

## 11 PhD Projects

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### **ARC-Processing Advanced LignocellulosicS Hub- PALS**

We are looking for 11 dynamic and passionate Ph.D. students to lead strategic fundamental research to transform the Australian Bioresource Industry. PALS is a national industry-supported ARC research transformation Hub to convert biomass from the Forestry into high-value products. PALS will develop new concepts in chemistry, materials science, and chemical engineering to create materials and chemicals for the bio-economy. Research will identify novel applications and products derived from lignocellulose for pharmaceutical, chemicals, plastics and food packaging.

([www.biopria.com.au](http://www.biopria.com.au)).

PALS PhD candidates will benefit from interdisciplinary research, professional skills and networks with Universities and industry. Each PALS PhD project will link with the Australian Bioresource industry, acting as advisers. PhD candidates will visit industrial sites and have opportunity for industrial training beyond the scope of a typical PhD program. Industrial partners include: Visy, Norske Skog, Orora, Australian Paper, Circa, LEAF Resources and the Government of Tasmania. PALS has 11 PhD projects starting in Q2 2018.

#### **SUSTAINABLE HIGH VALUE CHEMICALS PRODUCTION**

1. Lignin as a building block for novel chemicals and polymers
2. Performant hemicellulose polymers and oligomers
3. Advanced characterisation of biopolymers and bioproducts
4. Advanced characterisation and novel applications of Levoglucosenone
5. Extracting value chemicals from black liquor

#### **NANOCELLULOSE PRODUCTION AND APPLCIATIONS**

5. Nanocellulose production and applications
6. Organohalide (AOX) free nanocellulose
7. Enzymatic functionalisation of cellulose nanofiber
8. New nanocellulose production concepts
9. Engineering nanocellulose gels for value applications
10. RFID for intelligent packaging
11. Novel nanocellulose materials and surface treatments

#### **Application**

Applicants must fulfil the criteria for PhD admission at Monash University and demonstrate excellent research capability. We are looking for excellent graduate with a background in Chemical Engineering, Material Engineering, Chemistry, Mechanical Engineering, Physics or similar. An H1 Honours or Master's degree or equivalent is essential.

Please send your application to [janette.anthony@monash.edu](mailto:janette.anthony@monash.edu) with the required information: 1) cover letter with brief statement of the applicant's suitability, 2) curriculum vitae, 3) full statement of academic record, supported by scanned copies of certified documentation, 4) Contact details of two academic referees and 5) evidence of English proficiency (international applicants only). Please highlight experience and preferred project(s).