

	COOMET Recommendation	COOMET R/GM/18:2020
	PROCEDURE for the International Competition "The Best Young Metrologist of COOMET"	
<i>Approved at the 18th COOMET Committee Meeting (Kharkov, Ukraine, 15–16 May 2008) Updated and amended at the 20th COOMET Committee Meeting (Astana, Kazakhstan, 21–22 April 2010), at the 17th COOMET Presidential Council Meeting (Lvov, Ukraine, 14–15 November 2012), at the 23rd COOMET Committee Meeting (Nizhny Novgorod, Russia, 5-6 June, 2013) and according to the results of the electronic voting among COOMET Committee members (Minutes № COOMET E-01-2020)</i>		

This document describes the procedure for the International competition for young metrologists (CYM) from National Metrology Institutes (NMIs) and other organizations operating in the field of metrology in COOMET member countries, and the criteria for the evaluation of submitted scientific papers and presentations made by the competitors.

1 TERMS AND DEFINITIONS

Young metrologist – an expert under the age of 35 (at the date of the Competition) who works in the field of scientific and/or applied metrology at an NMI or other metrological institutions of the COOMET member countries, regardless of his/her academic degree and position.

Scientific Committee (Competition Jury) – a body, set up for a period of holding the Competition, following the proposals of Presidential Council members and COOMET Secretariat and approved by COOMET Presidential Council to evaluate the participants' papers and announce the winners.

Organizing Committee (OC) – a body, set up by CYM organizers in order to ensure methodical and technical support for holding the CYM, which includes a Chairperson, Deputy Chairperson, Secretary and members of the Organizing Committee.

Candidate for participation in the competition (hereinafter referred to as **candidate**) – a young metrologist who submits his/her paper for the competition (maximum number of co-authors is three) and who is going to make an oral report or a presentation. The written paper and the oral report/presentation should be on the same subject.

Note – Candidates can be research assistants, graduate students, doctoral candidates, engineering-technical workers of NMIs and others metrological institutions.

2 GENERAL PROVISIONS

2.1 Aims and objectives of the Competition "The Best Young Metrologist of COOMET"

- to encourage young metrologists to actively cooperate at international and regional levels;
- to provide financial support for young metrologists who have achieved significant results in their research activities;
- to be able to present their works to colleagues from other metrological institutions and countries;
- to master presentation skills and techniques and gain proficiency;

- to have their papers published in the Collections of papers of the Competition;
- to have their papers and presentations available on the Internet;
- to find and attract, support and encourage young metrologists to participate in activities which contribute to the development of metrology, sharing their research data and ensuring closer cooperation among the COOMET member countries as well as among international metrology community;
- to inform metrological organizations about the scientific and applied papers submitted for the competition, results and winners of the competition;
- to increase broad public awareness of the role of and achievements in metrology through the mass media.

2.2. Time and venue of CYM

Competition "The Best Young Metrologist of COOMET" is conducted biannually and organized in one of the metrological institutions of COOMET member countries. ***Each time a new venue for the competition is chosen based on the proposals from the COOMET member countries.*** All information about the exact dates and venue of the Competition are made available on the COOMET website and provided to COOMET organizations **no later than one year** before the date of the Competition.

It is highly recommended to hold the CYM together with a scientific-practical conference considering metrology issues.

2.3 Scientific Committee (Competition jury)

2.3.1 The scope of duties of the Scientific Committee is as follows:

reviewing the texts of the applicants' papers and making decision on accepting the applicants to participate in the Competition;

listening to oral presentations of the chosen candidates and afterwards evaluating oral presentations and written scientific papers in accordance with the criteria listed in Annex 7;

making decision on awarding the first prize in the field of scientific and/or the first prize in the field of applied metrological activity, as well as on winners in other special nominations, such as "The Best Report in English", "The Best Presentation of a Report" etc;

deciding on the winner's share of money for the first prizes, as well as on money prizes to winners in special nominations within the established competition prize fund.

2.3.2 In case a member of the Scientific Committee is unable to personally participate in the Competition Jury due to force majeure, he/she can participate in the Competition via video conferencing, or he/she can be substituted by another expert as agreed with Presidential Council members no later than one month before the Competition;

2.3.3 The Scientific Committee is made up of leading experienced experts in metrology, who are nominated to take part in its work by national metrology institutes of COOMET member countries, one country can provide no more than 2 persons. The deadlines for nominating experts to the Scientific Committee shall be no later than 3 months before the Competition.

2.4 Organization of the Competition– the aims of the Organizing Committee and on-line editor of COOMET TC4

One of the branches of activity of COOMET TC 4 "Information and training" is carrying out a CYM.

