

Funded M.S. Research Assistantship

Environmental & Resource Economics — Energy and Sustainability Applications

Virginia Tech | Department of Sustainable Biomaterials

Start Date: Spring 2027

Dr. Ching-Hsun Huang, Professor in the Department of Sustainable Biomaterials at Virginia Tech, is seeking a highly motivated M.S. student with strong preparation in economics and quantitative analysis for a two-year research assistantship beginning Spring 2027.

Research Focus

The student will join an interdisciplinary research team examining how energy, environmental, and natural-resource decisions affect economic welfare, public health, and sustainability.

Initial research will focus on the economics of forest-based bioenergy and sustainable forest utilization, with questions such as:

- How should environmental and public-health externalities be incorporated into economic decision-making?
- What are the benefits, costs, and opportunity costs of alternative energy and natural-resource pathways?
- How do economic and public-health outcomes change when forest-based bioenergy substitutes for fossil fuels versus other renewable energy sources?
- How robust are economic and policy conclusions to uncertainty and alternative assumptions?

The student will develop a thesis project emphasizing economic valuation, benefit–cost and social welfare analysis, uncertainty and sensitivity analysis, and policy interpretation, while gaining experience in collaborative, interdisciplinary research.

Desired Background

Applicants with backgrounds in economics, agricultural/applied economics, environmental and resource economics, public policy with strong economics training, or closely related fields are encouraged to apply.

A solid foundation in microeconomics, environmental/resource economics, statistics or econometrics, and related quantitative methods is desirable. Coursework or experience in welfare economics, externalities, or benefit–cost analysis is also valuable.

Experience with R, Python, Stata, MATLAB, or similar quantitative tools, particularly for empirical data analysis, is highly valued.

Applicants should demonstrate strong analytical ability, research potential, and an interest in applying economic and quantitative methods to environmental, energy, and natural-resource questions.

Assistantship Support

The assistantship provides a stipend and tuition support in accordance with Virginia Tech policies, contingent upon satisfactory academic and research progress.

Application Process

Applicants interested in this research assistantship should submit a complete application for Spring 2027 admission through the Virginia Tech Graduate School by the applicable Graduate School and program deadline, select the Forestry and Forest Products (M.S.) program, and indicate in their application materials their interest in working with Dr. Ching-Hsun Huang.

In their application materials, applicants should clearly describe their research interests and fit with this opportunity, preparation in economics and quantitative methods, and relevant research or analytical experience.

Only applicants who have submitted a complete Virginia Tech Graduate School application will be considered for the assistantship. Due to the anticipated volume of interest, only shortlisted candidates will be contacted for an interview. Individual meetings will not be scheduled before completion of the initial review.

Contact

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