



BAMI Seminar – January 2016

Uthpala Garusinghe, PhD Student, BioPRIA/Department of Chemical Engineering

Friday 15th January 2016, 12.30PM to 1.30PM

Room G03, BioPRIA, 15 Alliance Lane (Building 59), Clayton Campus

Moderator: Anurag Parihar, PhD Student, BioPRIA/Department of Chemical Engineering

Recyclable nanofiber composites as an excellent barrier

Abstract:

Cellulose nanofibres are an exciting low-cost renewable new nanomaterials. Cellulose nanofibre sheets have exciting future prospects as barriers. The most important barrier properties of cellulose nanofibre sheets are water vapour permeability (WVP) and oxygen permeability (OP). Due to smaller diameter and small pore size, cellulose nanofibre sheets have low OP, however the WVP is high due to hydrophilic nature of cellulose. Many commercially available packaging materials are associated with wax, aluminium and plastic materials, which has low WVP, but such materials are not recyclable and biodegradable. Therefore, keeping low OP while reducing WVP is a key challenge to the utilisation of cellulose nanofibres as recyclable barrier material today. One way to address this issue is to increase the tortuosity of the nanofibre sheet thereby water vapours find it difficult to travel across the membrane. This presentation discuss this by preparing nanocellulose hybrids.

Presentation and Q&A session will be from 12.30PM – 1.00PM. Lunch will be served at 1.00PM.

Enquires: BAMI Student Chapter coordinators Lionel Longe or Uthpala Garusinghe.