AIAA Adaptive Structures Technical Committee Charter

Version	Revision date	Revisions Made by
Ver1	January 7, 2025	

1. Committee Name

Adaptive Structures Technical Committee (ASTC)

2. Scope

Autonomous structural systems that incorporate sensing, processing, and actuation to enable adaptation to changing environmental conditions, thereby enhancing engineering function and performance.

3. Governance

The ASTC is part of the Aerospace Design and Structures Group (ADSG).

4. Roles and Responsibilities

4.a. The ASTC primarily participates in the AIAA SciTech Forum. The TC organizes paper and panel sessions, the Adaptive Structures Lecture, and joint sessions with collaborating TCs.

4.b. The ASTC participates in the administration and selection process of the Walter J. and Angeline H. Crichlow Trust Prize and the Ashley Award for Aeroelasticity. For the AIAA SciTech Forum, ASTC provides judges for the ADSG Student Paper Competition. The TC also maintains an educational kit containing samples of smart materials and a pamphlet describing them and their uses for distribution to schools and universities to introduce and expose students to adaptive structures. Materials for the kit are donated by companies, with occasional monetary input from ADSG.

4.c. The ASTC maintains and operates a Best Paper Award each year, selected by the Awards and Advancement committee from papers submitted to the adaptive structures discipline at SciTech.

5. Leadership

The TC leadership is composed of a Chair, Vice Chair, and Secretary.

The Chair's responsibilities include coordinating, guiding, and promoting TC activities, informing members of TC activities and opportunities for participation, serving on or appointing a representative for the Walter J. and Angeline H. Crichlow Trust Prize and Ashley Award for Aeroelasticity committees, completing and submitting annual reports to AIAA, updating the TC membership and reviewing the membership roster, including renewing terms or rotating off inactive members (see Section 7), and setting the agenda for and leading TC meetings. There is a nominal effort (and historical precedent) to rotate

leadership between academia, government, and industry members. However, due to the small number of industry and sometimes government members, this rotation is not a strict requirement.

The Vice Chair's primary responsibility is to support the Chair in guiding the TC. The Vice Chair ascends to Chair at the conclusion of the term, so this role also serves as training for the subsequent position and term.

The Secretary's responsibilities include taking notes, tracking attendance, and distributing minutes of TC meetings and maintaining the TC roster, including basic contact information and TC roles.

Each of these positions runs for two-year terms that change over in May. The outgoing Vice Chair automatically becomes the new Chair. The Vice Chair and Secretary are elected at the SciTech TC meeting prior to the term's start, where all TC members are eligible for nomination to the positions of Vice Chair and Secretary. Elections are by simple majority of TC members present at the meeting; if no candidate receives a majority, the top two candidates participate in a runoff, with the candidate receiving the most votes being elected to the position.

There is an informal leadership development and succession planning process for the TC. Promising candidates for future TC Chairs are encouraged to serve as the TC Technical Discipline Chair (TDC) and/or Secretary. This path provides the member with a broad overview of the TC's technical area, puts them in contact with the majority of members, and gives them exposure to the inner workings of the TC.

6. Structure

Subcommittees:

Awards and Advancement: administer the ASTC Best Paper Award; identify and support candidates for AIAA membership grade advancement

Education: coordinate outreach activities for the committee; provide educational kits to institutions that request it

Industry: discuss the impact of the industrial members on the ASTC and identify ways to enhance industry participation and TC relevance to industry

International: discuss the impact of the international members on the ASTC and identify ways to enhance international participation and TC relevance to international members

Publications: solicit input for and submit a Year-in-Review article to *Aerospace America*

Working Groups: operate for a limited term on an as-needed basis to address a specific effort (e.g., web page creation, short course development)

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Other positions:

<u>SciTech Technical Discipline Chair & Deputy</u>: recruit and organize submissions to the adaptive structures discipline at SciTech; provide feedback of abstract review activity to the TC chair

<u>Immediate Past TC Chair</u>: assist the current Chair, providing institutional memory

<u>TC Liaisons</u>: provide a tangible link between the TC and other communities; attend (or otherwise coordinate with) the other TC meeting; report on the other TC's activities at the ASTC SciTech meeting; provide a report of ASTC activities to the other TC. Relationships with other TCs are encouraged based on topics and technical developments in crossover areas, and liaisons can exist between the TC and any other group as advantageous.

7. Membership

The ASTC seeks diverse membership in its many forms. The committee's annual report tracks membership in terms of gender, generation (e.g., membership grades), and geography (both physical location and aerospace sector). The ASTC membership is capped at 50 members per AIAA guidelines.

Members serve three-year terms and must remain in good standing of AIAA membership requirements. Terms are renewable depending on member activity and TC roster space; the chair will review these metrics annually.

Active members engage in the committee by serving on a subcommittee or working group, holding a leadership or other structured position, reviewing SciTech abstracts, chairing SciTech sessions, judging Student Paper Competition abstracts and presentations, attending TC meetings, recruiting and mentoring new TC members, and supporting member advancement. While it is understood that not all members will contribute equally to the committee, membership implies willingness to serve and contribute to the committee and technical community. If a member is not contributing, the chair may ask them to rotate off the committee.

All TC members are expected to maintain a ScholarOne account so that they are included in the pool of potential reviewers for SciTech abstracts and to review abstracts when requested by the TDC Chair or their deputy.

The ASTC reviews membership applications in advance of each SciTech meeting. Applicants who select ASTC as their first choice are given priority, and all applicants are strongly encouraged to attend the SciTech TC meeting. At that meeting, applicants have the opportunity to express their goals for contributing to and participating in the TC. Applicants are selected by majority vote of the TC members present.

8. Meetings

The ASTC meets twice per year, in person at the SciTech forum (a virtual option may be offered) and virtually during early summer. The goal of each meeting is to plan, coordinate, and report on the TC's activities. Elections of officers (every other year) and new members

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(annually) take place at the SciTech meeting. The committee often plans the summer meeting to coincide with SciTech abstract submission/review deadlines, and that meeting has a greater emphasis on SciTech conference coordination. Subcommittees and working groups meet separately on an as-needed basis, generally quarterly.

9. Committee Website

AIAA Engage ASTC page: https://engage.aiaa.org/aerospace-design-and-structures/communities/community-home?communitykey=525bd5e2-b868-4d84-ac82-0463341aa692

AIAA Engage for Adaptive Structures: Public Forum: https://engage.aiaa.org/aerospace-design-and-structures/communities/community-home?CommunityKey=b61484d6-2e4b-49c4-a56d-e996c5b60a6f

10. Charter Revision

Every two years, when a new Chair assumes the role, the TC leadership and immediate Past TC Chair should review the charter and recommend revisions as appropriate.

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