



AIAA Committee (TAD and IOD) Charter Template

Version	Revision date	Revisions Made by
V.2008	08, April, 2008	SDTC
V.2026	15, January, 2026	Chair (A Datta), Charter sub-committee, Sub-committees. Duly approved and enacted by vote of SDTC

1. Committee Name

Structural Dynamics Technical Committee (SDTC).

PREAMBLE. The SDTC is organized under the American Institute of Aeronautics and Astronautics (AIAA). The Structural Dynamics Technical Committee (SDTC) is one of the technical committees that develop and administer the national technical programs of the American Institute of Aeronautics and Astronautics (AIAA).

2. Scope

2.a. PURPOSE. The purpose of the Structural Dynamics Technical Committee (SDTC) is to promote the advancement of sciences and technologies related to the dynamics of aeronautical and astronautical structures and vehicles.

2.b. TECHNICAL FOCUS. Structural dynamics covers the study of response, stability, and control of flexible aerospace structures exposed to a wide variety of external and internal excitations. In aeronautics and astronautics, these excitations create unique aeroelastic and aeromechanical phenomena such as, but not limited to, flutter, buffet, limit cycle oscillations, pogo, air/ground-resonance, shocks, and fatigue. Excitations can arise from the coupling of multiple disciplines, such as aerodynamics, thermodynamics, materials, acoustics, controls, and flight mechanics; interactions among components such as wings, rotors, airframes, empennages, actuators, sensors, powerplant and drives; and external forcing functions such as gusts, acoustics, shocks, impact, or thermally-induced loads in the vehicle operational environments. Aerospace vehicles must be designed so that they are performance and payload optimal, whilst retaining structural integrity under all these excitations. The scope of the TC would cover fundamental understanding of structural dynamic phenomena of all current and emerging air and space vehicles; through the development of new analytical and computational tools, including the leverage of advanced computer hardware and software systems such as quantum and generative Artificial Intelligence (AI); development of new and unique sensors and testing methods; new materials and manufacturing, new dynamical concepts and theories, new design methodologies, product life cycle concepts, digital twins, and certification approaches relevant to dynamics.

3. Governance

The Structural Dynamics Technical Committee (SDTC) is one of the technical committees that develop and administer the national technical programs of the American Institute of Aeronautics and Astronautics (AIAA). Through the Technical Activities Division, its Technical Groups, and its



Technical Committees, the AIAA organizes technical conferences, conducts educational outreach to inspire the next generation of structural dynamics experts, teaches professional short courses to train workforce, sponsors merit-based professional awards and student scholarships, and supports the development of standards, technical assessments, and policy papers.

The AIAA Technical Activities Division consists of six (6) Technical Groups:

- (1) Aerospace Design and Structures,
- (2) Information Systems,
- (3) Aircraft Technology, Integration, and Operations,
- (4) Aerospace Sciences,
- (5) Propulsion and Energy, and
- (6) Space and Missiles.

The Structural Dynamics Technical Committee (SDTC) is organized under the Aerospace Design and Structures Group (ADSG). The nine (9) other Technical Committees in this Group are Adaptive Structures, Design Engineering, Materials, Multidisciplinary Design Optimization, Non-Deterministic Approaches, Spacecraft Structures, Structures, Survivability, and Systems Engineering. The Chief of the Technical Activities Division oversees the activities of all Technical Groups including ADSG. The Director of the Aerospace Design and Structures Group oversees the activities of all Technical Committees in that group including SDTC.

4. Roles and Responsibilities

The SDTC, through its various subcommittees, participates in organizing and planning of national technical conferences and technical sessions; development of educational, outreach and training aids; gathering, assessment and distribution of information, promotion of cross-disciplinary (cross-TC / Groups) joint activities, and promotion of candidates for awards and recognition in the field of structural dynamics.

