



BioComposites  
Centre



# Pilot Scale Equipment at the BioComposites Centre Bangor, Wales, UK

**Dr. Adam Charlton**

[adam.charlton@bangor.ac.uk](mailto:adam.charlton@bangor.ac.uk)

[bc.bangor.ac.uk](http://bc.bangor.ac.uk)

00 44 1248 388072

**Pitch perfect and boost the  
European bio-economy event**

7 November 2018    Brussels Airport



# INNOVATION IN **BIO-MATERIALS FOR INDUSTRY**

- Established in 1989, self financing and focused on collaboration with industry (publicly funded R&D projects and commercial contracts)
- Demonstration of a range of biomass processing, extraction and conversion technologies up to TRL4
- Extensive experience processing a range of agri-food- forestry residues

## BIOMASS



Mycology - application of fungi as biological pre-treatment



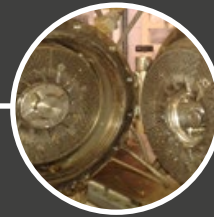
Enzymatic fractionation (functional food ingredients)



Plant Extracts (cosmetics, personal care, medical sectors)



Bio-based polymers & fibre (food packaging)



Pre-treatment physical and chemical



Life Cycle Assessment



Bio-Composite Materials & Bio-resins (construction)

# DRY BIOMASS PRE-PROCESSING

Chipping,  
chopping,  
sieving &  
fibre drying



Atmospheric  
& continuous  
pressurised  
disc refining



# WET BIOMASS PROCESSING

Dewatering



Heated,  
stirred tanks



Physical  
separation



Wet milling



Ultrafiltration



Spray drying



# BIOBASED PRODUCT DEVELOPMENT

Fibre based packaging



Bioplastics  
Wood plastic composites



Biocomposite panels



Plant extracts

