ATREVIDA SCIENCE

Department: Blade Design
Area of concentration: Modeling/Simulation

Title: Helping to develop offshore wind turbine technology to battle climate change

Overview:
Learn about Clean Tech, Wind Energy, and get a front row seat at a startup and find out what entrepreneurship is like. The Product Manager will be developing and validating a 10 MW reference turbine (provided by Technical University of Denmark) model for the purposes of simulation. The basis of the development is derived from a previously created model for a case study of a 20 kW wind turbine that was used in the NREL Unsteady Aerodynamics Experiment Phase VI. Atrevida Science is currently developing a novel blade with an adaptive twist angle distribution (TAD). The TAD influences the aerodynamic loads and system dynamics. PM will have knowledge of and/or quickly learn to use NREL's OpenFast tool. This tool will be used to model the reference turbine with the innovative blade design to determine the effect on energy production.

- Job description
  - Collaborative nature that embodies…"Here's what I think we need to do…"
  - Technical vision
  - Experience writing proposals for non-dilutive funding
  - Experience pursuing equity funding and preparing technical due diligence
  - Interested in growing the team, including others, recruiting team members as needed, and capable of building a team
  - Interest in entrepreneurship
  - Capable and eager to supervise technical team
  - Recognizes their own gaps and willing to find ways to supplement skills that are lacking
  - Fostering relationships with NREL, other national labs, technical teams at OEMs, OEM customers, NYSERDA and other local, state, and federal government/agencies
  - Finding collaborators for technology expansion like materials, control, structural, aerodynamic
  - Knowledge to build out the digital twin concept/product offering

- Other technical/specific to blade design skills
  - Responsible for the composite structural design, analysis, and validation of state-of-the-art wind turbine blades
  - The development and implementation of design methodologies cutting-edge technologies, and advanced computational tools play a significant role within this position
  - The ideal candidate will have an aptitude for multi-fidelity design with a holistic understanding of computational design impact on physical products
  - Your daily work will include some or all the following: Conceptual and detailed structural design and analysis of state of the art, utility-scale, composite wind turbine blades
  - Multi-objective structural design, analysis and optimization of detailed material ply layups, development of multi-fidelity engineering tools to increase the accuracy, speed, efficiency and overall quality of the blade structural design and analysis process

- Formulation and integration of new design methodologies into engineering models and computational tools, Innovating and implementing novel design concepts and technologies
- Working with blade testing individuals to validate engineering models, material properties, and overall blade design process Interfacing with turbine and component design teams to optimize blade and interface designs
- Qualifications: MS or PhD in engineering (Aerospace, Mechanical, Civil, etc.), 3-6 years of professional experience; ideally wind or aerospace or closely related industry
- Experience in the wind or closely related industry
- Knowledge of composite design, damage mechanics, and manufacturing methods
- Programming/mathematical modeling experience in CFD, BEM, OpenFast (including Aerodyne), MATLAB, Python, C/C++, or similar
- Cross-sectional analysis experience with BECAS, VABS, or similar FEA/FEM modeling and analysis experience with ANSYS, ABAQUS, or similar
- Expertise of beam, shell, and solid modeling theories
- Experience with the modeling, analysis, and testing of adhesive joints
- Experience with modeling, analysis, and testing of bolted joints
- Knowledge of aeroelastic theory with a structural emphasis
- Background in the development and evolution of novel concepts
- Experience working closely with other engineering disciplines such as aerodynamics, loads, controls, and acoustics
- Must be highly motivated, have excellent written and verbal communication skills, and be a strong team-player.

Additional Information:

- Please send cover letter and resume to Claudia Maldonado at cm@atrevidascience.com