- Robert Welch Foundation Fellowship: 1988 - 1993.

Publications

Book Chapters

- R. A. Cheville, M. T. Reiten, R. McGowan, and D. Grischkowsky, "Applications of Optically Generated THz Pulses to Time Domain Ranging and Scattering", D. M. Mittleman, Editor, Springer Verlag, Berlin. To be published 2001.

Peer Reviewed Journals

- S. Yamaguchi, A. Cheville, Th. Hoffmann, R. A. Sauerbrey, W. L. Wilson, F. K. Tittel, *Gain Measurements on the KrF(B-X), XeF(B-X), and XeF(C-A) Laser Transitions in a XeF(C-A) Laser Gas Mixture*, IEEE Journal of Quantum Electronics, **27**, 1288, 1991.
- R. A. Cheville, W. B. Haynes, N. J. Halas, *Time-Resolved Reflectivity Studies of GaAs (100) Oxide and GaAs (100) ZnSe Interfaces*, Applied Physics Letters, **59**, 1476, 1991.
- R. A. Cheville and N. J. Halas, *Time-Resolved Carrier Relaxation in Solid C₆₀ Thin Films*, Physical Review B, **45**, 4548, 1992.
- R. A. Cheville and N. J. Halas, *A Wide Bandwidth Frequency Doubler for Tunable Femtosecond Lasers*, Optics Letters, **17**, 1343, 1992.
- M. T. Reiten, R. A. Cheville and N. J. Halas, *Phase Matching and Focussing Effects in Noncollinear Sum Frequency Mixing in the Near VUV Region*, Optics Communications, **110**, 645, 1994.
- R. A. Cheville, R. D. Averitt and N. J. Halas, *Ultrafast Large Dynamic Range Spectroscopy*, Optics Communications, **110**, 327 1994.
- R. A. Cheville and D. Grischkowsky, *Far-infrared Terahertz Time-domain Spectroscopy of Flames*, Optics Letters, **20**, 1646, 1995.
- D. Grischkowsky and R.A. Cheville, *Limits and Applications of THz Time-Domain Spectroscopy*, Proceedings of the SPIE, 2524, 26, 1995.
- R. A. Cheville and D. Grischkowsky, *Time Domain THz Impulse Ranging Studies*, Applied Physics Letters, **67**, 1960, 1995
- B. N. Flanders, R. A. Cheville, D. Grischkowsky, and N. F. Scherer, *Pulsed Terahertz Transmission Spectroscopy of Liquid CHCl₃, CCl₄, and their Mixtures*, Journal of Physical Chemistry, **100**, 11284, 1996.
- H. Harde, R. A. Cheville, and D. Grischkowsky, *Terahertz Studies of Collision-Broadened Rotational Lines*, Journal of Physical Chemistry, Feature Article, **101**, 3646, 1997.
- R. A. Cheville and D. Grischkowsky, *Late Time Target Response Measured with THz Impulse Ranging*, to be published in IEEE Transactions on Antennas and Propagation, **AP45**, October, 1997.
- H. Harde, R.A. Cheville, and D. Grischkowsky, *Collision Induced Tunneling in Methyl Halides*, Journal of the Optical Society of America B, **14**, 3282-3293, 1997.
- R. A. Cheville, R. W. McGowan, and D. Grischkowsky, *Time resolved measurements which isolate the mechanisms responsible for terahertz glory scattering from dielectric spheres*, Physical Review Letters, **80**, 269, 1998.
- R. A. Cheville and D. Grischkowsky, *Far-infrared and self-broadened rotational linewidths of high-temperature water vapor*, Journal of the Optical Society of America B, **16**, 317, 1999.
- R. W. McGowan, R. A. Cheville, and D. Grischkowsky, *Direct Observation of the Gouy Phase Shift in THz Impulse Ranging*, Applied Physics Letters, **76**, 670, 2000.
- R. W. McGowan, R. A. Cheville, and D. Grischkowsky, *Experimental Study of the Surface Waves on a Dielectric Cylinder via THz Impulse Radar Ranging*, IEEE Microwave Theory and Techniques, **48**, 417, 2000
- M. T. Reiten, D. Grischkowsky, R. A. Cheville, *Properties of Surface Waves Determined via Bistatic THz Impulse Ranging*, submitted to Applied Physics Letters, April 2000.

