Sara Reynaud

Materials Engineer

Contact Information

Address	315 Magnolia St, Highland Park, NJ 08904
Telephones	(USA) +1-7324454527
	mobile +1-6105476130
	(Italy) +39-0823471968
E-mail	sreynaud@eden.rutgers.edu , sarary@msn.com
Nationality	Italian

Education

2007-present	Qualification	Ph.D student in Material Science and Engineering
	Academic institution	Rutgers, The State University of New Jersey
	Advisor	Prof. Manish Chhowalla
	Objectives	Working on boron carbide thin films, understanding properties and capabilities of BC for armor and other potential applications. Conducting lab activities, confident in RF sputtering system, use of Raman Spectroscopy and X-ray Diffraction techniques.
2003-2005	Qualification	Materials Engineering Degree (M.S. equivalent) GPA 110/110 (***Magna Cum Laude***)
	Academic institution	University of Naples "Federico II"
	Thesis title	Drop deformation in semi-concentrated liquid-liquid mixture
	Advisor	Prof. Stefano Guido, Dept. of Chemical Engineering
	Principal subjects	Materials Thermodynamics, Transport Phenomena, Chemical Reaction Engineering, Rheology, Complex Fluid Mechanics, Electromagnetic Modelling, Science of Metals, Physics and Technological Properties of Polymers, Superconductivity.
2000-2003	Qualification	Diploma in Materials Science and Engineering (B.S. equivalent) GPA 110/110 (***Magna Cum Laude***)
	Academic institution	University of Naples "Federico II"
	Thesis title	Investigation and Implementation of Josephson Junctions at Grain Boundaries in High-T_c Superconductors
	Thesis advisor	Prof. Lorenzo Marrucci, Dept .of Physics
	Principal subjects	Physics, General Chemistry, Organic Chemistry, Physical Chemical of Materials, Thermodynamics, Transport Phenomena, Technology Mechanics, Electrical Engineering

Work experience

01/2006- 02/2007	Business	**Arkema Inc**, 100 First Avenue, King of Prussia, PA 19406, USA *Vinyl products, industrial chemicals, performance products*
	Position held	Trainee (Rheological laboratory)
	Objectives	Conduct laboratory experiments, develop understanding of test results and physical problems, attend safety training and meetings, communicate experimental results to the lab manager

03/2005- 05/2005	Business	**Colmegna Sud srl**, Marcianise sud-81025, Caserta, Italy *Thermal treatment of metals*
	Position held	Trainee
	Objectives	Learn hardware and software required for operation of an industrial plant, make plans for thermal cycles, quality control and production balance
01/2001- 06/2001	Business	**Easy srl**, via G. Di Giovanni, 14-90139, Palermo, Italy *System integration*
	Position held	PC operator
	Objectives	Implementation of a marketing database
06/1999- 09/1999	Business	**Carta Sicilia**, via G. Di Giovanni, 14-90139, Palermo, Italy *Non Profit Society*
	Position Held	Promoter
	Objectives	Promotion of social and cultural activities

Skills / Competences

Technical

- Expert in: "Capillary" and "Rheotens" Rheometers for performing rheological characterization of melt polymers, "ARES Rheometric" and "Par Physica" for rotational and extentional rheology, "Minimat" and "Pendulum Protear Electronic" tearing and mechanical testers, "DSM micro-extruder" and "Micro-injection molding" micro-processing lab equipment. Operate Alliance Gel Permeation Chromatography system (hands-on experience acquired during internship at Arkema Inc.)
- Use of rheo-optical equipment, image analysis and data reduction software for analysis of rheological properties of different materials, "Bohlin" apparatus (hands-on experience acquired in Laboratory Gianni Astarita, Dept. of Chemical Engineering, University of Naples "Federico II")
- Plan thermal cycles for metal tempering, test hardness of metals using Rockwell and Vickers micro-hardness testers (hands-on experience acquired at Colmegna Sud srl.)
- Fabrication of Josephson junctions by sputtering, spin coating, photolithography and ion milling (Dept. of Physics, University of Naples "Federico II")

Social and organizational

- Excellent communication and relation skills
- Excellent teamwork ability

Publications

- S. Guido, S. Caserta, S. Reynaud, Drop deformation in sheared polymer blends (submitted to *Journal of Rheology* November 2006, in review)
- N. Mekhilef, L. Hedhli, S. Reynaud, G.O. Pasquariello, High Melt Strength Polyvinylidene Fluoride for Thermoforming Applications (submitted to *ANTEC*, Annual Technical Conference, Cincinnati, OH, May 6-10, 2007)
- N. Mekhilef, S. Reynaud, L. Hedhli, G.O. Pasquariello, Polyvinylidene Fluoride containing long chain branching for blown film applications (submitted to *ANTEC*, Annual Technical Conference, Cincinnati, OH, May 6-10, 2007)

Seminars and conferences

- Attendance of several seminars at Arkema Inc. (2006)
- "Organic Superconductors and Cuprates: Comparison and Research on the Nature and Anomalous Properties at Normal and Superconductive State" (04/2005, class of Dept. of Physics, University of Naples "Federico II")

Extra-Professional Activities

Cultural and social

- Participation in "Forum Civile Euromed" (Naples, Italy, December 1997)
- Participation in a meeting at the Institute for Philosophical Studies in Naples (Italy, 2000)
- Member of the editorial board for students' journal of the 47° district of Naples (Italy, 2000)

Sports and hobbies

- All sports, especially team sports (volley)
- Travelling and experiencing different cultures

Languages

Italian (Native ability), English (Fluent), French (Basic understanding)

References

- Prof. Manish Chhowalla, Materials Science and Engineering Department, Rutgers The State University of New Jersey, 607 Taylor Road, Piscataway, NJ 08854, USA. Tel.: (732) 4455619, Fax: (732) 4453258, e-mail: manish1@rci.rutgers.edu
- Prof. Stefano Guido, Chemical Engineering Department, University of Naples *Federico II*, 80125 Naples, Italy. Tel.: (+39) 081-7682271, Fax: (+39) 081-2391800, e-mail: steguido@unina.it
- Dr. Nafaa Mekhilef, PhD, Rheology, Thermal and Micro-Processing Arkema, Inc.Technical Center, 900 First Avenue, King of Prussia, PA 19406, U.S.A., Tel.: (610) 878-6977, Fax: (610) 878-6196, e-mail: nafih.mekhilef@arkemagroup.com