

## **Postdoc. Fellowship#2-Advanced Cellulosic Materials Characterization**

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

- Two year appointment
- Level A position

PALS invites passionate, dedicated, and highly qualified applicants interested by the interface academic-industry for a postdoctoral fellowship in our team to conduct innovative, multidisciplinary research at BioPRIA in the Department of Chemical Engineering at Monash University.

#### **About us**

PALS is a new ARC Industry Transformation Research Hub at BioPRIA, the Bioresource Processing Research Institute of Australia. PALS aims to convert renewable biomass and waste streams from the Australian Pulp, Paper and Forestry Industries into new, high-value products in existing and new markets. PALS will leverage world-leading Australian and international research capabilities in chemical engineering, materials science, and chemistry to create new materials, chemicals, revolving in companies and jobs in an emerging Australian bio-economy. Research will identify new applications and products derived from lignocellulose biomass which will feed the pharmaceutical, chemicals, plastics and food packaging industries.

#### **Industry partners**

The PALS Hub involves seven industry partners, advising and providing feedback throughout. Postdocs will work closely with BioPRIA staff and interface with industrial partners.

Industrial partners include Visy, Norske Skog, Orora, Australian Paper, Circa, LEAF Resources and The Government of Tasmania

#### **PALS projects**

The PALS projects fall under the three themes:

1. Sustainable high value chemicals production
2. Nanocellulose production and applications
3. Smart fibre materials

Further information is available at: [www.biopria.com.au](http://www.biopria.com.au).

#### **About you**

The successful candidate will have recently completed a PhD in Engineering, Chemistry, Physics or related and have a background in surface, colloids, materials and interface engineering, nanomaterial, natural polymers/cellulosic materials characterization. Experience on the Synchrotron (SAXS/WAXS), with neutron-based techniques (SANS, USANS, reflectometry) and advanced microscopy (SEM, TEM, AFM, confocal) will be highly regarded. You will have a strong research publications record, excellent communication, presentation and interpersonal skills, and the proven ability to manage multiple project autonomously.

Applicants should highlight relevant experience in their application and address the listed selection criteria specifically and in detail.

**Essential**

1. A Ph.D. in Colloid & Surface Chemistry, Physical Chemistry, and Polymers Science, Chemical, Materials or Mechanical Engineering or Applied Physics.
2. Creativity and Research ability demonstrated by a strong track record of impact publications in scientific journals
3. Strong analytical and communications skills (both oral and written)
4. Ability to lead scientific projects
5. Ability to work towards a common goal as part of a team

**Desired**

1. Experience in supervision of postgraduate and undergraduate students on research projects.
2. Industrial research experience

**Project specific requirements**

**Advanced Cellulosic Material characterization**

1. Skills in measurement and advanced characterisation, including scattering, reflectometry, advanced microscopy and spectroscopic techniques such as SAXS, SANS, AFM, ellipsometry, SEM, TEM, FTIR, NMR
2. Ability to apply these skills in multi-disciplinary projects

**Professional Development**

PALS postdoctoral fellows will be provided with professional development workshops during the course of their employment, which may include industry training programs. Appointees will work with an experienced team with proven expertise in industry focussed research, spend time working with the industrial partner(s), and present regularly to colleagues and industry via a series of seminars and showcase events.

**Application process**

Please send your application to [janette.anthony@monash.edu](mailto:janette.anthony@monash.edu) with the following information:

- A cover letter that addresses the selection criteria
- A curriculum vitae, including a list of published works
- Contact details of three referees