

# Postdoctoral Fellowship Opportunities

Bioproducts Discovery & Development Centre, University of Guelph, Canada

## POSTDOCTORAL FELLOW POSITIONS AVAILABLE

<b>Location:</b>	University of Guelph, Guelph, Ontario, Canada
<b>Expected Start Date:</b>	May 2021 or sooner
<b>Deadline:</b>	December 31, 2020 ( <i>Applications will be reviewed upon receipt of complete application package</i> )
<b>Degree Requirements:</b>	PhD degree obtained in May 2017 or later in the field of Engineering and Science (polymer engineering, chemistry, materials) or a related discipline
<b>Specific Requirements:</b>	<ol style="list-style-type: none"><li>1) Must have extensive experience in polymer processing through melt extrusion and the characterization of their properties;</li><li>2) Knowledge and a strong publication record in polymer science and engineering, polymer chemistry and synthesis, and melt processed bioplastics and composites is required; and</li><li>3) Knowledge in biobased materials such as biopolymers, polymer blends, natural fibres, and biocomposites are required.</li></ol>
<b>Contract Duration:</b>	One year, with possible extension for an additional year
<b>Salary:</b>	CAD \$42,000 - \$45,000 per annum plus benefits

## Postdoctoral Opportunities

- 1) Multi-Layer Polymer Films & Packaging via Melt Processing with Property Analysis for Biopolymer Blends, and Biocomposites (Cast, Blown, and Melt Extrusion) (*Email Heading: Films & Packaging*)

The focus for this position is to create formulations of biopolymer blends, biocomposites, hybrid composites, and nanobiocomposites for multi-layer films and packaging via MELT processing (Cast, Blown, and Melt Extrusion) for high barrier properties. The selected candidates will work on formulating materials via melt processing and reactive extrusion techniques for multi-layer films and packaging, where they will study the processing, barrier properties, and structure-property relationship. Candidate must have experience with cast and blown film processing and their characterization.

- 2) Polymer Blends and Composites (Biobased Materials, Biobased Composites, Reactive Extrusion, Injection Moulding and Compression Moulding) (*Email Heading: Blends & Composites*)

The focus for this position is to develop formulations of biopolymer blends, biocomposites, hybrid composites, and nanobiocomposites. The selected candidate will work on melt processing and reactive extrusion techniques, where they will study the processing, structure and property relationship. The formulated materials will be studied for their processing, structure and property relationships.

- 3) Pyrolysis of Various Biomass and their Characterization for Hybrid Biocomposite Applications (*Email Heading: Biocarbon Composites*)

The focus for this position is to fabricate biocarbon from various biomass sources through a pyrolysis process. After the fabrication, characterization, and analysis of the fabricated biocarbon, it will be used to create various polymer-based biocomposite formulations. Biocomposite formulations will be fabricated through melt processing including extrusion techniques, injection moulding and/or compression moulding. The formulated materials will be studied for their processing, structure and property relationships. Candidates should have hands-on experience with pyrolysis equipment.

- 4) Hybrid Nano-biocomposites (*Email Heading: Hybrid Nano-bio*)

The focus of this position is in engineering novel nano-biocomposites from pyrolyzed biocarbon, nano/micro-particles and synthetic fibres, etc. Candidate must have experience in relevant area.



BIOPRODUCTS DISCOVERY  
& DEVELOPMENT CENTRE

## About BDDC

BDDC is a well-resourced facility, unique to Ontario, provides opportunity for companies, entrepreneurs, and research organizations to partner with university-based researchers toward development of commercial new biobased materials, bioplastics, biocomposites, biochemical and process technologies.

The BDDC is staffed by graduate and post-doctoral students working in the areas of polymer science, chemical engineering, advanced material science and applied microbiology.

Commercial application of research results is a guiding principle for the BDDC. Innovations coming from the BDDC help companies in their efforts to reduce greenhouse gas emissions and their environmental footprint.

### Visit us at

[bioproductscentre.com](http://bioproductscentre.com)

University of Guelph is an equal opportunity employer.

## How to Apply

### Application to the BDDC selection committee

Your application package must contain the following documents and labelled accordingly:

1. **COVER LETTER** (*File Name: Last Name\_Cover Letter\_Date*)
  1. Outline qualifications for the specific position applied (i.e. Postdoc)
  2. Indicate earliest date of availability, if selected
2. **TWO-PAGE SUMMARY** (*File Name: Last Name\_Summary\_Date*)
  1. Outline your interest and motivation to work in the Bioproducts Discovery and Development Centre (BDDC).
  2. Include how your educational and work background will help you to succeed on the topics researched at BDDC (*information can be found on the website <https://bioproductscentre.com/>*).
  3. How do you plan to learn about the aspects of the BDDC research you don't know.
3. **CV (CURRICULUM VITAE)** [Organized Reverse Chronologically – Most Recent to Oldest] (*File Name: Last Name\_CV\_Date*):
  1. Education & Work Experience - Include high school information (*Include: start and end date - MONTH and YEAR*)
  2. Thesis title of your degree(s) (if applicable)
  3. Name of adviser for your degree(s) (if applicable)
  4. Percent average or GPA (*if including GPA please provide what it is out of i.e. 4.36/5.0*)
  5. Summary of time off taken between degrees starting from high school
  6. List of courses during your education most relevant to this position and grades obtained for each course
  7. English Language Proficiency results and sub-category breakdown (IELTS, TOEFL, etc.) **Include date or expected date of Exam** (*Exams must have been taken within the last 2 years*)
  8. List of your publications organized by degree
    1. *If you are NOT the First Author indicate your contributions*
    2. *If you have any submitted manuscripts, please include your email confirmation from the journal*
  9. List of your conference presentations
  10. Contact information for three references
4. **YOUR SCIENTIFIC PUBLICATION(S)** (*File Name: Last Name\_Publication#\_Date*)
  1. \*Please provide each publication as a separate file in PDF format
  2. Publication Number(s) should correspond with the list number in your CV

Initial review of applications will begin as soon as possible and continue until the positions are filled.

**Please send your application package with the above documents to [bddcjobs@uoguelph.ca](mailto:bddcjobs@uoguelph.ca).**

**Email Subject:** Postdoctoral Fellow Position at BDDC + *Indicate position above (1, 2, 3, or 4)*

Research component of the Postdoctoral Fellow position will be conducted within the Bioproducts Discovery and Development Centre (BDDC), University of Guelph. The candidate will have the opportunity to work with senior scientists from different areas (materials science and engineering, chemical engineering, mechanical engineering, polymer chemistry, packaging and plant agriculture) and will have the chance to work collaboratively with industrial partners.

*At the **University of Guelph**, fostering a culture of inclusion is an institutional imperative. The University invites and encourages applications from all qualified individuals, including from groups that are traditionally underrepresented in employment, who may contribute to further diversification of our Institution.*

**Supervised by:**

**Professor Amar Mohanty**  
bioproductscentre.com/aboutbddc/director

**Professor Manjusri Misra**  
www.uoguelph.ca/engineering/people/manjusri-misra-phd

**We thank all applicants who apply, but only short-listed candidates will be contacted.**