

Curriculum Vitae

**Mario M. Apodaca**

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**EDUCATION**

- 2006 – Present      *Northwestern University, Evanston, Illinois*  
Ph. D. Chemistry Program, Inorganic Division.
- 2001 – 2006      *California State University, Dominguez Hills, Carson, California*  
B.S in Chemistry, with honors in the major.
- 1991 – 1994      *California State University, Long Beach, Long Beach, California*  
Chemistry Major

**AWARDS and HONORS**

- 2005      Ronald E. McNair Post-Baccalaureate Achievement Program,  
Scholar, *CSUDH*
- 2005      Who's Who Among Students in American Colleges &  
Universities, *CSUDH*
- 2004      Minority Biomedical Research Support - Research Initiative for  
Scientific Enhancement, Scholar, *CSUDH*
- 1992      Minority Biomedical Research Support, *CSULB*
- 1991      Dean's List, *CSULB*

## **RESEARCH EXPERIENCE**

- 2007 – Present      *Graduate Student*  
Northwestern University  
Department of Chemistry  
Research Advisor: Professor Bartosz A. Grzybowski
- Contact electrification.
- 2006 – 2007      *Graduate Student*  
Northwestern University  
Department of Chemistry  
Research Advisors: Professor Thomas J. Meade  
Professor George C. Schatz
- Computational studies of gadolinium based magnetic resonance imaging contrast agents.
- 2004 – 2006      *Undergraduate Research Assistant*  
California State University, Dominguez Hills  
Department of Chemistry  
Research Advisor: Dr. Hernan L. Martinez
- Theoretical diffusion studies of a single particle in one dimension.
  - Theoretical chemical kinetics of molecules in one dimension.
- 1992 – 1994      *Undergraduate Research Assistant*  
California State University, Long Beach  
Department of Chemistry and Biochemistry  
Research Advisor: Dr. Jeffrey A. Cohlberg
- Investigation to determine whether dephosphorylated neurofilaments M and L form stable complexes that are incorporated into filaments.
  - Investigation into the difference of behavior of untreated proteins from that of dephosphorylated neurofilament M incubated with the catalytic subunit of PKA in the presence of  $\gamma$ -<sup>32</sup>P-ATP.

## **TEACHING EXPERIENCE**

- Summer 2007      *Teaching Assistant*  
Northwestern University  
Chemistry Department
- Laboratory instructor for students in the General Chemistry course (Chem 102) summer quarter.

- Spring 2007      *Teaching Assistant*  
Northwestern University  
Chemistry Department
- Facilitate review sessions for students in the Quantum Mechanics Chemistry course (Chem 342-2) winter quarter.
- Fall 2006      *Super Teaching Assistant*  
Northwestern University  
Chemistry Department
- Facilitate weekly review sessions for students in the Accelerated Inorganic Chemistry course (Chem 171) fall quarter.
- 2005 - 2006      *Workshop Facilitator*  
California State University, Dominguez Hills  
Allied Minority Participation Program  
Funded by the National Science Foundation
- Facilitate bi-weekly workshops for students in first and second semester introductory chemistry courses.

### **ADMINISTRATIVE EXPERIENCE**

- 1996 – 2006      *General Manager*  
Dimetek International Incorporated, Paramount, California
- Manage sales, operations, customer services, accounts receivable, accounts payable, planning, budgeting and forecasting. Responsible for over \$1 million in sales annually.
- 1994 – 1996      *Owner*  
Infinity Foundry Consulting and Supply, Gardena, California
- Manage sales, operations, customer services, accounts receivable, accounts payable, planning, budgeting and forecasting.

### **MEMBERSHIPS**

- 2003 – Present      American Chemical Society, Member  
2004 – Present      Biophysical Society, Student Member

## **SCHOLARLY PRESENTATIONS**

“Combined Effect of Randomly Distributed Barriers and External Fields on the Diffusion Coefficient of a Single Particle.” Oral presentation on the theoretical, one-dimensional study of a single particle in an infinite lattice with energy potentials acting as barriers to diffusion. Presented at the Student Academic Research Symposium, California State University, Dominguez Hills, Carson, CA, April 22, 2005

“Combined Effect of Randomly Distributed Barriers and External Fields on the Diffusion Coefficient of a Single Particle.” Poster presentation on the theoretical, one-dimensional study of a single particle in an infinite lattice with energy potentials acting as barriers to diffusion. Presented at the Southern California American Chemical Society Undergraduate Research Conference, California State University, Dominguez Hills, Carson, CA, April 23, 2005

“Combined Effect of Randomly Distributed Barriers and External Fields on the Diffusion Coefficient of a Single Particle.” Poster presentation on the theoretical, one-dimensional study of a single particle in an infinite lattice with energy potentials acting as barriers to diffusion. Presented at the 17th International Conference on the Chemistry of the Organic Solid State, University of California, Los Angeles, CA, July 27, 2005

“Combined Effect of Randomly Distributed Barriers and External Fields on the Diffusion Coefficient of a Single Particle.” Poster presentation on the theoretical, one-dimensional study of a single particle in an infinite lattice with energy potentials acting as barriers to diffusion. Presented at the 1<sup>st</sup> Annual Student Research Day at California State University, Dominguez Hills, Carson, CA, November 10, 2005.

“Combined Effect of Randomly Distributed Barriers and External Fields on the Diffusion Coefficient of a Single Particle.” Poster presentation on the theoretical, one-dimensional study of a single particle in an infinite lattice with energy potentials acting as barriers to diffusion. Presented at the Biophysical Society’s Annual Meeting, Salt Lake City, UT, February 22, 2006.

## **MANUSCRIPTS SUBMITTED**

Apodaca, M.M., Parrondo, J.M.R., Martinez, H.L. “A General Formulation to Describe Transport Phenomena for a Single Particle in One Dimension Under the Effect of Flashing Potentials and External Fields”