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Glycolipid production in yeast and enzyme catalysed processes

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Only about 25% of the total surfactant production is biobased and can be classified according to the method of production: 1) Synthetic biobased surfactants synthesised from sugars and fatty acids or their corresponding alcohols by conventional organic chemistry at elevated temperature and reduced pressure using chemical catalysts, 2) Enzymatic biosurfactants also synthesised from sugars and fatty acids but at relatively lower temperatures and atmospheric pressure in cell free processes utilizing the substrate specificity and regio-selectivity of enzymes, 3) Microbial biosurfactants are glycolipids incorporated into cell membranes or secreted extracellularly by microorganisms. Microbial biosurfactants are still in their commercial infancy with only very few products on the market. The most promising biosurfactants known today are produced in bioreactors on lipid and sugar-containing growth media and include sophoro, rhamno, trehalose and mannosylerythritol lipids. The presentation will discuss resent results on production of glycolipids in yeast and enzyme catalysed processes.

Speaker Biography

Lars Haastrup Pedersen did his industrial PhD in a collaboration between Carlsberg Research Center and Copenhagen University, Denmark. He has been working 25 years at Aalborg University where he is associate professor in the Bioprocess Technology Group. Current publication record shows a total of 56 including 25 scientific articles with over 400 citations, H-index Web of Science Thomas Reuters: 12.

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