

CHARTER OF THE DIGITAL SIGNAL PROCESSING TECHNICAL COMMITTEE OF THE IEEE CIRCUITS AND SYSTEMS SOCIETY

1. Preamble

The Digital Signal Processing Technical Committee (DSP TC, the TC or the Committee) is a Technical Committee of the IEEE Circuits and Systems Society (CASS or the Society). As a subsidiary committee of IEEE CASS, the DSP TC is governed by the rules and regulations of the IEEE and by the Constitution and Bylaws of CASS, which take precedence over this Charter in case of conflict.

TCs are established by IEEE CASS in significant fields of interest of the Society, through its Technical Activities Division (TAD), to advance the state of knowledge and educate Society members and the general IEEE membership. To this end, the DSP TC plays a major role in creating a high quality technical program for the Society's flagship conference, the International Symposium on Circuits and System (ISCAS). The TC may also organize and provide technical sponsorship to other workshops and conferences, special sessions at conferences, and tutorial programs, and undertake other activities to help achieve its goal to promote research and education in digital signal processing.

Further, the DSP TC may act as a bridge between CASS and related IEEE Societies and Councils, and other institutions in the general area of DSP.

2. Purpose

The Digital Signal Processing Technical Committee (DSP TC) goal is to promote research and education in digital signal processing theory, algorithms, circuits and systems and their applications in electrical engineering and related fields. The scope of DSP as far as the DSP TC is concerned includes (but not limited to) the following:

- (a) Finite and infinite impulse response (FIR and IIR) filters approximation, realization, and implementation,
- (b) Discrete transforms,
- (c) Digital architectures specialized for DSP implementations,
- (d) Digital signal processors (DSPs) and embedded systems,
- (e) Time-frequency analysis including wavelets and filter banks,
- (f) Adaptive systems and adaptive signal processing,
- (g) DSP for communication systems,
- (h) Speech, image and video compression, audio signal compression and restoration,
- (i) Digital signal processing for nonlinear systems,
- (j) Optimization of DSP algorithms for VLSI implementations,
- (k) Compressive sensing and sparse signal processing,
- (l) DSP for biomedical engineering and life science,
- (m) Digital signal processing for sensor arrays and networks,
- (n) Digital signal processing for learning and intelligence.

3. Activities

The DSP TC activities include:

- (a) Organizing that part of the technical program of ISCAS related to the DSP TC field; this includes review of all papers submitted to ISCAS in tracks on topics in the DSP field (appointing TPC Track Chairs, Review Committee Members [RCMs] and paper reviewers), and arranging Tutorials, Special Sessions, Workshops and other sessions
- (b) Nominating individuals for (1) Society Awards, (2) Editorial appointments, (3) Distinguished Lecturer appointments, and (4) roles as CASS representatives for Steering and other Committees arising from joint efforts with other Societies and Councils
- (c) Nominating papers for CASS journal Best Paper awards
- (d) Preparing the TC Annual Report
- (e) Preparing information for periodic Review of the TC by the Society
- (f) Maintaining the TC website
- (g) Reviewing and, if needed, updating the TC Vision & Mission statements at least every 5 years
- (h) Assessing the quality and helping to maintain/raise the quality of any CASS-sponsored conferences in the field
- (i) Other activities to help achieve the Purpose such as editing reprint books, the organizing of special issues of an IEEE publication, workshops, conferences, and other publication activities in the area of the DSP TC

4. Membership

Any CASS or IEEE member of good standing and willing to perform the duties of membership may seek to join the DSP TC. Membership requires nomination by a TC member at least three weeks before ISCAS, and is approved by a majority vote of members either present at the Committee's annual meeting or by internet ballot of the membership. Prior to this vote, the TC Chair with assistance from the Chair-Elect may conduct an informal email poll seeking comments on nominations.

All new member nominees should attend the TC meeting at ISCAS and express their interest to be very active members. A member is said to be active if he/she participates at least once every two years in two of the four activities: (i) attending the TC meeting; (ii) submitting a write-up for inclusion in the TC's annual report; (iii) serving as Review Committee Member (RCM) or Reviewer for ISCAS paper submissions; and (iv) actively contributing to another Activity carried out by the TC, as listed in Clause 3 Activities (a) to (i) of this Charter.

A member is said to be inactive if he/she never participated in two of the aforementioned four activities in each of two consecutive years. The Chair-Elect emails all inactive members to encourage them to become active. Members who give sufficient cause for a two-year absence yet fail to contribute for a third consecutive year will automatically be removed from the Committee.

The TC will maintain and publish annually the TC Roll of Members, including a record of attendance at the Annual Meeting and participation in activities.

Associate members of the DSP TC are non-voting members and appointed by the TC Chair. They are normally composed of CASS or IEEE members who are actively participating in DSP TC activities and making regular contributions, and past DSP TC members who are willing to continue to contribute to the TC but would like to play a less active role. The DSP TC chair shall regularly review the status of associate membership and make updates accordingly.

Affiliate members are anyone who are interested in the scope of the DSP TC and can sign up automatically through the DSP TC website. IEEE student members are particularly encouraged to join the TC as affiliate members.