- M. T. Reiten, D. Grischkowsky, R. A. Cheville, Direct Experimental determination of causal propagation in optical tunneling, submitted to Physical Review Letters, August 2000.

Conferences

- R. A. Cheville, T. Zhang, R. Sauerbrey, W. L. Wilson, F. K. Tittel, *Gain Measurements on the KrF(B-X), XeF(B-X), and XeF(C-A) Laser Transitions in a XeF(C-A) Laser Gas Mixture*, Proceedings of the International Conference on Lasers '89, p. 164
- R. A. Cheville, R. Sauerbrey, W. L. Wilson, F. K. Tittel, *Measurement of Small Signal Gain and Absorption in an Electron Beam Excited Multicomponent Rare Gas - Halide Mixture*, Conference on Lasers and Electro-optics, Anaheim, 1990.
- R. A. Cheville and N. J. Halas, *Time-Resolved Reflectivity Studies of the ZnSe/GaAs Interface*, International Laser Science Conference: ILS-7, Monterrey, 1991.
- R. A. Cheville and N. J. Halas, *Relaxation Dynamics of Solid C₆₀*, International Laser Science Conference: ILS-7, Monterrey, 1991.
- R. A. Cheville and N. J. Halas, *Time-Resolved Reflectivity Studies of the ZnSe/GaAs Interface*, OSA Annual Meeting, San Jose, 1991.
- R. A. Cheville and N. J. Halas, *Time-Resolved Excited-State Relaxation Processes in Solid C₆₀*, OSA Annual Meeting, San Jose, 1991.
- R. A. Cheville and N. J. Halas, *A Wide Bandwidth, High Conversion Efficiency Frequency Doubler*, OSA Annual Meeting, San Jose, 1991.
- R. A. Cheville and N. J. Halas, *Carrier Dynamics in the Solid Fullerenes*, Conference on Lasers and Electro-Optics, Anaheim, 1992
- R. A. Cheville and N. J. Halas, *Time-Resolved Carrier Dynamics in Solid C₆₀*, International Quantum Electronics Conference, Vienna, Austria, 1992.
- R. A. Cheville and N. J. Halas, *Time-Resolved Carrier Relaxation in Solid C₆₀ Thin Films*, Bulletin of the American Physical Society, **37**, 612 1992.
- R.A. Cheville, N. J. Halas, *Carrier Dynamics in C₆₀Thin Films*, OSA Annual Meeting, Albuquerque, 1992.
- R.A. Cheville, N. J. Halas, *Dispersive Frequency Doubling of a Ti:Sapphire Laser with High Conversion Efficiency*, OSA Annual Meeting, Albuquerque, 1992.
- R. A. Cheville and N. J. Halas, *Carrier Dynamics in Solid C₆₀*, invited talk at OELase, Los Angeles, 1993.
- R. A. Cheville, R. D. Averitt, N. J. Halas, *High-Accuracy Measurement of the Slow Relaxation in C₆₀ Thin Films*, Bulletin of the American Physical Society, **39**, 593, 1994.
- M. T. Reiten, R. A. Cheville, and N. J. Halas, "Wide bandwidth frequency doubling and harmonic generation of Ti:sapphire laser radiation," presented at Generation, Amplification, and Measurement of Ultrashort Laser Pulses, Los Angeles, CA, USA, 1994
- N. J. Halas, V. Papanyan, R. D. Averitt, P. Pippenger, and R. A. Cheville, "Solvent free high purity solid C₆₀: optical properties," presented at 2nd International Conference on Optical Probes of Conjugated Polymers and Fullerenes, Salt Lake City, UT, USA, 1994.
- R. A. Cheville and N. J. Halas, *Large Dynamic Range Spectroscopy of Molecular Relaxations*, CLEO/QELS, Baltimore, 1995.
- D. Grischkowsky and R. A. Cheville, "Limits and applications of THz time-domain spectroscopy," presented at National Science Foundation (NSF) Forum on Optical Science and Engineering, San Diego, CA, USA, 1995.
- R. A. Cheville, B. Nicholson, and D. R. Grischkowsky, *A Compact Time Domain THz Ranging System*, CLEO/QELS, Baltimore, 1995.
- R. A. Cheville and D. Grischkowsky, *THz Time Domain Spectroscopy of Flame Species and Temperature*, OSA Annual Meeting, Portland, 1995
- R. A. Cheville and D. Grischkowsky, *New Applications of THz Optical Sources*, 26th Winter Colloquium on Physics of Quantum Electronics, Snowbird, Utah, 1996.

