

CURRICULUM VITAE

Dr. Emilio Nogales Díaz

Name and address of institution: **Universidad Complutense de Madrid, Avenida Complutense s/n, 28040 Madrid (Spain)**

Telephone: +34 913944747 Fax: +34913944547 Email: emilio.nogales@fis.ucm.es

Position: **Profesor Titular de Universidad (Permanent Lecturer)**

Current research lines: Nanomaterials, electron microscopy, electronic properties, confocal Raman microscopy and micro-photoluminescence, cathodoluminescence, photoluminescence, semiconductor oxides, nanowires, waveguides, doping, transition metals, rare earths.

Co-author of 1 book chapter and more than 55 scientific papers (more than 50 in journals included in *ISI Web of Knowledge*). Some of the most relevant publications within the last years:

- "Cathodoluminescence from β -Ga₂O₃ nanowires", E. Nogales, B. Méndez, J. Piqueras, *Applied Physics Letters* **86**, 113112 (2005)
- "Selectively excited photoluminescence from Eu-implanted GaN", K. Wang, R.W. Martin, K.P. O'Donnell, V. Katchkanov, E. Nogales, K. Lorenz, E. Alves, S. Ruffenach, O. Briot, *Applied Physics Letters* **87**, 112107 (2005)
- "Failure mechanism of AlN nanocaps used to protect RE-implanted GaN during high temperature annealing", E. Nogales, R.W. Martin, K.P. O'Donnell, K. Lorenz, E. Alves, S. Ruffenach and O. Briot, *Applied Physics Letters* **88**, 031902 (2006)
- "Cathodoluminescence of rare earth implanted AlInN", K. Wang, R.W. Martin, E. Nogales, P.R. Edwards, K.P. O'Donnell, K. Lorenz, E. Alves, I.M. Watson, *Applied Physics Letters* **89**, 131912 (2006)
- "Red luminescence of Cr in β -Ga₂O₃ nanowires", E. Nogales, J.A. García, B. Méndez, J. Piqueras, *Journal of Applied Physics* **101**, 033517 (2007)
- "Doped gallium oxide nanowires with waveguiding behavior", E. Nogales, J.A. García, B. Méndez, J. Piqueras, *Applied Physics Letters* **91**, 133108 (2007)
- "Europium doped gallium oxide nanostructures for room temperature luminescent photonic devices", E. Nogales, B. Méndez, J. Piqueras, J.A. García, *Nanotechnology* **20**, 115201 (2009)
- "Assessment of waveguiding properties of gallium oxide nanostructures by angle resolved cathodoluminescence in a scanning electron microscope", E. Nogales, B. Méndez, J. Piqueras, *Ultramicroscopy* **111**, 1037 (2011)
- "Synthesis and characterization of silicon-doped gallium oxide nanowires for optoelectronic UV applications", J. Díaz, I. López, E. Nogales, B. Méndez, J. Piqueras, *J. Nanopart. Res.* **13**, 1833 (2011)
- "Cathodoluminescence of rare earth implanted Ga₂O₃ and GeO₂ nanostructures", E. Nogales, P. Hidalgo, K. Lorenz, B. Méndez, J. Piqueras, E. Alves, *Nanotechnology* **22**, 285706 (2011)
- "In-Doped Gallium Oxide Micro- and Nanostructures: Morphology, Structure, and Luminescence Properties", I. López, A. D. Utrilla, E. Nogales, B. Méndez, J. Piqueras, A. Peche, J. Ramirez-Castellanos and J. M. González-Calbet, *J. Phys. Chem. C*, **116**, 3935 (2012)
- "Influence of Sn and Cr Doping on Morphology and Luminescence of Thermally Grown Ga₂O₃ Nanowires", I. López, E. Nogales, B. Méndez, J. Piqueras, A. Peche, J. Ramirez-Castellanos and J. González-Calbet, *Journal of Physical Chemistry C* **117**, 3036 (2013)
- "Enhanced red emission from Praseodymium doped GaN nanowires by defect engineering", K. Lorenz, E. Nogales, S. M. C. Miranda, N. Franco, B. Méndez, E. Alves, G. Tourbot, B. Daudin, *Acta Materialia* **61**, 3278 (2013)
- "Crossed Ga₂O₃/SnO₂ Multiwire Architecture: A Local Structure Study with Nanometer Resolution", G. Martínez-Criado, J. Segura-Ruiz, M.-H. Chu, R. Tucoulou, I. López, E. Nogales, B. Méndez and J. Piqueras, *Nano Letters* **14**, 5479 (2014)

Principal Investigator in 3 research projects for measurements in the *Sincrotrone Elettra*, Trieste (Italy). Member of 17 research projects: 12 national (among them, one CONSOLIDER Ingenio of the MICINN) and 5 international (among them 3 RTN within the 5th Framework Programme of the EU).

Coauthor of more than 80 contributions to conferences. Among them, 8 invited and more than 40 oral presentations.

Member of the Local Organizing Committee, International Workshop *Beam Injection Assessment of Microstructures in Semiconductors* 2008 (BIAMS2008).

Chairman of the session "New trends and developments in optical spectroscopy and luminescence techniques I" in the *Conference on Micro-Raman and luminescence in Earth and Space Sciences CORALS 2011 (Madrid, Spain)*