The members of the Structural Dynamics Technical Committee shall achieve the above mentioned 2.a. PURPOSE on the topics of above mentioned 2.b. TECHNICAL FOCUS by performing the following activities:

4.a. Institute activities

1. Organizing, planning and sponsoring national technical conferences and other relevant technical symposia. This subcommittee helps AIAA organize all sessions of the Structural Dynamics technical discipline of the SciTech Conference and all sessions of the Dynamics Specialists Conference held at SciTech once every three years. It contributes Structural Dynamics-related and adjacent activities to other AIAA Conferences, as and when appropriate.
2. Developing education, outreach and training aids.
3. Information gathering, assessment and distribution to create such documents including but not limited to, standards, technical assessments, and policy papers.
4. Promoting cross-disciplinary activities with professional organizations in related fields.
5. Providing editorial expertise to the various Journals of the AIAA

4.b. Administrative activities

1. Mentoring young members.
2. Promoting candidates for awards and recognition in the structural dynamics field.
3. Administering and participating in the awards process.



4.c. List of Committee awards

Members participate in the nomination and evaluation of the following awards:

1. AIAA Structures, Structural Dynamics, and Materials Award (SDM Award). SDTC chairs by rotation.
2. Walter J. and Angeline H. Crichlow Trust Prize
3. Holt Ashley Award for Aeroelasticity (SDTC)
4. Structural Dynamics Best Paper (SDTC)
5. Certificate of Merit for Structural Dynamics Best Student Paper (SDTC)

Other activities may be undertaken at the express direction of the Committee Membership that advances the arts, sciences, and technologies related to the structural dynamics field.

Standing subcommittees are formed to perform these activities. See Section on 6.Structures for subcommittee roles and responsibilities.

5. Leadership

The Chair and Vice-Chair can be nominated by any TC member and is accepted by vote of the committee. Terms for Chair and Vice-Chair are determined by AIAA rules which is currently two (2) years. It is a good practice that leadership posts are held by representatives from industry, government, and academia on an alternating basis with consideration given to regional and international balance. It is a normal progression to step from Vice-Chair to Chair post, but a new committee vote is needed for confirmation. (Note: this implies a four-year commitment by individual and organization.)

6. Structure

The SDTC is organized into standing Subcommittees, secretariat, and working groups.

Each subcommittee will have a Chair and a Co-chair. The Structural Dynamics Technical Chair will appoint both the Chair and the Co-chair for each subcommittee. The subcommittee Chair will serve for three (3) years. The subcommittees Co-chair will serve as back-up for the subcommittee Chair and will assume the leadership role when the Chair rotates off.

Presently, there are five (5) standing subcommittees along with secretariat and working groups.

6.1 Awards. The SDTC seeks to identify and promote outstanding scholars structural dynamicists for influential awards, positions and recognition. This subcommittee nominates and evaluates candidates for the AIAA Structural Dynamics and Materials Award, the AIAA Holt Ashley Award, the AIAA Structural Dynamics Best Paper Award, and promotions to AIAA Associate Fellowship and Fellowship positions.

6.2 Conferences. This subcommittee helps AIAA organize all sessions of the Structural Dynamics technical discipline of the SciTech Conference. The SciTech Conference is held annually in January. Every year the subcommittee Chair appoints a member who represents the SDTC on the SciTech organizing committee. This member formally serves as the Technical Discipline Chair (TDC). The TDC oversees organizing all sessions of structural dynamics at SciTech. The subcommittee Chair also appoints a deputy-Technical Discipline Chair who shadows the Chair,



serves as back-up, and will assume the TDC role the following year. All TC members support the TDC as requested by serving as Review Leads, reviewing abstracts, organizing special sessions, chairing sessions, and contacting authors and speakers as/when needed.

Every 3 years the subcommittee will also organize a “Dynamics Specialist Conference” (DSC) to be held in conjunction with SciTech. The Structural Dynamics TC will appoint a General Chairman and a Technical Chairman for the “Dynamics Specialists Conference”. The Technical Chairman will assume the role of General Chairman the following DSC.

Historical note: This subcommittee helped organize the former Structures, Structural Dynamics, and Materials (SDM) conference held annually in April or May. The Dynamics Specialists Conference (DSC) was held at SDM once every three years.

