

DairyWater Project

Prof. Xinmin Zhan, *NUI Galway*



DairyWater objectives

- Funded by the Department of Agriculture, Food and the Marine
- Aims to help the dairy processing industry increase its sustainability through increased efficiency of resource consumption
- Achieved through exploring:
 - Biological P removal
 - IASBR
 - Water re-use in plants
 - Other novel technologies
 - Nanomaterials for wastewater treatment
 - Pulsed UV water treatment systems

Interaction between research institutes



Molecular analysis of IASBR technology



Secondary treatment of wastewater using IASBR technology



Trinity College Dublin

Nanotechnologies for dairy wastewater treatment



Lead Organisation NUIG



Tertiary disinfection systems for water reuse and rainwater harvesting



NUI Galway
OÉ Gaillimh

Environmental life cycle assessment of Irish dairy processing industry



**Advisory board
Industry collaborators**

Industry stakeholders

Project Manager: Dr. William Finnegan

DairyWater

Industry Liaison

Main objectives:

- Details of the current wastewater treatment systems (samples)
- Information on water treatment facilities
- Data on energy/resource consumption
- Information on water usage and re-use strategies in-place/considered



Project partners



Workshop Agenda

Time	Presenter	Title
09.30 – 10.00		<i>Arrival, Welcome, tea/coffee</i>
10.00 – 10.10	Prof. Xinmin Zhan	Welcome, DairyWater overview
10.10 – 10.45	Dr. Mark Fenelon	Challenges of the Irish dairy processing industry
10.50 – 11.25	Mr. Rory Farrell	Industry water, wastewater treatment and environmental issues
11.30 – 12.00		<i>Photograph, Break, tea/coffee</i>
12.00 – 12.15	Mr. Willie Murphy	Energy usage and the biomass boiler at the Aurivo plant
12.15 – 12.50	Dr. Mingjia Yan	Life cycle assessment of the Irish dairy sector
12.55 – 13.25	Dr. William Finnegan	Environmental impact of dairy product manufacture (Task 6)
13.30 – 14.30		<i>Lunch, Friars</i>
14.30 – 15.05	Dr. Kees Roest	Phosphorus removal and recovery from wastewater
15.10 – 15.25	Ms. Emma Tarpey	Treatment of dairy effluent using IASBR technology (Task 2)
15.25 – 15.40	Ms. Beatriz Gil Pulido	Molecular ecology analysis for bioreactors (Task 5)
15.40 – 15.55	Mr. Fei Gao	Nanotechnologies for dairy wastewater treatment (Task 3)
15.55 – 16.10	Ms. Kelly Fitzhenry	Water re-use and rainwater harvesting (Task 4)
16.10 – 17.00		<i>Open discussion, Closing remarks, Photograph, tea/coffee</i>