

PERSONAL INFORMATION

Claudia Triolo



Sex Female | Date of birth [REDACTED] | Nationality Italy

Postdoctoral researcher

1 Mar. 2016 – 28 Feb. 2017

"Realizzazione di tecniche ottiche innovative per lo studio di processi termodinamici in dispositivi elettronici di potenza di nuova generazione basati su SiC e GaN."

WORK EXPERIENCE

1 Jan. 2013 – 31 Dec. 2015

PhD Student

PhD student in physics at University of Messina (Italy)

My job involves both experimental and theoretical studies:

- Experimental field: Techniques of scanning probe microscopy (AFM and SNOM) for: (a) Optical nanolithography below the diffraction limit on organic thin films. (b) Near-field analysis of the plasmonic behaviour of the metallic nanostructures. (c) Standard optical characterization techniques, including Raman spectroscopy. (d) In collaboration with ST Microelectronics (plant of Catania, Italy), I participated to the design of an innovative experimental system, based on the optical lever, for the measurement the thermo-mechanical deformations of power electronics devices induced by current pulses. The target is to propose a novel methodology in order to test the reliability of the power devices. This test is complementary with thermal stress analysis, a research topic developed over the past decade by the research group to which I belong.
- Theoretical field: Simulations based on Finite Elements Method to analyze the optical behaviour of metallic and organic nanostructures.

EDUCATION AND TRAINING

Sept. 2007- July 2010

Bachelor degree in Physics (108/110)

University of Messina (ME), Italy.

Sept. 2010- Oct. 2012

Master degree in Physics of Condensed Matter (110/110 cum laude)

University of Messina (ME), Italy.

11 April 2016

PhD in Physics

University of Messina (ME), Italy.

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B1	B1	B1	B1	B1
French	B2	B2	B1	B1	B1

Computer skills Deep knowledge of MATLAB programming language, Visual Studio, Microsoft office, and of COMSOL Multiphysics software as simulation tool.

Driving licence B

ADDITIONAL INFORMATION

Publications

1. C. Triolo, S. Patanè, M. Mazzeo, S. Gambino, G. Gigli, M. Allegrini, "Pure optical nano-writing on light-switchable spiropyrans/merocyanine thin film", OPTICS EXPRESS 22 (2014) 283-288.
2. S. Panarello, C. Triolo, A. Testa, S. Patanè, D. Patti, S. Russo, "Thermal Stress and Mechanical Strain Real Time Mapping in Intelligent Power Switching Device", Proceedings of the 26th International Symposium on Power Semiconductor Devices & IC's, June 15-19, 2014 Waikoloa, Hawaii.
3. C. Triolo, A. Cacciola, R. Saija, S. Trusso, M.C. Spadaro, F. Neri, P.M. Ossi, S. Patanè, "Near-Field Optical Detection of Plasmon Resonance from Gold Nanoparticles: Theoretical and Experimental Evidence", Plasmonics 10 (2015) 63-70.
4. A. Cacciola, C. Triolo, O. Di Stefano, A. Genco, M. Mazzeo, R. Saija, S. Patanè, S. Savasta, "Subdiffraction Light Concentration by J-aggregate Nanostructures", ACS Photonics 2 (2015) 971-979.
5. M. Allietta, M. Scavini, A. Naldoni, M. Coduri, S. Cappelli, C. Oliva, S. Santangelo, C. Triolo, S. Patanè, A. Lascialfari, V. Scagnoli, "Interplay of structural and magnetic nanoscale phase separation in layered cobaltites", PHYSICAL REVIEW B 92 (2015) 054202.
6. C. Triolo, E. Fazio, F. Neri, M.A. Mezzasalma, S. Trusso, S. Patanè, "Correlation between structural and electrical properties of PLD prepared ZnO thin films used as a photodetector material", Applied Surface Science 359 (2015) 266-271.
7. S. Panarello, F. Garesci, C. Triolo, S. Patanè, D. Patti, S. Russo, "Reliability Model Application for Power Devices using Mechanical Strain Real Time Mapping", Proceedings of the 28th International Symposium on Power Semiconductor Devices & IC's, June 12-16, 2016 Prague, Czech Republic.
8. S. Patanè, C. Triolo, P. Cardiano, S. Lo Schiavo, "Capacitive properties of the hydrophobic [2-(methacryloyloxy) ethyl]-trimethyl ammonium nonafluoro-1-butanefluorobutanesulfonate poly(ionic liquid) thin film", Ionics 23 (2017) 1481-1487.
9. S. Santangelo, S. Patanè, P. Frontera, F. Pantò, C. Triolo, S. Stelitano, P. Antonucci, "Effect of calcium- and/or aluminum-incorporation on morphological structural and photoluminescence properties of electro-spun zinc oxide fibers", Materials Research Bulletin 92 (2017) 9-18.
10. P. Cardiano, O. Gómez-Laserna, P. G. Mineo, E. Furia, C. Triolo, S. Patanè, S. Lo Schiavo, "Synthesis, CO₂ sorption and capacitive properties of novel protic poly(ionic liquid)s", Journal of Molecular Liquids 241 (2017) 222-230.
11. C. Triolo, A. Cacciola, S. Patanè, R. Saija, S. Savasta, F. Nori, "Spin-Momentum Locking in the Near Field of Metal Nanoparticles", ACS Photonics 4 (2017) 2242-2249.
12. S. Panarello, C. Triolo, F. Garesci, S. Patanè, G. Billè, D. Patti, L. Burian, D. Gazzo, S. Petényi, C. Ribellino, "Improving ICs reliability with high speed thermal mapping", Proceedings of the 14th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD), 12-15 June 2017, Gardini

Naxos, Italy.