The Organizing Committee of a CYM shall include officers from hosting metrological institution of the COOMET member country and also a TC member(s) from the relevant COOMET member country. In case the hosting metrological institution lacks staff or needs technical support, it can ask other members of TC 4 for help.

The Organizing Committee is appointed one year before the CYM, names of members of the Committee and data of at least one contact person (e-mail, phone, fax, post address) shall be reported to all members of COOMET Committee and to National Secretariats of COOMET member countries and published on the COOMET website.

The Organizing Committee of a CYM performs the following tasks:

- provides a lecture hall/conference room with tables and chairs for all candidates, members of the Scientific Committee and other attendees of the meeting. The hall/room shall be equipped with modern presentation technique (computer/laptop, TV projector, pointer, white board /"flipchart" with markers etc. – all in double amount for the case of failure), technical experts' services during the CYM, soft drinks for candidates and members of the Scientific Committee;
- provides visa support (forwards official invitation etc.), helps to make hotel booking, to pass to destination between the airport/railway station and a hosting metrology organization or a hotel for candidates and Scientific Committee members;
- collects Registration Forms of the candidates (Annexes 4, 5, 6) and attached documents 2 months before the CYM, checks the suite of documents for compliance with the requirements of the recommendation and, if needed, contacts the candidates to request their essential data;
- forwards to the Scientific Committee **bilingual** abstracts/ full texts of papers (**in English and in Russian**) of the candidates one month before the CYM, submits bilingual abstracts to the on-line editor of TC4 for publication on the COOMET website along with draft program of the competition (schedule of presentations);
- in advance of the meeting publishes booklets of the CYM (full-text paper/electronic collection of all papers) to circulate them among all candidates and Scientific Committee members at the beginning of the competition;
- organizes meals during the CYM and one ceremonial dinner for communication of the candidates, Scientific Committee members and coordinators of the CYM;
- at the end of the Competition reports the names of winners and data of their NMI/metrological organization to the on-line editor of TC4 or to COOMET Secretariat to be published on the COOMET website and, with the agreement of the candidates adds the papers and presentations (The full reports and photos made in the course of the CYM shall be in limited access and available only to the candidates, Scientific Committee members and members of TC 4);
- awards all the participants with personalized participation certificates.

2.5 Announcing the winners and awardees of the CYM and the awarding ceremony

Full papers, oral reports and presentations, submitted and delivered at the competition, serve the basis for evaluation by the Scientific Committee members in accordance with different evaluation categories, detailed in Annex 7.

The Scientific Committee chooses the winners of the CYM who took the first place in the field of scientific activity and the first place in the field of applied metrology, based on the scoring of points, which can be recommended in making decisions.

The Scientific Committee may establish additional prizes for winners in various nominations (for example, "The Best Report in English", "The Best Presentation of a Report" and others), and award several winners with special prizes / money prizes.

Awarding the winners with prizes/money prizes by a COOMET Presidential Council member takes place in a solemn atmosphere at the final meeting of the CYM.

The winners of the Competition are granted diplomas, money prizes and are given the title of "The Best Young Metrologist of COOMET". The recommended template of the diploma is in Annex 1.

The recommended template of the diploma for the "The Best Report in English" is given in Annex 2.

2.6 Financing of CYM

Payments for the participation in a CYM from candidates and Scientific Committee members are not envisaged. Drinks, dinner and ceremonial meal are not paid by candidates and Scientific Committee members.

The financing of the organization and conduct of a competition, as well as prizes/money prizes to the winners are received from sponsors and institutions of COOMET member countries. The Organizing Committee is responsible for the collection of the corresponding funds.

3 COMPETITION PROCEDURES

3.1 Nomination and selection of candidates

Candidates for participation in the competition "The Best Young Metrologist of COOMET" will be nominated by their NMIs or metrological institutions taking into account the requirements given in section 1 of this recommendation.

Representatives of TC 4 and, probably, other representatives of COOMET structural bodies, acting in different NMIs or metrological institutions are suggested to form in their organizations councils for nomination and to agree the procedure and criteria of internal selection with responsible scientific and technical councils of these institutions. It is recommended to organize the process of internal selection of candidates in the same way as at the final stage of a CYM, that is to give an opportunity to take part in a CYM for all most promising young metrologists independently of their positions and academic degrees.

The lists of candidates are forwarded to the Organizing Committee of the CYM in the form of an official letter of a COOMET Committee Member from the relevant COOMET member country **including full texts of reports and fully completed, signed documents certified with a seal according to 3.2**, no later than 2 months before the CYM.

3.2. Presentation of full papers

A paper, presented at a CYM, can be made independently or in a group of authors of no more than 4 persons (it can include a candidate, speaker on the competition as the main author and 3 or less co-authors). Meanwhile each of the co-authors must be an active direct participant of the work conducted by the group and make an important practical and creative contribution to the paper.

