

# LUIS OCTAVIO MEZA ESPINOZA

## PERSONAL INFORMATION

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## EDUCATION

2006-2011                      Centro de Investigaciones en Óptica  
León Gto. México

*PhD Degree in  
Science (optics)*

*Thesis: Dynamics of the Green and Red Upconversion Emissions in  
Yb<sup>3+</sup> – Er<sup>3+</sup> Codoped Y<sub>2</sub>O<sub>3</sub> and ZrO<sub>2</sub> nanocrystals*

*Abstract: Recently has been an increasing interest in the investigation of nanocrystalline oxides. In this work we optimize the luminescent properties of nanomaterials using different techniques: Design of Experiments DoE, Stochastic methods and genetic algorithms.*

*Advisor: Dr. Luis Armando Díaz Torres.*

*Keywords: Design of Experiments, Simulation, Nanomaterials, Luminescent, Optimization, Genetic algorithms and Spectroscopy*

2004-2006                      Centro de Investigaciones en Óptica

*Master's Degree in  
Science (optics)*

*Thesis: Pair driven IR fluorescence quenching of Yb<sup>3+</sup> in ZrO<sub>2</sub> : Yb<sup>3+</sup>.*

*Advisor: Dr. Luis Armando Díaz Torres.*

*Keywords: Synthesis, Simulation, Nanomaterials, Luminescent, Optimization, Genetic algorithms, Nonlinear optical and Spectroscopy*

1999-2003                      Centro Universitario de Ciencias Exactas  
e Ingenierías. Guadalajara Jal. México

*Physics Degree*

*Distinction Academic Excellence*

## SOCIAL SERVICE

2002-2003                      Departamento de Ingeniería Química.  
Guadalajara Jal. México

*Rheology  
Laboratory*

*Fulfilling 900 hours of Social Service. Rheology research laboratories test polymeric materials for their rheological properties. Rheological characterisation of materials includes polymers, liquids, adhesives and other samples over a wide variety of shear and extensional conditions.*

## PROFESSIONAL CAREER

*Actually*                      Universidad Autónoma de San Luis  
Potosí.

*Researcher* In this project we propose to study the adsorption of associative polymers on colloidal particles suspended in water and adsorption conditions imposed by its structure.

*Programmer* *Actually* Independent  
GUI Programmer Second place in the international competition of the SPIE Web Design 2009. With this result, we overcome as Stanford University, Quebec, Arizona and other institutes from countries like Russia, South Africa, India and Belgium.

*Teacher* 2010-2011 Universidad Iberoamericana León.  
Gto. México  
Physics and Laboratory Practice.

*Assistant Teacher* 2007-2010 Centro de Investigaciones en Óptica.  
Ayude a impartir las siguientes asignaturas:  
▪ Electromagnetism  
▪ Physical optics  
▪ Mathematical Methods  
▪ Vector Calculus

*Profesor* 2005-2006 Colegio Pitágoras A.C., Leon Gto.  
▪ Chemistry I  
▪ Chemistry II

#### PROJECTS

*Consultant* *Currently* A. Schulman, Inc. San Luis Potosí  
The project is to improve the properties of plastics to weather and ultraviolet light through hindered amine light stabilisers different hindered amine light stabilisers (HALS).

*Consultant* 2011 *May-July* Valeo Sylvania Iluminación. Querétaro  
Manufacturing process optimization based auto lens polymer and red pigment mixture. 9SKUSD Malibu.

#### INFORMATICS

*Operating Systems* Linux and Windows.

*Programming Languages* Extensive experience programming in: C/C++, Fortran, Python, Minitab and Matlab.

#### LANGUAGES

*Spanish and English* English. With capacity to negotiate and draft documents. 580 TOEFL (Test of English as a Foreign Language).

## PAPES

- Desirena, H. , De La Rosa, E. Salas, P. , **Meza, O.**, *Journal of Physics D: Applied Physics*, Volume 44, Issue 45, 16 November 2011, Article number 455308
- Díaz-Torres, L.A., **Meza, O.**, Solis, D. , Salas, P. , De la Rosa, E. *Optics and Lasers in Engineering*, Volume 49, Issue 6, June 2011, Pages 703-708
- Oliva, J. , **Meza, O.** , Diaz-Torres, L.A. , Salas, P. , De La Rosa, E. *Journal of the Optical Society of America B: Optical Physics*, Volume 28, Issue 4, April 2011, Pages 649-657
- Borja-Urby , Diaz-Torres, L.A. Salas, P , Angeles-Chavez, C , **Meza, O** *Materials Science and Engineering B*, Article in press 2011
- **Meza, O.** , Díaz-Torres, L.A. , Salas, P., De La Rosa, E. , Solís, D. *Nanotechnology 2010: Advanced Materials, CNTs, Particles, Films and Composites - Technical Proceedings of the 2010 NSTI Nanotechnology Conference and Expo, NSTI-Nanotech 2010, vol. 1, pp. 75-78, 2010.*
- **Meza, O.** , Díaz-Torres, L.A., Salas, P. , De La Rosa, E. , Solis. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, vol. 174, no. 1-3, pp. 177-181, 2010.
- Díaz-Torres, L.A., **Meza, O.**, Salas, P. *Journal of Nanomaterials*, 2010.
- Solis, D. , De La Rosa, **Meza, O.** , Díaz-Torres, L.A. , Salas, P. , Ángeles-Chávez *Journal of Applied Physics*, vol. 108, no. 2, 2010.
- Solís, D., López-Luke, T., De La Rosa, **Meza, O.**, Anderson, S *Proceedings of SPIE - The International Society for Optical Engineering*, vol. 7617, 2010
- **Meza, O.** , Díaz-Torres, L.A., Salas, P. , De la Rosa, E. , Ángeles-Chávez, C. , Solis, D. *Journal of Nano Research*, vol. 5, no. 1, pp. 121-134, 2009
- De La Rosa, E., Solis, D. , Díaz-Torres, L.A. , Salas, P. , Ángeles-Chávez, C. , **Meza, O.** *Journal of Applied Physics*, vol. 104, no. 10, 2008

*Reviewer of  
Materials Science  
and Engineering B*

I participated as a reviewer of the journal indexed entitled **Materials Science and Engineering B**, ISSN: 0921-5107, Imprint: ELSEVIER

30 de noviembre de 2011