Conferences

1. POSTER PRESENTATION: **S. Panarello, C. Triolo, A. Testa, S. Patanè, D. Patti, S. Russo**, "Thermal Stress and Mechanical Strain Real Time Mapping in Intelligent Power Switching Device", 26th International Symposium on Power Semiconductor Devices & IC's, June 15-19, 2014 Waikoloa, Hawaii.
2. POSTER PRESENTATION: **C. Triolo, A. Cacciola, R. Saija, S. Trusso, M.C. Spadaro, F. Neri, P.M. Ossi, S. Patanè**, "Near-field plasmons from gold nanoparticles: theoretical and experimental evidence", 5th International Conference on NANO-structures Self-Assembly, July 7-11, 2014 Marseille, France.
3. POSTER PRESENTATION: **C. Triolo, S. Trusso, S. Savasta, S. Patanè, R. Saija**, "Near-field plasmons from gold nanoparticles: theoretical and experimental evidence", COST Action MP1403 "Nanoscale Quantum Optics", April 9-10, 2015 Belgrade (Serbia).
4. ORAL PRESENTATION: **C. Triolo, A. Cacciola, O. Di Stefano, A. Genco, M. Mazzeo, R. Saija, S. Patanè, S. Savasta**, "Plasmon-like Subdiffraction Light Concentration by J-aggregate Nanostructures", 3th Conference Plasmonica 2015, July 1-3, 2015 Padova, Italy.
5. POSTER PRESENTATION: **S. Santangelo, P. Frontera, F. Pantò, A. Naldoni, F. Malara, M. Marelli, V. Del Santo, S. Patanè, C. Triolo, P. Antonucci**, "Electro-Spun Hematite Fibrous Films as Photo-Anode for Water Splitting", International conference NanotechITALY 2015, November 25-27, 2015 Bologna, Italy.
6. ORAL PRESENTATION: **C. Triolo, A. Cacciola, A. Genco, M. Mazzeo, R. Saija, S. Patanè, S. Savasta, O. Di Stefano**, "Localized Surface Polaritons in J-Aggregate Nanostructures", FisMat2015, 28 September-2 October 2015, Palermo, Italy.
7. POSTER PRESENTATION: **Santangelo, S.; Frontera, P.; Pantò, F.; Naldoni, A.; Malara, F.; Marelli, M.; Dal Santo, V.; Patané, S.; Triolo, C.; Antonucci, P.L.**, "Electro-Spun Hematite Fibrous Films as Photo-Anode for Water Splitting", NANOTECHITALY 2015, 25-27 November 2015, Bologna, Italy.
8. POSTER PRESENTATION: **Marelli, M.; Malara, F.; Naldoni, A.; Allieta, M.; Santangelo, S.; Patané, S.; Triolo, C.; Psaro, R.; Dal Santo, V.**, "Si-MODIFIED SOLVOTHERMAL SYNTHESIS OF α -Fe₂O₃ FOR PHOTOELECTROCHEMICAL APPLICATIONS", MCM 2015, Multinational Congress on Microscopy, 23-28 August 2015, Eger (Hu).
9. POSTER PRESENTATION: **S. Panarello, F. Garesci, C. Triolo, S. Patanè, D. Patti, S. Russo**, "Reliability Model Application for Power Devices using Mechanical Strain Real Time Mapping", 28th International Symposium on Power Semiconductor Devices & IC's, June 12-16, 2016 Prague, Czech Republic.
10. POSTER PRESENTATION: **Frontera, P.; Santangelo, S.; Pantò, F.; Naldoni, A.; Malara, F.; Marelli, M.; Santo, V. Dal; Patané, S.; Triolo, C.; Antonucci, P.L.**, "Electrospun coral-like α -Fe₂O₃ nanostructures for photoelectrochemical water splitting", Electrospin 2016, 28 June – 1 July 2016, Otranto (Italy).
11. POSTER PRESENTATION: **Malara, F.; Allieta, M.; Marelli, M.; Santangelo, S.; Patané, S.; Triolo, C.; Psaro, R.; Santo, V. Dal; Naldoni, A.**, "Silicon-driven morphology, structure, and water splitting activity in hematite nanostructures", ENERCHEM-1, 18-20 Feb. 2016, Firenze (Italy).
12. POSTER PRESENTATION: **Malara, F.; Allieta, M.; Marelli, M.; Santangelo, S.; Oldani, V.; Bianchi, C.; Patané, S.; Triolo, C.; Psaro, R.; Dal Santo, V.; Naldoni, A.**, "Simultaneous control of morphology and PEC water splitting activity of hematite nanostructures by silicon doping", MSR 2016, 28 March – 1 April 2016, Phoenix (USA).
13. POSTER PRESENTATION: **Triolo, C.; Cacciola, A.; Patané, S.; Saija, R.; Savasta, S.; Nori, F.**, "Spin-Orbit Interactions of Light in the Near Field of Metal Nanoparticles", Plasmonica 2017, 5-7 July 2017, Lecce (Italy).
14. POSTER PRESENTATION: **Triolo, C.; Settineri, A.; Savasta, S.; Trusso, S.; Saija, R.; Patané, S.; Agarwal, N. R.**, "Plasmon vortices around isolated nanoholes cratered on a gold film: polarization dependent coupling of SPPs and excitation beam", Plasmonica 2017, 5-7 July 2017, Lecce (Italy).
15. ORAL PRESENTATION: **S. Panarello, C. Triolo, F. Garesci, S. Patanè, G. Billè, D. Patti, L. Burian, D. Gazzo, S. Petényi, C. Ribellino**, "Improving ICs reliability with high speed thermal mapping", SMACD 2017, 12-15 June 2017, Giardini Naxos (Italy).

References

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