Ph.D. Opportunity with Renowned Partners in the Field of Aeronautics: Development of a Low Energy Ice Protection System for Tail Rotor Test Environment

We are seeking a highly motivated and qualified candidate to pursue a Ph.D. for the development of an advanced icing protection system on a full-scale laboratory helicopter tail rotor test bench. This project aims to address critical challenges in rotorcraft safety and performance by advancing rotor ice protection systems to minimize power requirements.

This project is an excellent opportunity to contribute to cutting-edge aerospace research and development.

Key Responsibilities:

- Investigate different novel material solutions and select technology for the development of the low-energy requirement icing protection system.
- Develop and implement numerical models to support the design of the system based on the selected technology.
- Utilize Ansys or similar software for numerical simulations.
- Design small-scale prototypes to support numerical developments.
- Develop full scale solution and conduct experimental testing under representative icing conditions.
- Contribute to the project with both numerical and experimental skills.

Preferred Qualifications:

- **Education:** Master's degree in Mechanical Engineering, Aerospace Engineering, Material Science, or a related field.
- **Experience:**

  Prior experience with Ansys or similar numerical modeling software.

  Knowledge in in-flight icing is preferable but not essential.

  Hands-on experience with design, prototyping, and experimental testing.

- **Skills:**

  Strong analytical and problem-solving skills.

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Attention to detail and excellent organizational abilities.

High level of autonomy, perseverance, and work ethics.

Excellent communication skills, both written and oral, for producing scientific publications and presentations.

Additional Information:

- Priority will be given to Canadian citizens, permanent residents, and international students already residing in Canada with valid study permits to facilitate rapid integration into the project.
- The successful candidate will work within a dynamic research team and collaborate with industry partners.
- Opportunities for professional development, conference attendance, and publication in scientific journals will be provided.
- The position requires a balance of numerical work and hands-on experimentation.

Application Process:

Interested candidates should submit the following documents:

- A detailed CV highlighting relevant experience and skills.
- A cover letter explaining their motivation for applying and how their background aligns with the position.
- Contact information for at least two academic or professional references.

Contact Information:

For more information or to submit your application, please contact: Professor Gelareh Momen at gelareh_momen@uqac.ca or d2harvey@uqac.ca

Join us in pushing the boundaries of aerospace technology and innovation. Apply now to be a part of our exciting research project!

This Ph.D. opportunity offers a stimulating research environment, access to state-of-the-art facilities, and the chance to contribute to advancements in rotorcraft safety and performance. We look forward to welcoming a dedicated and innovative researcher to join our team!