



MANUAL FOR IEEE NTC TECHNICAL ACTIVITIES COMMITTEE

Second revised version – December 2020

This manual summarizes the roles, objectives, duties, and procedures of the NTC Technical Activities Committee (TAC), including its officers and Technical Committees. It is intended to expand on the NTC Bylaws.

Working with the other NTC boards, the TAC focuses on the research content of the IEEE Nanotechnology Council, tracking technical developments and encouraging innovation in: applications, theory, models, metrics, experiments, architectures, products, initiatives, and other technical areas. Its Technical Committees form the core of the NTC's functions, contributing to the NTC Publications, Conferences and Educational programs.

The Vice-President of Technical Activities (VPTA) chairs the TAC. The TAC includes the Chairs of all Technical Committees and the Chair of the Chapters and Regional Interest Groups Committee of the Council.

The TAC reports to the NTC President, *ExCom* and *AdCom* and coordinates the NTC Technical Committees (TCs). The TAC maintains a website with links to the TCs. For the purposes of evaluating progress of TC's and their research areas, the VPTA collects reports from each TC annually and provides summary reports to the *AdCom*.

NTC Technical Committees:

The role of each TC is to serve as a focal point for research in a specific area. TCs encourage research in their area by forming a critical mass of researchers (via meetings, web pages, and email) and organizing and promote activities (including meetings and publications as summarized below) that foster dialogue on and experimentation with new results. TCs provide the bridge to NTC member societies with cooperative activities. TCs are in permanent exchange with the NTC Chapters and Regional Interest Groups. TCs also evaluate and communicate new developments and advise NTC officers on technical matters as requested. TCs advise Conference Chairs on potential sessions, workshops and tutorials, plenary speakers, and other technical aspects of conference content.

Technical Committees are usually created in response to emerging topics, methods, or applications, and can also be created to coordinate and encourage new research on established topics, methods, or applications (See Appendix I: Establishing New Technical Committees.) TCs are evaluated every 4 years in a process whereupon they are retired or renewed (See Appendix II: Review of Technical Committees.)

Each TC is defined by a "scope" that describes its technical focus, motivation, and areas of primary interest. Each TC maintains a membership list that includes email contacts of those who have requested membership (it is not necessary to be an NTC member to be a TC member).

Each TC is led by a Chair (who is responsible for prompt communication via email), and up to two Co-Chairs. TC Chairs and Co-Chairs are recommended by the VPTA and approved by the NTC President. Chairs and Co-Chairs can serve a maximum of 3 consecutive 2-year terms, and become eligible again after a lapse of 2 years. TC Chairs must be responsive to email from the VPTA and from current and prospective members. TC Chairs can be replaced by the VPTA after a 4-week warning if they are unresponsive to communication.

TCs must be unbiased, open to different views, and cannot be used to promote commercial products or research without clearly acknowledging conflicts of interest and possible risks and limitations of products.

After a new TC is proposed using the process in Appendix I, VPTA presents the proposal in the *ExCom* and the *ExCom* vote determines the acceptance of the new TC. The new TCs shall be approved by the *AdCom*.

Technical Activities:

Annually, each TC reports the "technical activities" that have occurred in their area during the past year. In this context, technical activities relate to the TC research area and include:

1. Publications (books, PhD theses, special issues or sections of journals or magazines)
2. Meetings (special workshops, tutorials, sessions, or symposia)
3. Other activities

Duties of the VPTA:

The Vice President of Technical Activities (VPTA) is elected by the *AdCom* and serves a 2-year term. Duties of the VPTA are:

1. Encourage NTC research and technical activity
2. Organize and chair annual TAC meetings
3. Coordinate TC activities
4. Serve as a reliable point of contact for the TAC
5. Attend *ExCom* and *AdCom* meetings
6. Coordinate and promptly submit annual reports to the *AdCom*
7. Maintain the TAC website
8. Communicate at least twice a year with TC Chairs

9. Promptly respond to inquiries from fellow researchers and the press
10. Alert President about major research developments
11. Propose new initiatives to the TAC, President, and *AdCom*
12. Recommend TC Chairs to the President
13. Recommend new TCs to the *ExCom* for acceptance and to the *AdCom* for approval
14. Recommend renewal of TCs to the *ExCom* for acceptance and to the *AdCom* for approval
15. Recommend retiring TCs to the *ExCom* for acceptance and to the *AdCom* for approval

