

Encontro da X SBPMat

Gramado-RS

25 to 29 | september
2011

Conference Details and Registration

All attendees are encouraged to visit the conference website <http://www.sbpmat.org.br/x-meeting> for further and updated information such as registration, submission of abstracts, important links for traveling (visas, travel agencies) and hotel reservation.

Symposia

- A) Magnetic and Superconducting Materials
- B) Biodegradable Polymer Materials
- C) Electronic Materials
- D) Surface Engineering: Fabrication, Characterization, Properties and Applications of Protective Coatings and Modified Surfaces
- E) Materials with Negative Properties
- F) Nanostructured Functional Materials for Advanced Energy and Environmental Applications
- G) Molecular Modeling Materials Science
- H) Structure-property Relationship of Advanced Metallic Materials
- I) Sol-gel Route to Prepare New Inorganic, Hybrid and Multifunctional Materials
- J) Solidification of Metals and Alloys
- K) Supramolecular Organic Materials for Electronic, Photonics and Nanotechnology
- L) Structure-Property Relationship of Ceramic Materials: Theoretical and Experimental Aspects
- M) Advances and Applications of Electron Microscopy
- N) Prospects for Materials Science with Synchrotron Radiation in Brazil
- O) 1st Brazilian Symposium in Friction Stir Welding and Processing
- P) Graphene

Official Travel Agency: Liga Turismo

agency provides excellent hosting, airline tickets (20% discount), Gramado-PoA airport shuttle options and sightseeing suggestions.

Turismo also provides travel-hosting-tour combo options! Get in touch!

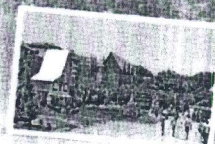
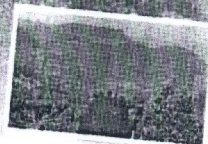
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SBPMat
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X Brazilian MRS Meeting



16 symposia with oral, poster and invited lecture presentations

Plenary lectures

Exhibits

Celebration of 10 years of Brazilian MRS

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*10 years of excellence in
the congregation of science
and research in materials
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Contact

Secretariat

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Conference Chairs

Paulo F. P. Fichtner - UFRGS - RS
Naira M. Balzaretti - UFRGS - RS

Important Dates

April, 5th - Registrations open
May, 30th - Submissions deadline
June, 13th - Acceptance

Support



Credit of photos: Leonid Streltsov

Interactions and Miscibility in Polymer Blends Obtained by Solution Blow Spinning

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Solution blow spinning (SBS), was developed recently [1] and is conceptually similar to electrospinning without the voltage requirement. This technique also retains elements of melt blow spinning. This new method has been successfully used to produce micro and nanofibers of several polymers with diameters ranging from a few tenths of nanometers to microns, depending on the experimental conditions used. This technique applies a novel pair of concentric nozzles in which a polymer solution is forced through the inner nozzle at an appropriate rate. The droplet formed at the tip of the inner nozzle is then stretched by a high pressure stream of compressed gas flowing around the droplet through the outer nozzle. When a critical air pressure is exceeded, this solution jets from the apex of the cone towards its target. As these jets travel across the working distance, they are stretched by the pressure drop, while the solvent evaporates, leaving behind polymer fibers which can be collected, basically, on any target. Thus, there has an increasing interest in literature in the study of polymer blend nanofibers because develop new materials with controlled properties intermediate or even higher than those observed in the pure constituents [2]. These polymer blend nanofibers can be used in areas such as drug release, biomaterials, structural sensors and packaging [3,4]. The goal of this work was to study, polymer-polymer interactions in poly (lactic acid) (PLA)/ poly (ethylene oxide) (PEO) blends obtained by solution blow spinning. Then, non-woven mats of different polymer ratio in blend were characterized by scanning electron microscopy (SEM), viscosity measurements, Fourier transform infrared spectroscopy (FTIR) and Raman spectroscopy.

Keywords: solution blow spinning, blend, nanofibers, spectroscopy, viscosity.

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[1] Medeiros, E.S., et al., *Journal of Applied Polymer Science*, **113**(4), 2322 (2009).

[2] L.A. Utracki, "Polymer Blends Handbook", Vol. 1-2, Springer Verlag, 2002.

[3] Hong, C.K., et al., *Polymer International*, **57**(12), 1357 (2008).

[4] Wei, M., et al., *Macromolecular Materials and Engineering*, **291**(11), 1307 (2006).

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