

2010 AATCC MATERIALS COMPETITION



The AATCC Materials interest group invites product and device designs from individual students and teams at all levels. For judging purposes, NO distinction will be made between undergraduate and graduate entries.

The Materials Competition promotes innovative product development from a materials perspective.

FOCUS AREAS

Industrial/Technical/Sports Materials

Use materials to develop products or devices for technical and engineering applications. Some examples are composites, aircraft or automotive components, industrial and technical fabrics, architectural or geo-synthetic materials, industrial filters, and advanced sporting equipment, or sports performance fabrics.

Medical/Biomedical/Protective Materials

Work with materials for use in either hazardous or medical environments. Projects submitted under this theme may involve active and/or reactive materials, such as self-detoxifying materials or reactive barrier membranes, which protect the wearer against chemical agents, biological agents, and projectiles/improvised explosive devices. Examples include chemical/biological protection garments and protection for first responders or soldiers, artificial internal body implants such as soft prosthetic devices (e.g., artificial arteries) or hard materials for bone replacements, as well as externally protective medical gowns and masks.

Smart/Electronic/Optoelectronic/Nano-fibrous Materials

Create structures that incorporate computing, sensing, monitoring, imaging, and/or broadcasting electronics directly into the material to attain particular end uses. Examples include imaging technologies, camouflage/electromagnetic management, optical materials, anti-counterfeit materials, conducting polymers, wearable electronic garments, functional nano-materials, and integrated electronic or photonic material devices for multifunctional assemblies.

COMPETITION GUIDELINES

Students may work as individuals or in teams of up to four. Each student may submit only one entry.

All project submissions must be accompanied by a completed entry form. Participants who are not current AATCC student members will receive a one-year complimentary student membership.

Submissions will be judged on:

- Concept originality
- Design element integration
- Technical feasibility
- Clarity of supporting documentation
- Technical and materials rationales

IMPORTANT DATES

February 15, 2010

Submit entry form.

Send Notice of Intent.

- Email Aaron Creech [creech@aatcc.org]
- Include student and faculty advisor names in the *body* of the email
- Send Notice of Intent as a single MS Word attachment, in English
- File name: Notice of Intent—**Title**
- Project title and one-paragraph description of planned material product or device design

April 20, 2010

Send final text proposal.

- A single MSWord file attachment, in English
- Title page
- Maximum 10 pages of text
- Supporting documentation in appendices (unlimited length)
- Materials list
- Technical rationale for product or device
- References

Submit digital poster.

A single MSWindows platform

(.jpg, .bmp, .tiff, .ppt or .pdf) attachment

- File size may not exceed 50 megabytes.
- Resolution should be at least 300 dpi.

The full text proposal and digital poster should be saved on one CD. The CD must be received via Federal Express or UPS delivery no later than 4:00 PM EST at:

AATCC Technical Center

Attn: Materials Design Competition 2010

One Davis Drive

Research Triangle Park, NC 27709-2215, USA

CDs must be labeled with the **student name(s)**, **school**, **focus area**, and **title** of the submission.

June 1, 2010

Winners announced.



QUESTIONS?

Contact Aaron Creech
at creech@aatcc.org or
+1 919 549 3544

PERMISSIONS AND PATENTS

By entering the competition, students agree to allow AATCC to use entry text and images in print or electronic publications, and press releases. Students retain the rights to their product/device designs. No materials supplied as part of this competition will be returned. Copyright and patent protection is the responsibility of the student.

Faculty NOTE

AATCC announces this competition in the summer of 2009, confident that material science and engineering faculty will incorporate this as a project in their fall curriculum. Faculty members are encouraged to

assist students with the coordination of teams and resources and to act as a liaison with AATCC for this contest.

If your school does not have an AATCC student chapter, contact Birgit Patty [pattyb@aatcc.org] (+1 919 549 3531) to learn more about this opportunity.

AWARDS

Winning entries in each area will be awarded:

First Place: US\$1,000

Second Place: US\$500

(Team members will share the award money.)



AATCC Student Website
[https://www.aatcc.org/members/students/AATCC_Student_Chapters.htm]