Duties of TC Chairs:

Every 2 years, the NTC President appoints TC Chairs and Co-Chairs upon recommendation of the VPTA (see Appendix III: Chair and Co-Chairs Appointment Form). TC Chairs and Co-Chairs serve for 2 years and their term is renewable for up to 2 additional terms (eligible again after a lapse of 2 years). Duties of TC chairs are:

1. Serve as a reliable point of contact for the TC via email
2. Organize technical sessions in major NTC conferences such as IEEE NANO
3. Coordinate and attend the review of papers related to the TC in IEEE NANO
4. Coordinate and promptly submit annual reports to the VPTA
5. Define and annually update the TC scope
6. Maintain the TC Website (see Appendix IV: Requirements for TC Websites)
7. Maintain the TC membership list (including email addresses)
8. Recruit new members
9. Submit one TC Technical Progress Slide (see Appendix V: TC Technical Progress Slide) on June 1st each year
10. Attending annual TAC meetings (or sending a representative)
11. Communicate at least twice a year with TC members via group email
12. Encourage research in their area
13. Advise junior researchers in their area
14. Track major developments in their area
15. Promptly respond to inquiries from fellow researchers and the press
16. Alert VPTA about major research developments
17. Evaluate new results and initiatives when requested by the VPTA
18. Recommend reviewers when requested by Editor-in-Chiefs
19. Self-evaluate progress and consider retirement of the TC
20. Secure at least one paper each year to the IEEE Nanotechnology Magazine from TC members

If a TC Chair will be away from email for more than 2 weeks, he or she shall set up appropriate auto-reply messages and appoint a Co-Chair to handle communication during this period. TC Chairs can be replaced after a 4-week warning by the VPTA if they are unresponsive to communication.

Duties of TC Members:

TC Chairs and Co-Chairs recruit TC Members from the active people in the given field. Duties of the TC Members are:

1. Serve as a reliable point of contact for the TC via email
2. Contribute to the TC by attending the major NTC conferences such as IEEE NANO
3. Promptly respond to inquiries from the TC Chair and Co-Chairs
4. Alert the TC Chair about major research developments
5. Evaluate new results and initiatives when requested by the TC Chair
6. Help for review of NTC conference or journal papers in the TCs given topic

If TC Members are not responsive or do not attend the IEEE NANO conference and other NTC activities within two years, the TC Chair has the right to retire the given TC Member.

TC Award:

TC Award shall be accorded by the NTC *ExCom* upon recommendation of the VPTA and after approval of the *AdCom* to the most performant TC. The TC Award is recognition for the work accomplished by the TC during 2-year period (the year prior to application and the year of application). The application shall be submitted to the NTC VPTA no later than December 10th, of the year of application (see Appendix VI: NTC Award for Technical Committee Application Form).

The accepted recognition may take the form of one of the following:

1. Hotel support for 2 TC Leaders/Active Members for 4 nights at IEEE NANO Conference
2. IEEE NANO registration fee for 2 TC Leaders/Active Members
3. \$1200 to \$1500 for recognized TC to spend on NTC conference support for its Active Member(s)

The evaluation is performed according to the following criteria:

- Involvement in NTC major conferences: Special Sessions and Workshop organization;
- Contribution to NTC journals and magazines: Special Issues with Guest Editors from the TC, major regular publications from TC Members;
- Contributions to the NTC's educational mission: Tutorials, Webinars and TryNano participation;
- New initiatives;
- Impact;

The selection shall be early in the year following the year of application. The TC awardee is chosen by a committee formed by the VPTA and 2 Chairs of NTC sponsored conferences. The *ExCom* shall ratify the NTC TC Award at the Feb. meeting, as recognition form may affect participation to NTC conferences.

Appendix I: Establishing New Technical Committee

It is not difficult to establish a new NTC Technical Committee. The first step is to submit an application with the information below to the VPTA. This is then reviewed and brought before the TAC. If the TAC approves, it is presented for a vote at the next *ExCom* meeting. New TC is established with the approval of the *AdCom*.

Application for Establishing a New Technical Committee (Application form is available upon request from the VPTA and the NTC Secretary):

1. Proposed Title: IEEE NTC Technical Committee on XXX

2. Technical Committee Membership

Chair: *(Name, Affiliation, email)*

Co-Chair: *(Name, Affiliation, email - up to 2 Co-Chairs. Please select at least one young professional candidate, to be trained.)*

Confirmation from the Proposed Chair and Co-Chairs: *(Have reviewed the TAC Manual and are prepared to accept the associated Duties.)*

Members: *(Name, Affiliation, email - please list at least 5 Members. Please try to respect geographical and gender issues)*

Remark: You can organize the above information in a table.

