

**APPLICATION GUIDELINES  
FOR  
AATCC FOUNDATION STUDENT RESEARCH SUPPORT**

**Purpose:**

AATCC Foundation, Inc. is a public charitable organization that encourages textile research, education, and scholarships, and facilitates the interchange of scientific and technical knowledge for the general public. It also is interested in the academic and professional growth for individuals interested in textile science. AATCC Foundation has made a commitment to support textile research conducted by students enrolled in textile programs in US colleges or universities. Hence, it has established the *AATCC Foundation Student Research Support Program* to assist undergraduate and graduate students with research on textile-related projects.

AATCC Foundation Committee on Research has established a Student Research Review Board which has jurisdiction over the program to formulate guidelines and review proposals from textile students requesting support. Meritorious proposals are recommended for funding by the AATCC Foundation Student Research Review Board to the AATCC Foundation Committee on Research for final selection.

**Criteria:**

The AATCC Foundation Committee on Research is interested in research related to test method development, evaluation of textile performance in actual use situations, and correlations between these two. Funding priority will be given to projects that involve laboratory and end-use correlation studies, wet processing research, and other current topics that have been identified by AATCC Foundation. However, consideration will be given to supporting projects in other research areas that are within the scope of the Foundation. Student research projects that will result in 1) presentations at technical programs such as the International Conference or technical committee meetings and/or 2) publications in scientific journals, magazines or conference proceedings, will be given preference because communication of results is an important aspect of the research process.

Applications for AATCC Foundation Student Research Support will be reviewed by the AATCC Foundation Student Research Review Board. *Criteria* that will be used in evaluating the student applications are:

- Originality of the proposed research
- Importance and practical value to the textile science
- Relevancy to current activities, issues, and/or needs of textile processing
- Scientific contributions to the field of textiles
- Experimental design and methodology
- Applicant's ability to conduct the proposed research
- Feasibility of conducting the proposed research, based on size and scope of project, facilities, and cost
- Anticipated presentation at technical programs such as the International Conference , or technical committee meetings, and/or publication in technical textile magazines, journals or conference proceedings

**Research Topics:**

Possible research topics suggested are:

1. Develop "user friendly" statistical programs for analyzing data from inter-laboratory studies.
2. Evaluate environmentally, non-toxic, non-flammable solvents to use for solvent extractions of textiles.
3. Research accelerated preparation processes for fabrics.
4. Find an enzyme to remove moles from cotton fabrics without the use of caustic soda.
5. Research methods to evaluate various types of sequestrant chemistries (phosphonates, polyacrylates, carboxylated or phosphated surfactants, etc.) for performance.
6. Develop a practical mill-friendly process for using low-temperature bleach activators.
7. Many AATCC Laundering test methods have fabric and garment procedures. Evaluate the processes that affect dimensional change when making a fabric into a garment; and evaluate the difference between the fabric results and the garment results for the following methods: TM 135 Dimensional Change of Fabrics to TM 150 Dimensional Change of Garments; TM 179 Skewness Change in Fabric and Garment Twist Resulting from Automatic Home Laundering to TS-004 Quick Method for Determining Seam Twist in Garments (from AATCC Technical Supplement).
8. Provide a correlation between the AATCC Hand Wash Procedure and the hand wash cycles on washing machines for color change, dimensional stability and appearance.
9. Compile a database of NIR spectra of traditional and innovative fibers (e.g. Lastol, PLA, etc.).
10. There is a need to know what manufacturers, chemical suppliers, apparel designers, and retailers needs are for the measurement and assessment of hand properties; (a) Identify company and individual contact list; (b) Develop survey questions that will identify hand attribute measurements need by categories, i.e. pants, tops, women's and men's wear; (c) Compile survey results and report to RA89 and other committees.
11. A study to evaluate the effects of detergents on the UPF properties of UV protective fabrics.
12. Camping tents – light weight, at present 50 grams/m<sup>2</sup> is exempt to be FR treated because the heat generated when ignited is minimal. What would be the upper weight limit qualifying for this exemption? For example, would 100 grams/ m<sup>2</sup> qualify?
13. Conduct a study to determine the effect of exhausting FR chemicals into fibers versus traditional application methods.
14. Low melting temperature face fiber in carpet – What FR application should be considered; foam, spray or incorporate into the fibers to improve product performance: Study smoldering rates with different fiber types; Compare the different test equipment used for running the same FR test.
15. Develop innovative textile chemical foam applications.
16. Environmentally Friendly Dry Cleaning Processes.
17. Treatment of Nanoparticle containing wastewater.
18. Effect of Consumer Softeners on Textile Flammability.
19. Effect of Consumer Softeners on Performance Apparel specifically moisture vapor transfer, wicking, and drying capabilities.
20. Effects of Consumer Softeners on Rain Apparel/ Water Repellant Apparel.
21. Compare powder and liquid laundry detergents for the effect on physical and colorfastness properties.

22. Determine the correlation of Abrasion and Pilling Methods with actual end use performance.
23. Determine the effect of adding water repellent finishing chemicals to untreated fabrics or durable press/wrinkle resistant fabrics.

**Amount of Funding:**

Grants ranging from \$500 to \$4,000 will be awarded to meritorious proposals selected by the AATCC Foundation Student Research Review Board and approved for funding by AATCC Foundation Committee on Research. Examples of acceptable items for funding include materials, dyes and chemicals, laboratory supplies, and expendable supplies for equipment.

**\*\*NOTE:** A stipend for up to \$500 for registration and all reasonable travel expenses to present the research project at a technical conference will be considered based on the project and the particular event at which the presentation will be made. This stipend will be funded separately by AATCC Foundation upon request and approval. Priority will be given to presentations that will be made at the AATCC International Conference or other AATCC programs. Approval of the travel funds should be received prior to making travel arrangements. Reimbursements of up to \$500 will be made once the Foundation receives proper receipts for pre-approved travel expenses. ***Requests for a travel stipend should be sent to:*** Mr. John Y. Daniels, Executive Vice President, AATCC at [danielsj@aatcc.org](mailto:danielsj@aatcc.org). Receipts for reimbursement should be sent to Mr. Daniels at AATCC, PO Box 12215, Research Triangle Park NC 27709).

**Members of the AATCC Foundation Student Research Review Board:** Dr. Yiqi Yang, Mr. Kanti A. Jasani, Mrs. Norma Keyes, Mr. Gary W. Moore, and Mr. David R. Vlaservich.

**Applications:**

To apply for AATCC Foundation Student Research Support, submit the application and vita form to the chair of the AATCC Foundation Student Research Review Board. In addition, the applicant's major professor or advisor is encouraged to write a supportive cover letter that addresses the importance of the problem or implications of the research and the student's ability to conduct the proposed research. ***Send application to:*** Dr. Yiqi Yang (University of Nebraska-Lincoln, 234 HECO Building, Lincoln, NE 68583-0802), Chair, AATCC Foundation Student Research Support Program by email: [yyang2@unlnotes.unl.edu](mailto:yyang2@unlnotes.unl.edu)

**Deadline:**

Priority will be given to applications received by 5:00 pm (CST) on **September 30, 2010**. Awards will be announced in November after the meeting of the Foundation Board of Directors.

**Allocations of Funds and Research Supplies:**

Payments for purchases will be made by AATCC Foundation upon receipt of satisfactory purchase documentation submitted by the student or major professor by October 31, 2011.

**Reporting Completed Research:**

The faculty advisor and student will be sent an AATCC Foundation Student Research Support Report Form for reporting research findings to AATCC Foundation. Failure to report the research may prohibit AATCC Foundation from funding additional research at the institution.