

Solange Inês Mussatto Dragone

Researcher, Ph.D.

6 years of experience as researcher (Ph.D)

Centre of Biological Engineering

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Research lines (Areas):

1. Extraction of sugars and bioactive compounds from lignocellulosic materials, plants and macroalgae by different procedures including solid-to-liquid extraction, microwave assisted extraction, hydrothermal hydrolysis and hydrolysis processes based on the use of acids, alkalis or enzymes.
2. Bioprocesses for the production of value-added compounds including ethanol, xylitol, organic acids, fructooligosaccharides, bioactive compounds, alcoholic beverages, enzymes, and others.
3. Fermentation technology: submerged and solid-state fermentation systems; Immobilized cell systems.
4. Optimization of processes conditions by statistical experimental designs.

Academic information:

- **Graduation in Chemical Industrial Engineering;** Chemical Engineering School of Lorena, Lorena, Brazil. 1999.
- **Master Science in Industrial Biotechnology;** Chemical Engineering School of Lorena, Lorena, Brazil. 2002.
- **PhD in Industrial Biotechnology;** Engineering College of Lorena, University of São Paulo, Lorena, Brazil. 2007.
- **Postdoctoral Research:** University of Minho, Braga, Portugal. Actual.

Selected Awards or Prizes:

1. **“Ciência de Impacto em Biotecnologia”** for the article "Technological trends, global market, and challenges of bio-ethanol production", published in the journal *Biotechnology Advances*. Escola de Engenharia de Lorena, Universidade de São Paulo, Lorena, Brazil, 2012.
2. **“George F. Stewart International Research Paper Competition”**, 3rd place in the ITF Annual Meeting 2009. Institute of Food Technologists - The Society for Food Science and Technology – IFT, Anaheim, CA, USA, 2009.
3. **Best PhD thesis**, selected by the Pos-graduation committee of the Engineering College of Lorena (EEL-USP) to compete to the CAPES thesis award of 2008 representing the Program of Industrial Biotechnology of the Engineering College of Lorena, University of São Paulo, Lorena, Brazil, 2008.
4. **“sbCTA-PR - Renato João Sossela de Freitas”**, 1st prize, Sociedade Brasileira de Ciência e Tecnologia de Alimentos (sbCTA-PR), Brazil, 2006.
5. **“Leopold Hartman”**, 1st prize in the XIX CBCTA, Sociedade Brasileira de Ciência e Tecnologia de Alimentos (sbCTA), Brazil, 2004.

Publications:

(87 papers in indexed journals; 5 Chapters in Books; 3 Patents; 192 Proceedings; 6 Abstracts in peer-reviewed journals; 12 Articles in newspapers and non peer-reviewed journals). Details of the 5 most recent publications.

1. Silvério SC, Moreira S, Milagres AMF, Macedo EA, Teixeira JA, Mussatto SI. 2013. Laccase production by free and immobilized mycelia of *Peniophora cinerea* and *Trametes versicolor*: a comparative study. *Bioprocess and Biosystems Engineering*, in press. doi: 10.1007/s00449-012-0793-2.
2. Martins S, Amorim ELC, Peixoto Sobrinho TJS, Saraiva AM, Pisciotano MNC, Aguilar CN, Teixeira JA, Mussatto SI. 2013. Antibacterial activity of crude methanolic extract and fractions obtained from *Larrea tridentata* leaves. *Industrial Crops and Products*, 41, 306-311.
3. Landaeta R, Aroca G, Acevedo F, Teixeira JA, Mussatto SI. 2013. Adaptation of a flocculent *Saccharomyces cerevisiae* strain to lignocellulosic inhibitors by cell recycle batch fermentation. *Applied Energy*, 102, 124-130.
4. Mussatto SI, Prata MB, Rodrigues LR, Teixeira JA. 2012. Production of fructooligosaccharides and b-fructofuranosidase by batch and repeated batch fermentation with immobilized cells of *Penicillium expansum*. *European Food Research and Technology*, 235, 13-22.
5. Silva JPA, Mussatto SI, Roberto IC, Teixeira JA. 2012. Fermentation medium and oxygen transfer conditions that maximize the xylose conversion to ethanol by *Pichia stipitis*. *Renewable Energy*, 37, 259-265.

Top three publications (most cited or publication with the highest impact factor):

1. Mussatto SI, Dragone G, Guimaraes PMR, Silva JPA, Carneiro LM, Roberto IC, Vicente A, Domingues L, Teixeira JA. 2010. Technological trends, global market, and challenges of bio-ethanol production. *Biotechnology Advances*, 28, 817-830.
2. Mussatto SI, Roberto IC. 2004. Alternatives for detoxification of diluted-acid lignocellulosic hydrolyzates for use in fermentative processes: a review. *Bioresource Technology*, 93, 1-10.
3. Roberto IC, Mussatto SI, Rodrigues RCLB. 2003. Dilute-acid hydrolysis for optimization of xylose recovery from rice straw in a semi-pilot reactor. *Industrial Crops and Products*, 17, 171-176.

Research projects.

Details of last three projects:

1. Agência de Inovação (AdI, Portugal). Alganol – Production of bioethanol and CO₂ sequestration from high starch accumulating microalgae in a continuous oscillatory flow bioreactor. Mar/2011 – Actual.
2. Fundação para a Ciência e a Tecnologia (FCT, Portugal). Implementation of solid-state fermentation systems for bioactive compounds production. Jan/2011 – Actual.
3. Fundação para a Ciência e a Tecnologia (FCT, Portugal). Development of advanced processes for fructooligosaccharides production. Jan/2008 – Dec/2010.

Research Thesis and Postdoctoral stages (directions):

1. Number of Master thesis: 4 concluded
2. Number of PhD thesis: 1 concluded, 6 actual

Organization of events:

1. II Iberoamerican Congress on Biorefineries, April 10th to 12th, 2013, Convention and Congress Center of Jaén, Spain.



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Universidad Autónoma de Coahuila
2013



Other relevant scientific information:

Citation in bibliographical bases - Verification: January, 23, 2013.

Results in Web of Science (Mussatto S*): 77. Sum of the times cited: 1039. h-index: 16

Results in Scopus (Mussatto S*): 79. Sum of the times cited: 1229. h-index: 18