	Name Surname	Affiliation	email	Scientific field of activity
Chair				
Co-Chairs				
Members				

3. Motivation

(Recent technical developments, growing number of papers, etc. -> under 200 words)

4. Technical Committee Statement

(Proposed Scope. Abstract form – scientific area, goals -> under 200 words)

5. Topics of Interest

(List the topics in relation with the scientific area of the TC)

6. Main Objectives of Technical Committee

(Summarize the main objectives of the TC)

7. Relationship to other TCs

(Be specific, why is it not possible to coordinate this topic under an existing TC? -> under 200 words. Give the relationship to other NTC TCs and possible synergetic points -> under 200 words)

8. Relationship to one or more NTC Member Societies

(Describe the relationship to NTC Members Societies and current or possible initiatives -> under 200 words)

9. Liaisons with NTC Chapters and Regional Interest Groups

(Describe possible initiatives with NTC Chapters and Regional Interest Groups -> under 200 words)

10. Action Plans for the Next 4 Years (20XX-20XX)

(Present the goals within 2 and 4 years. Describe the strategy to encourage research on the TC scientific area by forming a critical mass of researchers - via meetings, web pages, and email - and organizing and promote activities, including meetings, conferences, publications, educational activities – via TryNano, Distinguished Lecturers, webinars, and tutorials - and initiatives involving Chapters and Regional Interest Groups, that foster dialogue on and experimentation with new results.)

Appendix II: Review of Technical Committee

The TAC shall review TCs at least every 4 years. The details of the review process include a report of all activity over the past 4 years, growth in membership, and an honest evaluation of the TC by the TC Chairs on the potential for retiring or renewal the TC. TCs will be retired based on voluntary request by the TC Chairs, or due to inactivity or unresponsiveness of the TC-Chairs. A TC is retired after TAC review, upon recommendation of the VPTA presented for a vote at the next *ExCom* meeting. The TC retirement shall be approved by the *AdCom*. If the TAC approves, the application for renewal is presented for a vote at the next *ExCom* meeting. The TC renewal shall be approved by the *AdCom*.

Application for renewal a Technical Committee (Review form is available upon request from the VPTA and the NTC Secretary):

1. Name of Technical Committee: TCXX IEEE NTC Technical Committee on XXX

2. Current Technical Committee Membership

Chair: *(Name, Affiliation, email)*

Co-Chair: *(Name, Affiliation, email - up to 2 Co-Chairs. Please select at least one young professional candidate, to be trained)*

Members: *(Name, Affiliation, email - please list at least 5 Members. Please try to respect geographical and gender issues)*

URL: *(TC Website)*

Remark: You can organize the above information in a table.

	Name Surname	Affiliation	email	Scientific field of activity
Chair				
Co-Chairs				
Members				

3. Technical Committee Statement

(Abstract form – scientific area, goals -> under 200 words)

4. Topics of Interest

(List the topics in relation with the scientific area of the TC)

5. Main Objectives of Technical Committee

(Summarize the main objectives of the TC)

6. Summary and Assessment of Previous Activities within the TC (20XX-20XX)

(Please describe the recent technical developments within the TC, participation to NTC sponsored conferences, publication in NTC journals, growing number of papers, etc.)

7. Relationship to other TCs

(Give the relationship to other NTC TCs and possible synergetic points -> under 200 words)

8. Relationship to one or more NTC Member Societies

(Describe the relationship to NTC Members Societies and current or possible initiatives -> under 200 words)

9. Liaisons with NTC Chapters and Regional Interest Groups

(Describe current or possible initiatives with NTC Chapters and Regional Interest Groups -> under 200 words)

10. Action Plans for the Next 4 Years (20XX-20XX)

(Present the goals within 2 and 4 years. Describe the strategy to encourage research on the TC scientific area by forming a critical mass of researchers - via meetings, web pages, and email - and organizing and promote activities, including meetings, conferences, publications, educational activities – via TryNano, Distinguished Lecturers, webinars, and tutorials - and initiatives involving Chapters and Regional Interest Groups, that foster dialogue on and experimentation with new results.)