The requirements to papers are given in Annex 3.

Persons, who were included in other groups of co-authors in the current year or who are individual candidates for participation in this competition, should not be included in the group of authors.

The papers which were presented at other similar competitions and received prizes and rewards cannot be accepted for the participation in a CYM.

The papers which were presented at a CYM before, can be forwarded to the competition only in case of significant progress achieved compared to the previous results. In this case, a candidate shall submit his/her previous paper for consideration to the Scientific Committee.

The acceptance of the papers submitted for participation in the competition of CYM by the Organizing Committee begins from the moment of announcing the competition and ends 2 months before its beginning. The papers and accompanying documents arranged according to Annexes 3–6 of this Procedure shall be sent by e-mail to the Organizing Committee (the signed papers certified with a seal for sending by e-mail are scanned beforehand) .

Names and addresses of candidates, subjects and bilingual abstracts of their papers submitted to the competition shall be published on the COOMET website for the purpose of informing staff of NMIs, other metrological organizations and broad public. It is also recommended to publish these data in metrology journals of NMIs of COOMET member countries.

Full papers are published in a Collection of papers of a CYM. The collections are given to all candidates and participants of the CYM Scientific Committee in the beginning of the competition.

The fact of sending the papers to the CYM confirms that candidates, co-authors and their NMIs/metrological institutions agree with publishing bilingual abstracts of the papers on the COOMET website and inclusion of the full papers to a printed collection of papers of the CYM.

3.3 Reports and presentations

The papers submitted for participation in the competition will be preliminarily reviewed by the Scientific Committee members.

The competition includes presentation of the reports by the participants (with subjects relevant to the sent papers), discussion of the papers and their evaluation by the Scientific Committee.

The report materials (usually in form of a presentation file in the *.ppt format) shall be prepared by the beginning of the competition.

The report materials shall be collected by the Organizing Committee during the competition and then posted on the COOMET website (in *.pdf format) with limited access: the password is sent by e-mail no later than 5 weeks after the competition to other candidates, members of the Scientific Committee and TC 4.

By representation of the report materials the candidate confirms his/her agreement to circulate them among a limited number of persons. Nevertheless, he/she can exclude some slides, if their publication can be considered as a violation of anyone's special rights. Despite the fact that reports usually include files in *.ppt format, the candidate may decide to save file in the *.pdf-format for its further digital distribution.

3.4 Criteria of for evaluation of papers and presentations

The evaluation criteria for papers and presentations taking into account weighing factors are given in Annex 7.

3.5 Subsequent publication

The Scientific Committee can propose to post the report materials on the COOMET website – primarily the reports of the winners – and make the download free for all website visitors, or recommend full papers for free download from the COOMET website or their publication in a scientific and technical journal. In this case the Scientific Committee or Organizing Committee shall discuss all necessary steps, including copyright issues with the corresponding candidate.

4. GENERAL PLAN OF PREPARATION FOR AND HOLDING OF A CYM

Timeframe with regard to the date of a CYM	Performed tasks	Performer
2 years before	A hosting organization from one of the COOMET member countries for the next CYM is agreed (in consultation with COOMET TC4 Members)	COOMET Committee members or members of TC 4 from the country authorized by the COOMET Committee member to make such a decision, TC 4 Chairperson
1 year before	Exact time and venue of the competition are reported to COOMET members and on the website of the organization, contact person is appointed, who represents the Organizing Committee, announcement of the acceptance of papers for the competition is made	Organizing Committee
1 year – 2 months before	Submission to the Organizing Committee of a list of candidates, full reports with abstracts (in Russian and in English) and fully completed, signed Annexes 4,5,6 certified with a seal	COOMET Committee member
3 months before	Formation of a Scientific Committee and its approval by COOMET Presidential Council	COOMET Secretariat TC 4 Chairperson
2 months before	DEADLINE FOR CANDIDATES: acceptance of full papers and fully completed, signed Annexes 4,5,6 certified with a seal and forwarded to the Organizing Committee, stops	Candidates Organizing Committee
1 month before	The Organizing Committee checks the availability of papers and completed forms, requests missing materials and data from the candidates etc. Subsequently all papers with Annexes 4,5,6 shall be sent to the Scientific Committee members for consideration, the abstracts shall be submitted to the online editor of COOMET TC4 through COOMET Secretariat	Organizing Committee
Immediately before the competition	The papers published by the Organizing Committee as a Collection of papers of the CYM are prepared for circulation among the candidates, Scientific Committee members etc. *Language, in which the paper will be published in the Collection of papers of the CYM, is chosen by the candidate and stated in the Registration Form (Annex 4). The CANDIDATES prepare their report materials (including presentations)	Organizing Committee Candidates