- 6.3 Education.** This subcommittee organizes STEM outreach to K-12 school students and educators, recruits leading professionals to teach AIAA short courses on topics of emerging interest, and deals with developing multimedia content about structural dynamics as and when needed. The STEM outreach is a major activity of the TC, and it normally planned to coincide with the SciTech Forum. A local school is identified and six months of planning, at least, is normally needed to coordinate the visit with the school and local board and county officials. The subcommittee also creates professional short courses on topics of emerging importance and relevance of Industry. TC members who teach AIAA professional short courses are automatically considered to be members of this subcommittee.
- 6.4 Liaison.** Structural Dynamics Technical Committee interests may complement and overlap with other technical societies (and other TCs). Members on this subcommittee are responsible for keeping abreast of activities in other societies, reporting items of interest at the SDTC meetings, and attracting the best minds and talents from other societies to join AIAA and contribute to the growth of our field. Liaison members are encouraged to propose special sessions or DSC themes to the Conferences subcommittee on topics of complementary and overlapping interests.
- 6.5 Publications.** Sharing of information and archiving knowledge is an important reason to belong to AIAA. This subcommittee is responsible for editing the Year-in-Review article for the December issue of Aerospace America. Editors and Associate Editors of various AIAA journals are automatically considered members of this subcommittee. Other activities may include reviewing books, writing newsletter articles, and white papers, and assisting in documentation of material as might be produced by the Standards Working Group.
- 6.6 Secretariat.** The Secretariat is responsible for maintaining and distributing a current roster including documentation of subject matter expertise; maintaining an e-mail and cell phone distribution list of SDTC members; documenting minutes for the SDTC business meetings; and keeping a note on SDTC finances. Note that the roster and contact information are meant for SDTC members’ use exclusively and not for public dissemination. The finances are handled by AIAA. *Note: The current SDTC account number is 9014 G/L # 3218-000-0000-000.*



6.7 Standards Working Group. Working Groups can be formed temporarily by the TC Chair to produce special deliverables. They are usually time bound. The “Standards Working Group” is entrusted to produce a white paper of guidelines for modal testing and model correlation.

7 Membership

The Structural Dynamics Technical Committee membership shall be comprised of members in good standing of the American Institute of Aeronautics and Astronautics who are recognized leaders in the study, development and practice of structural dynamics sciences and technologies. The TC will maintain a diverse and balanced membership from academia, government, and industry. It will maintain a substantial international participation consistent with the world-wide status of AIAA.

Normal membership is a three-year term for actively participating members. Membership is in fact three (3) consecutive one-year terms, renewable at the discretion of the committee Chair. Members must actively participate on the committee to have their membership terms renewed. Active membership is considered:

1. Attendance at the two committee meetings per year. One is at the SciTech Forum; the other is at one of the member’s facilities or sometimes virtual. One can attend both events virtually, upon the Chair’s approval, but in-person attendance is preferred.
2. Reviewing and ranking abstracts for SciTech every year & Dynamics Specialists Conference (DSC) once every 3 years.
3. Active participation in one of the subcommittees. Currently, there are five (5) subcommittees: 1) Awards, 2) Conferences, 3) Education, 4) Liaison, and 5) Publications. The only requirement for joining a subcommittee is consent of the subcommittee chair.
4. Membership in no other AIAA technical committee

Any member of the TC may be carried over on special assignment beyond the three-year term of membership at the discretion of the TC Chair.

8 Meetings

The SDTC holds meetings twice a year.

One meeting is held in conjunction with the SciTech conference. Another meeting is held mid-year. The time and location of the mid-year meeting is determined during or after the SciTech meeting. A member institution hosts this meeting—typically accompanied with a tour of facilities. One can attend both events virtually, upon the Chair’s approval, but in-person attendance is preferred.

9 Committee Website

<https://engage.aiaa.org/aerospace-design-and-structures/communities/community-home?CommunityKey=2f852c05-1497-4f3a-8a9d-5a732f67af40>

10 Charter Revision

The committee’s charter should be reviewed every two years as the chair takes office and updated if appropriate.