

ADAMS77722191PDF POSTDOCTORAL POSITION IN DESIGN FOR ADDITIVE MANUFACTURING

Additive Design and Manufacturing Systems Laboratory,
Department of Mechanical Engineering
University of Alberta, Edmonton, Canada

Summary:

We are looking for a post-doctoral fellow to join our research group immediately in the area of design for additive manufacturing (DFAM). The successful candidate will conduct fundamental and translational research in development, furthering, and application of design for additive manufacturing methodologies and tools for novel design as well as redesign of existing products for metal additive manufacturing process. The candidate must be able to:

1. Apply (DFAM) tools and methods such as topology optimization, unit cell based design, and generative design for design of mechanical systems under given mechanical and manufacturing design specification with a view to application to new product design as well as redesign of existing products.
2. Carry out finite element analysis of complex AM geometries for design fulfillment.
3. Carry out manufacturability analysis and manufacturing for metal additive manufacturing processes.

For validation, the candidate will have access to experimental metal/ metal ceramic additive manufacturing systems at the Additive Design and Manufacturing Systems (ADaMS) Laboratory at the department of Mechanical Engineering at the University of Alberta. The current vacancy is a full time position based in Edmonton, Alberta, Canada. The salary will be commensurate with the candidate's qualifications and experience.

Candidate Profile:

The position requires a self-starting researcher with an excellent understanding of metal additive manufacturing process with a specialization in design for additive manufacturing. The ideal candidate would have significant experience in design for additive manufacturing methodologies including topology optimization, unit-cell based design for light weighting, and generative design for designing/redesigning products for metal additive manufacturing. The candidate's PhD research must have a direct link to metal additive manufacturing, topology optimization, generative design, or application of finite element methods to additive manufacturing processes. The candidate must also demonstrate strong verbal and written communication skills evident through high-quality journal publications in the research area. The candidate should also have the ability to work and lead in a team environment. As a part of the project the candidate will work with a multi-disciplinary team of researchers, graduate students, and industrial collaborators.

The applicant must demonstrate evidence of the **required qualifications**. In addition to the required qualifying skills, candidates having preferred qualifications will be preferred.

Required Qualifications: (evidenced through peer reviewed publications or thesis)

- 1- Proficient in design for additive manufacturing in topology optimization, generative design, or unit-cell based design.
- 2- Proficient in using a FEA software package, such as ANSYS/ABAQUS for Multiphysics simulation of complex geometries for AM.
- 3- The date of PhD degree completion should be **after August 01, 2015**.

Preferred Qualifications:

- 1- Prior experience of experimental work on metal AM systems
- 2- Understanding of design analysis and preparation for metal AM processes
- 3- Knowledge of experimental methods for residual stress measurement/characterization
- 4- Knowledge of Autodesk Netfabb or a similar software

To Apply:

Position is now open, and the applications will be reviewed on ongoing basis in the order of reception until filled. In order to apply, the candidates may email the application package to adamsua@ualberta.ca. The email subject should contain the job ID. ADAMS77722191PDF. The application package should contain **one PDF file** with the file name in the format **ADAMS77722191PDF_lastname_firstname.pdf** containing the following:

- 1- A cover letter
- 2- Detailed academic CV including a minimum of three references (including PhD supervisor)
- 3- Copies of degree transcripts
- 4- At least 1 copy of a journal publication demonstrating required qualifications.

Any further inquiries related to the job and/or application process may be directed to Dr. Ahmed Qureshi at the information provided below.

ADaMS Laboratory is located the heartland of Alberta, Canada at the University of Alberta. University of Alberta is a one of the top 100 University's in the world ranking and among the top 5 Canadian Universities.

Contact Name

Dr. Ahmed Qureshi

T: 780 492-3609 (+1 if outside Canada)

We thank all applicants for their interest; however, only those individuals selected for an interview will be contacted.

The University of Alberta is committed to an equitable, diverse, and inclusive workforce. We welcome applications from all qualified persons. We encourage women; First Nations, Métis and Inuit; members of visible minority groups; persons with disabilities; persons of any sexual orientation or gender identity and expression; and all those who may contribute to the further diversification of ideas and the University to apply.