Appendix III: TC Chair and Co-Chairs Appointment Form

Every 2 years, the NTC President appoints TC Chairs and Co-Chairs upon recommendation of the VPTA. TC Chairs and Co-Chairs serve for 2 years and their term is renewable for up to 2 additional terms (eligible again after a lapse of 2 years).

Application for new/renewal of TC Chair and Co-Chairs (Application form is available upon request from the VPTA and the NTC Secretary):

Name of Technical Committee: TCXX IEEE NTC Technical Committee on XXX

Photo

Candidate Name: (Name, SURNAME)

Affiliation and Scientific Field of Activity: (Give your affiliation, email address and present with a few words your Scientific field of activity)

IEEE Member Grade: (Member, Senior Member, Fellow, ...)

Short Biography: (About 1/3 to 1/2 page)

IEEE NTC Activities: (List your IEEE NTC-related activities with dates of service, participation to NTC Conferences, Educational Activities, Publications)

Position Statement: (Describe your vision on the TC orientation strategy in the next 6 years -> half page)

Academic Curriculum Vitae: (please expose here your academic CV)

Appendix IV: Requirements for TC Websites




Each TC Website must contain:

1. Title
2. Scope statement (under 200 words)
3. Current Number of Members
4. Names and Affiliations of Chair and co-Chairs
5. Contact Info for TC Chair (and others, willing to be listed)
6. List of Activities with links
7. Links to related initiatives, labs, events, etc.
8. Links for more info on results presented in the most recent TC Technical Progress Slide (see Appendix V: TC Technical Progress Slide)
9. Archive of past TC Technical Progress Slides
10. Optional: links to key papers and theses
11. Date when last updated

Appendix V: TC Technical Progress Slide

Each year, each TC prepares an annual Technical Progress Summary that is a one-page powerpoint slide from the Technical Committee illustrating examples of technical progress in their area (Technical Progress Slide Form is available upon request from the VPTA and the NTC Secretary). This slide is submitted to the VPTA on June 1st every year, and will be presented to the *AdCom* meeting, and may be printed and handed out to NTC conference attendees. The purpose of the Technical Progress Slide is to increase awareness of the TC, attract members, and inform the NTC community about interesting developments.

The powerpoint slide should clearly indicate the Technical Committee name, URL, and Chair's email (in fonts that can be read when printed to a page). The slides should graphically illustrate at least one technical development (a new theoretical result, application, product, book, etc. with appropriate citations). Further details on the technical development should be available through a link on the TC home page.

TCXX - Name of the committee

Chair: (email for contact)
Co-Chair:
URL:

Completed Activities (year N-1):

- Organization of special sessions to NTC conferences,
- Participation to TPC of NTC conferences,
- Participation to Summer Schools,
- Editorial activities,
- Publications (please give the links to papers published in the NTC journals),
- Others.

Current Activities (year N):

Slides on the annual technical progress of each NTC TC:

- > to be submitted to the VPTA on June 1st each year
- > 1st page, to be included in the TC Booklet
- > additional pages, to complete the Annual Report of the TC

Graphical illustration of at least one scientific example/technological development

(a new theoretical/experimental result, application, product, book, etc. with appropriate citations)

Further details on the scientific example/technical development should be available through a link on the TC home page.

Message to deliver to the IEEE NTC AdCom (optional)

1

Appendix VI: NTC Award for Technical Committee Application Form

The TC Award is recognitions for the work accomplished by the TC during 2-year period (the year prior to application and the year of application). The application shall be submitted to the NTC VPTA no later than December 10th, of the year of application.

NTC Award for Technical Committees Application Form (Application form is available upon request from the VPTA and the NTC Secretary):

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Members: (Name, Affiliation, email - please list at least 5 Members. Please try to respect geographical and gender issues)

URL: (TC Website)

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Co-Chairs				
Members				

3. Technical Committee Statement

(Abstract form – scientific area, goals -> under 200 words)

4. Involvement in NTC major conferences

(List the Specials sessions and workshop organization)

5. Contribution to NTC journals and magazines

(List the Special Issues with Guest Editors from the TC, present major regular publications from TC members)

6. Contributions to the NTC's educational mission

(List the Tutorials, Webinars and TryNano participations of the TC members)

7. New initiatives

(Describe new initiatives undertaken by Members of the TC)

8. Impact

(Describe impact, if any. Identify relevant information for the NTC AdCom -> under 200 words)