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Professional

Professor in plasma physics and structural analysis of biological matter

Research: plasma assisted thin film deposition and surface functionalization, atomic force microscopy investigation of surface forces for oxides, polymers, biologic samples and study of capillary condensation of water at nanoscale.

Education

Ph.D. Faculty of Physics, "Al. I. Cuza " University, Iasi, Romania , Plasma Physics; December 1997

MEng Department of Electrical Engineering, Nagoya Institute of Technology, Gokiso-cho, Showa-ku, Nagoya, Japan / Electrical Engineering ; *graduation:* March 1997

BS Faculty of Physics, "Al. I. Cuza" University, Iasi, Romania; Solid State Physics, June 1983

Scholarships and awards:

Research Institute of Electronics, Shizuoka University, Johoku, Hamamatsu-shi, JAPAN : *Visiting Professor* -April-June, 2014 ; *Visiting Scientist* : August 2000 - March 2003.

Institute for Health and Consumer Protection, European Commission Joint Research Centre, VA, Italy : *Senior Scientist Fellowship* (June, 2005-November, 2008)

School of Physics, Georgia Institute of Technology, ATLANTA (*Fulbright Scholar* Sept. 2004-March 2005)

Instituto di Struttura della Materia, CNR, Roma, Italy :*NATO-CNR Scholar* (June-Aug. 2004)

Graduate School of Engineering, Nagoya University, Chikusa, Nagoya, JAPAN : *Visiting Researcher* (October 1999 -July 2000)

Grants

-CNCSIS, 18 RO-FR/2014, *Sun light oxy-nitrides for energy applications*

-CNCSIS, IDEI PNII 267/2011, *Plasma functionalization of nanoscopic probes*

-Grant FP7 nr 224982/2008-2013 *FUSINET –A European Fusion Education Network*

-CNCSIS grant type A 628/2004-2007 *Atomic force microscopy study of interaction forces between chemically functionalized surfaces*

Apetrei, A., Sirghi, L.: Stochastic adhesion of hydroxylated atomic force microscopy tips to supported lipid bilayers, (2013) *Langmuir*, 29 (52), pp. 16098-16104.

Tiron, V., Coman, T., Sirghi, L., Popa, G.: Atomic force microscopy investigation of piezoelectric response of ZnO thin films deposited by HIPIMS; (2013) *Journal of Optoelectronics and Advanced Materials*, 15 (1-2), pp. 77-81.

Sirghi, L.: Transport mechanisms in capillary condensation of water at a single-asperity nanoscopic contact (2012) *Langmuir*, 28 (5), pp. 2558-2566.

Giudetti, G., Lisboa, P., Sirghi, L., Rauscher, H., Colpo, P., Rossi, F.: Force spectroscopy study of a nano-patterned organothiol surface fabricated by colloidal lithography (2010) *European Cells and Materials*, 20, p. 92.

Sirghi, L., Rossi, F.: The effect of adhesion on the contact radius in atomic force microscopy indentation, (2009) *Nanotechnology*, 20, 365702,

Kulisch, W., Freudenstein, R., Ruiz, A., Valsesia, A., Sirghi, L., Ponti, J., Colpo, P., Rossi, F.:

Nanostructured materials for advanced technological applications: A brief introduction (2009) *NATO Science for Peace and Security Series B: Physics and Biophysics*, pp. 3-34.