

**Angelos Lazoudis**  
IESL, 71110 Heraklion, Greece  
Office Tel. # 2810-391545  
lazoudis@iesl.forth.gr

---

### **Education**

**Ph.D., Physics** Temple University, Philadelphia, PA 2005  
Dissertation: "Electromagnetically Induced Transparency in Diatomic Molecules and Spectroscopic Applications"  
**M.A., Physics** Temple University, Philadelphia, PA 2000  
**B.S., Physics** Aristotle's University, Thessaloniki, Greece 1995

### **Experience**

September 2000 – May 2005

**Research Assistant:** Temple University Physics Department, Prof. A.M Lyyra  
Conducted research in Molecular Laser Spectroscopy/Quantum Optics. Studied quantum coherence effects in molecules and excited states of alkali metal molecules using high resolution narrow band continuous wave (CW) ring dye and Titanium-Sapphire lasers, Argon-Ion lasers, PMT's, double grating spectrometer, Lock-in amplifiers and other electronic equipment.

September 2003-May 2004

**Adjunct Instructor:** Temple University Physics Department  
Taught recitations in Physics for Engineers.

June 2003-July 2003

**Teaching Assistant:** Temple University Physics Department  
Taught undergraduate laboratory sessions in General Physics.

January 2003- May 2003

**Adjunct Instructor:** Temple University Physics Department  
Taught recitations in Introduction to Physics.

July 2002 –August 2002

**Teaching Assistant:** Temple University Physics Department  
Taught undergraduate laboratories in Modern Physics.

January 2002 – May 2002

**Adjunct Instructor:** Temple University Physics Department  
Taught recitations in Electromagnetism.

July 2001 –August 2001

**Teaching Assistant:** Temple University Physics Department  
Taught undergraduate laboratory sessions in General Physics.

January 1998- August 2000

**Teaching Assistant:** Temple University Physics Department  
Taught undergraduate laboratories in Mechanics, Thermodynamics, Electromagnetism and Optics.

August 1998 –April 1999

**Research:** Temple University Hospital, Diagnostic Imaging Department

Set up experiment and conduct research in functional Magnetic Resonance Imaging (fMRI) using GE Signa scanner (1.5 Tesla). Performed statistical analysis of data applying techniques such as power spectra analysis, autocorrelation and cross-correlation.

May 1997 - July 1997

**Laboratory Assistant:** Temple University Physics Department

Designed and built experiments for use in lab. Tested equipment and prepared laboratories for the experiments.

### Interests

- Physics, Mathematics, Medical Physics, Biophysics, Chemical Physics
- Setting up experiments with precise laboratory equipment for Laser Spectroscopy, Fluorescence and Absorption measurements.
- Applying Spectroscopy to Medical Physics.
- Analyzing scientific information by developing analytical and numerical models.
- Working in academic style environment as part of multidisciplinary teams.

### Awards and Membership in Professional Associations

Award for Outstanding Research by a Graduate Student, Temple University, May 2005

Award for Outstanding Teaching by a Graduate Student, Temple University, May 2004

Member of American Physical Society (APS)

Member of Optical Society of America (OSA)

### Publications

- L. Li, P. Qi, A. Lazoudis, E. Ahmed, A. M. Lyyra, "Observation of Electromagnetically Induced Transparency in Two-Photon Transition of  $K_2$ ", *Chem. Phys. Lett.* 403, 262 (2005).
- Y. Liu, L. Li, G. Lazarov, A. Lazoudis, A.M. Lyyra, "Hyperfine structures of the  $2^3\Sigma_g^+$ ,  $3^3\Sigma_g^+$  and  $4^3\Sigma_g^+$  states of  $Na_2$ ", *J. Chem. Phys.* 121, 5821 (2004).
- L. Li, A. Lazoudis, P. Yi, Y. Liu, J. Huennekens, R.W. Field, and A.M. Lyyra, "Hyperfine structure of the  $1^3\Delta_g$ ,  $2^3\Pi_g$ , and  $3^3\Sigma_g^+$  states of  ${}^6Li{}^7Li$ ", *J. Chem. Phys.* 116, 10704 (2002).
- J. Qi, F.C. Spano, T. Kirova, A. Lazoudis, J. Magnes, L. Li, L.M. Narducci, R.W. Field, and A.M. Lyyra, "Measurement of Transition Dipole Moments in Lithium Dimers Using Electromagnetically Induced Transparency", *Phys. Rev. Lett.* 88, 3003 (2002).
- S.K. Lemieux, A. Lazoudis, M. Sobel, O. Boyko, M. Munz, G. Glover, "Spatial and Temporal Correlations in the Noise Amplitude during Functional MRI", *Neuroimage* 9 (No 6): S75, 1999.

### **Conference abstracts**

- A. Lazoudis, P. Qi, E. Ahmed, A. M. Lyyra, “Investigation of Electromagnetically Induced Transparency in Open V, Lambda and Cascade Doppler Broadened Molecular Systems”. Poster Session, APS Division of Atomic, Molecular, and Optical Physics Annual Meeting, Lincoln, Nebraska, May 17-19, 2005.
- E. Ahmed, A. Lazoudis, A. M. Lyyra, “The Effect of Doppler Broadening on Electromagnetically Induced Transparency and Autler-Townes Splitting in Molecular Excitation Scheme”. APS Division of Atomic, Molecular, and Optical Physics Annual Meeting, Lincoln, Nebraska, May 17-19, 2005.
- P. Qi, A. Hannson, T. Kirova, L. Li, A. Lazoudis, S. Magnier, A. M. Lyyra, J. Qi, “Measurement of the  $X^1\Sigma_g^+$  to  $A^1\Sigma_u^+$  of  $\text{Na}_2$  Transition Dipole Moment by Autler-Townes Splitting: Comparison of three and four level excitation schemes”. Poster Session, APS Division of Atomic, Molecular, and Optical Physics Annual Meeting, Lincoln, Nebraska, May 17-19, 2005.
- A. Lazoudis, T. Kirova, P. Qi, E. Ahmed, J. Magnes, F. C. Spano, L. M. Narducci, L. Li, A. M. Lyyra, “Electromagnetically Induced Transparency in Open Molecular Systems by Lambda, Vee and Cascade Excitation Schemes”. Poster Session GRC\_Quantum Control of Light and Matter, Mount Holyoke College, MA, August 3-8, 2003.
- A. Lazoudis, F. C. Spano, T. Kirova, J. Magnes, L. Li, L. M. Narducci, R.W. Field, A. M. Lyyra, “Measurement of Transition Dipole Moments in Molecular Lithium Using Electromagnetically Induced Transparency”. APS Division of Atomic, Molecular, and Optical Physics Annual Meeting, Williamsburg, VA, May 26-June 1, 2002.
- J. Magnes, A. Lazoudis, T. Kirova, A.M. Lyyra, F.C. Spano, “Electromagnetically Induced Transparency in a Molecular System”. Optical Society of America Annual Meeting, Long Beach, CA, Oct. 14-18, 2001.

### **Invited talks**

- “Quantum coherence effects in diatomic molecules”, University of Lyon, France, November 2001.
- “Electromagnetically Induced Transparency and Dark Resonance in Lithium Dimers”, Institute of Electronic Structure and Lasers (IESL), Heraklion, Greece, July 2001.
- “Using Electromagnetically Induced Transparency as a Tool for Measuring Transition Dipole Moments”, Delaware State University, Applied Optics Center, May 2001.
- “Autler-Townes Splitting and Electromagnetically Induced Transparency in Molecular Systems”, University of Connecticut, April 2001.