

Manuel A. Alvarez Díaz

Ceramic and Materials Engineering
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OBJECTIVE

- To obtain a R&D position in the area of materials and process design, with a successful, industry-leading company.

EDUCATION

- **Ph.D. Ceramic and Materials Engineering** (2002)
Rutgers University – New Brunswick, NJ
Dissertation: “Lithium Silicate Gels / Metal Interfaces under an Electric Field: Low Temperature/ High Voltage.” Thesis Advisor: Prof. L. C. Klein.
- **M.S., Ceramic and Materials Engineering** (2000)
Rutgers University – New Brunswick, NJ
- **B.S., Ceramic Engineering** **Cum Laude** (1997)
Rutgers University – New Brunswick, NJ
Thesis: “Effect of coating cure on the mechanical and optical properties of optical fibers.” Thesis Advisor: Prof. M. J. Matthewson.
- **A.S., Laser Electro-Optic Technologies, Fiber Optics Option** (1993)
Camden County College, Blackwood, NJ

HONORS

- 1998-2001, William G. Van Allen Graduate Fellowship (Awarded Annually)
- Allison Scholarship (Allied-Signal, Detroit Allison-Outstanding Undergraduate Scholar)
- Golden Key National Honor Society

EMPLOYMENT

- **Graduate Research Assistant** 1998-2001
Rutgers University – New Brunswick, NJ
Studied the effects of ion migration at glass/metal interfaces under an electric field. Conditions measured under low temperature/ high voltage. Experience with sol-gel formulation and mechanical, thermal and electrical measurements.
- **Teaching Assistantship** 1997-98
Rutgers University – New Brunswick, NJ
“Ceramic Processing II” & “Ceramic Characterization”
Assigned grades and taught ceramic laboratory, in forming techniques, testing and characterization of ceramic materials. Study of physical properties of ceramic materials such as dilatometry, rheology, x-ray analysis, and electronic, optical, magnetic, and mechanical properties.

- **Research Scientist** Advisor: Prof. Shahriari **1997**
Rutgers University – New Brunswick, NJ
Preparation and characterization of sol-gel thin films for the improvement of sensor applications. Independent study of fiber Bragg gratings for the improvement of sensor applications.
- **Independent Research (UG)** Advisor: Dr. Wojcik **1996-97**
SpecTran Corporation, Sturbridge, MA
Rutgers University – New Brunswick, NJ
Study of effects of coating cure on the mechanical and optical properties of optical fibers. Responsible for the application and operation of fiber reliability testing techniques.
- **Laboratory Technician (UG)** Advisor: Prof. Sigel **1995-96**
Rutgers University – New Brunswick, NJ
Maintenance and operation of glass working lathe used for the fabrication of optical performs. Preparation of optical fiber preforms. Optical and mechanical characterization of such performs.

PRESENTATIONS and PUBLICATIONS

- “Failure Mechanisms at Glass/Metal Interfaces under an Electric Field: Low Temperature/High Voltage.” M. A. Alvarez & L. C. Klein, Materials for Electrochemical Energy Conversion and Storage, *Ceramic Transactions* of The American Ceramic Society 2002, Vol. 127, 177-185.

Poster Papers

- “Study of Glass/Metal Interfaces under an Electric Field.” *AIMS (NJ-wide consortium) Materials Research Symposium*, Piscataway, NJ (May 2001)
- “Failure Mechanisms at Glass/Metal Interfaces under an Electric Field: Low Temperature/High Voltage.” *The American Ceramic Society 103RD Annual Meeting* Indianapolis, IN (April 2001)
- “Glass/Metal Interfaces under an Electric field.” *Third Rutgers University - Chalmers Technical University (SW) Joint Surface and Materials Symposium*, Piscataway, NJ (March 2001)
- “Failure Mechanisms at Glass/Metal Interfaces under Applied Voltage.” *CCMR Industrial Advisors Board Meeting* Piscataway, NJ (September 2000)

Oral Papers (* indicates presenter)

- “Model Sol-Gel Compositions for Studying Failure Mechanisms at Glass/Ceramic-Metal Interfaces.” M. A. Alvarez* & L. C. Klein. *The American Ceramic Society 102ND Annual Meeting* St. Louis, MO (May 2000)
- “Effect of Coating Cure on the Mechanical and Optical Properties of Optical Fibers.” M. A. Alvarez* & J. M. Matthewson *The American Ceramic Society 99TH Annual Meeting* Cincinnati, OH (May 1997)

AFFILIATIONS

- CMEGSA (President 2000-2001)
- ACerS
- NICE
- Keramos (The Ceramic Engineering Honor Fraternity)
- OSA(Student President 1996-1997)
- MRS
- SHPE

References upon request