

## Stellenbosch University, Department of Process Engineering

Stellenbosch, South Africa <a href="http://processengineering.sun.ac.za/">http://processengineering.sun.ac.za/</a>

Title:	Valorisation of low value fish processing waste: Optimisation of enzymatic protein hydrolysis of fish processing waste
Abstract:	Fish processing waste is a potential source of essential nutrients in animal feeds, as it contains all essential amino acids and relatively high levels of protein. Conventional processing of fish processing waste converts the waste into fish meal, which has poor functional properties and relatively low economic value. Utilization of enzymatic protein hydrolysis technology could potentially provide an alternative processing route for the treatment of fish processing waste, as proteolytic enzymes specifically target the protein component in the waste, leaving the skeletal material unaltered for further specialist product recovery. Functional properties of hydrolysed proteins are altered and can be improved during hydrolysis, thereby potentially increasing the value thereof. Product quality and functional properties largely determine the price of final products, and these depend heavily on processing conditions; subsequently these need to be optimized to ensure maximal economic returns when employing this processing route.  The aim of the project is therefore to develop and optimize an enzymatic protein hydrolysis process to recovery specialist hydrolysed proteins from South African fish processing waste aimed at animal feed markets.
Lead institution:	Stellenbosch University, Department of Process Engineering
Partner institutions:	-
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Degree:	MEng
Funded by:	Protein Research Foundation
Start date:	July 2014
End date:	June 2016
Feedstock:	Waste originating from fish processing activities
Value chain products:	Specialist hydrolysed fish proteins.
Geographic source of the feedstock:	Western Cape