5. Duties and Election of Officers

The Committee shall have two officers: Chair and Chair-Elect. Each will serve a two-year term.

The Chair, supported by the other Officers, is responsible for

- (a) ensuring that the purpose of the TC is well achieved through timely and diligent execution of the activities,
- (b) ensuring that the TC operates according to all other aspects of its Charter, and
- (c) establishing the TC Chair as a well-known channel of communication between the TC and the CASS Board of Governors.

The Chair will preside over Committee meetings and will be responsible for all interactions with the Society. They will report on Committee activities to the CASS Board of Governors, through the CASS Vice President for Technical Activities, at least once a year, before ISCAS.

The Chair is a member of the CASS Technical Activities Division (TAD) and will attend the Annual Meeting of the TAD, normally held at the ISCAS site during or shortly before the symposium.

The Chair is normally not directly elected and is filled by transition of the Chair-Elect at the end of their two-year term. An out-of-sequence election for the Chair can be held should the Chair-Elect be unable to assume the role of Chair.

The Chair will oversee all activities of the TC, calling on assistance from the Chair-Elect and other members as necessary, and will be responsible in particular for: chairing the ISCAS TC Track; soliciting and making the TC's nominations of individuals for editorial, Distinguished Lecturer and CASS representative roles; preparing the TC Annual Report; preparing material for and participating in periodic TC Reviews; and maintaining the TC vision and mission; i.e. for aforementioned Clause 3 Activities (a), (b2,3,4), (d), (e) and (g).

In relation to the Committee's recommendations on editorial appointments, the Chair will accept nominations for these positions and review them at the Annual Meeting preceding the term of the incoming editors. The Chair will be responsible for learning when each Editorial Board is going to be formed and for soliciting nominations from the Committee members in a timely manner.

The Chair-Elect is elected by the Committee members and must be a member of the Committee. They will serve a

two-year term as Chair-Elect commencing immediately after the ISCAS of their election. At the end of their term the Chair-Elect will become the Chair.

The Chair-Elect will assist the Chair as necessary in all activities, will participate in the TC Review meeting, will attend to membership issues including maintaining the member roll of the TC, will record meeting minutes and ensure their expeditious posting on the TC website, and will be responsible in particular for: coordinating the Committee's nominations for awards; for soliciting and nominating deserving transactions papers in the DSP field for the Best Paper Awards; ensuring the web site is maintained; assessing and maintaining/raising the quality of CASS-sponsored conferences in the TC field; and all other activities undertaken by the TC; i.e. for aforementioned Clause 3 Activities (b1), (c), (f), (h) and (i).

In relation to Best Paper Awards, the Chair-Elect will note that every active Committee member has the right to nominate papers and to ask the Chair-Elect to submit the nomination to the relevant Committees.

The Chair and Chair-Elect will be responsible for motivating Committee members to promote DSPTC-sponsored special sessions and workshops at ISCAS.

Outside of ISCAS the two Officers can, upon a majority vote, undertake unplanned business on behalf of the Committee, provided that these activities be reported to the Committee as soon as practicable by email and at the next meeting.

6. Meetings and Conduct of Business

Business relevant to this Charter may be conducted at meetings or by ballot via the internet.

Meetings may be held in-person, typically at a conference, or by electronic means.

- A meeting quorum is Ceiling function of one third of the TC members attending the meeting.
- A minimum of two weeks notice of any Motions shall be provided to voting members prior to the close of voting to allow members to consider the issues, except as otherwise provided in Clause 7 of this Charter.
- A majority of the legal votes cast by the TC members attending a meeting with a quorum is necessary to approve a motion, except as otherwise provided in Clause 7 of this Charter.
- For internet ballots, voting by a minimum of one-half of the TC members is a valid ballot.
- If a quorum is not reached, tentative actions may be taken which will become effective after subsequent ratification, either by internet ballot or at a subsequent meeting.

The Committee Annual Meeting shall be held at ISCAS. Any CASS or IEEE member is allowed to attend this Annual Meeting as an observer; the Chair may invite other observers to attend and speak.

At the Annual Meeting,

- An agenda is circulated prior to the meeting
- The DSP TC Chair will present an annual report on membership, activities and progress on achieving the TC vision and mission
- TC members will vote to elect new members and new Officers, if any
- The members may discuss any other business relevant to the TC Charter
- The members may vote on Motions provided the required notice periods are met; a quorum is needed to resolve any motions at the meeting

7. Amendments and Closing of the TC

Any charter amendment, including closing the DSP TC, can be considered at a meeting provided that the Chair and Chair-Elect have been notified at least one month prior to the Meeting. Approval by the Officers is not necessary, but notification is required. An approved amendment will take effect the day following the conclusion of the ISCAS meeting when it has been approved.

Motions to Amend the Charter and to Close (i.e. shut down) the TC have special conditions to be consistent with CASS and IEEE rules. The conditions for such ballots at a meeting and by internet differ as follows:

- Internet Ballot: voting by a minimum of one half of the TC members is a valid ballot; a two-thirds majority is required to pass the Motion
- Ballot at TC Meeting: a Special Quorum of the Ceiling function of one-half of the TC members at the meeting is required; a two-thirds majority is required to pass the Motion.