- R. A. Cheville and D. Grischkowsky, *Previously Impossible Measurements made Possible by Terahertz Time Domain Spectroscopy*, invited talk, Ultrafast Phenomena, 10th annual topical meeting, San Diego, 1996.
- D. Grischkowsky and R. A. Cheville, "Scale ranging with subpssec pulses of THz radiation," presented at Conference Proceedings LEOS'96 9th Annual Meeting IEEE Lasers and Electro-Optics Society, Boston, MA, USA, 1996.
- R. A. Cheville and D. Grischkowsky, *THz Time Domain Impulse Ranging*, invited talk, CLEO/IQEC, Anaheim, 1996.
- R. A. Cheville, R. C. McGowan, D. Grischkowsky, *Impulse Ranging with THz Pulses*, invited talk, OSA Annual Meeting, Rochester, 1996.
- D. Grischkowsky and R. A. Cheville, *THz Impulse Ranging*, Ultrafast Electronics and Optoelectronics Topical Meeting, Incline Village, Nevada, 1997.
- D. Grischkowsky, R. A. Cheville, H. Harde, *THz studies of Rotational Line Shapes*, invited talk, CLEO/QELS, Baltimore, 1997.
- H. Harde, R. A. Cheville, and D. Grischkowsky, *Collision Induced Tunneling in Methyl Halides*, CLEO/QELS, Baltimore, 1997.
- B. N. Flanders, P. Moore, N. F. Scherer, R. A. Cheville, and D. Grischkowsky, *Pulsed Terahertz Study and Spectral Analysis of a Simple Solution: HCl in CCl₄*, CLEO/QELS, Baltimore, 1997.
- R. A. Cheville, *THz Time Domain Spectroscopy Systems*, invited talk, OSA Annual Meeting, OSA Annual Meeting, Long Beach, 1997.
- D. Grischkowsky, R. A. Cheville, *Unique Applications of THz Spectroscopy*, invited talk, OSA Annual Meeting, OSA Annual Meeting, Long Beach, 1997.
- R. A. Cheville, D. Grischkowsky, *THz Time Domain Spectroscopy Applied to Collisions, Water Vapor, and Flames*, invited talk, Annual Meeting of the American Physical Society, Los Angeles, 1998.
- R. A. Cheville, D. Grischkowsky, *Direct Observation of the ν_2 Water Rotational Band in Flames via THz Time Domain Spectroscopy*, CLEO/IQEC, San Francisco, 1998.
- R. A. Cheville, *THz Time Domain Spectroscopy*, invited talk, OSA Annual Meeting, Baltimore, 1998.
- R. A. Cheville, R. W. McGowan, D. Grischkowsky, *Practical Applications of Ultrafast THz Spectroscopy*, invited talk, Lasers '98, Tucson, 1998.
- R. A. Cheville and D. Grischkowsky, *The Freshman Research Scholars Program, Springboard to Undergraduate Research*, OPTO Southwest (SPIE), Albuquerque, NW, 2000.
- R. A. Cheville, R. W. McGowan, D. Grischkowsky, *New Directions in THz Ranging*, invited talk, CLEO 2000, San Francisco, 2000
- M. T. Reiten, D. Grischkowsky, R. A. Cheville, *Variable angle THz impulse ranging on cylinders*, CLEO 2000, San Francisco, 2000.
- M. T. Reiten, D. Grischkowsky, R. A. Cheville, *Variable Angle Impulse Ranging and Image Reconstruction of Dielectric Cylinders*, Ultrafast 2000, Charleston, 2000.
- J. O'Hara, R. A. Cheville, D. Grischkowsky, *Reflective geometry THz imaging* submitted to CLEO, Baltimore, 2001.
- M. T. Reiten, D. Grischkowsky, R. A. Cheville, *Terahertz pulse propagation in optical tunneling: causal vs. superluminal*, submitted to CLEO, Baltimore, 2001.
- H. Harde, J. Zhao, M. Wolff, R. A. Cheville, D. Grischkowsky, *THz Spectroscopy on Ammonia*, submitted to CLEO, Baltimore, 2001.