Timeframe with regard to the date of a CYM	Performed tasks	Performer
One month after	All participants are invited to receive digital versions of the report materials*	Organizing Committee
Scheduled dates of the CYM	Holding of the CYM	Candidates Organizing Committee Scientific Committee

** If a paper, having a group of authors, is declared for the competition, the collection of papers of the CYM and digital versions of the report materials are provided to all the authors. The collections shall be delivered, whenever possible, through the direct participants of the competition.*

The recommended template of the Diploma for the winner of the competition
"The Best Young Metrologist of COOMET"



ДИПЛОМ
DIPLOMA

Награждается победитель Конкурса
is given to the winner of the Competition

"Лучший молодой метролог КООМЕТ"
"The Best Young Metrologist of COOMET"

20__

за доклад в сфере научной/прикладной метрологической деятельности
(нужное подчеркнуть)
for the report in the field of scientific/applied metrological activity
(underline as appropriate)

(имя и фамилия / name)

(страна / country)

за достижения в сфере научной
или прикладной метрологической
деятельности, которые способствуют
развитию науки и сотрудничества
стран-членов КООМЕТ.

for achievements in the field of
scientific or applied metrological
activity which contribute to the
development of science and cooperation
of COOMET member countries.

Президент КООМЕТ
COOMET President

The recommended template of the Diploma for the awardee of the competition
"The Best Young Metrologist of COOMET"
for the best report in English



ДИПЛОМ
DIPLOMA

За лучший доклад на английском языке, представленный на
Конкурсе
For the best report in English presented at the Competition

"Лучший молодой метролог КООМЕТ"
"The Best Young Metrologist of COOMET"

20____

(имя и фамилия / name)

(страна / country)

Президент КООМЕТ
COOMET President

Requirements to the design and contents of papers for participation in the competition

1. Scientific papers having the following structure will be accepted for participation in the competition:
 - a. Relevance in terms of its scientific and practical meaning
 - b. Purpose of the paper
 - c. Scientific novelty or practical (applied) significance
 - d. Tasks
 - e. Description of the paper
 - f. Results

2. The paper shall be submitted in electronic form. The text shall be typed on a computer with 1 line spaces, left margin – 3 cm, top, bottom and right margins 2 cm, Arial font, size 11 points. The volume of the paper shall not exceed 4 printed pages of A4 size, including illustrations and their legend, tables, list of references, etc. Papers and abstracts shall be submitted in Russian and in English. Additionally, a text file shall contain all formulas and tables. The illustrations which are not made in the Word graphics editor can be provided in separate files upon request if there are problems with their display, preferably in TIF, BMP, JPG, WMF, CorelDRAW formats. The recommended minimum size of photographs is 9 × 12 cm. Formulas shall be presented in a single conventional format.

3. The institutional details of the paper shall include: the title of the paper (in Russian and in English); name(s) of the author(s); name of the institution where the paper was written, city and country, and also phone number, fax and e-mail of the main author.

4. The institutional details of the paper shall be accompanied with an abstract (150-200 words) which outlines the main contents of the paper in a form available for all metrological community. The abstract (as the title of the paper) shall be presented in two languages and shall be published on the COOMET website.

5. In addition to a file in *.doc-format it is recommended to export the paper in *.pdf-format or scan and send the relevant printed version, so that the Organizing Committee can check it for correct formatting when preparing the Collection of papers of the Competition.

6. Only the formulas, referenced in the text, shall be numbered (in round brackets on the right).

7. Tables and references to them shall have consecutive numbers.

8. Abbreviations of words, names, titles, measures, physical, chemical, mathematical quantities shall be commonly accepted or shall be fully expanded upon their first use in the text; units of measurement shall be presented according to the SI.

9. Bibliographic references in the text of the paper shall be presented by means of consecutive numbers in *square* brackets [] within the whole paper according to the list of references. For books names of authors, title of the book, place of publication, publishing house, year of publication, volume number, issue number, total number of pages shall be indicated. For journal articles names of authors, title of the journal, year of publication, volume or part, issue number, pages (from - to) shall be indicated. The list of references shall be formed in the order of their use in the text, regardless of the language.

10. Papers, not drawn up according to the above mentioned rules, will not be considered.

11. The participant's presentations shall contain slides demonstrating the relevance of the subject to COOMET activities and the possibility to develop international cooperation. Basic publications and reports on the research subject (articles in journals of various ratings, reports at scientific conferences, inventions or patents), if any, shall also be presented on the slides.

**Registration form
of a candidate for participation in the competition
"The Best Young Metrologist of COOMET"**

*Filled by the candidate and certified by the Head of the NMI/metrological institution which
nominated the candidate*

**Full name of the NMI/ metrological institution
which nominated the candidate
(ZIP code, postal address, telephone, e-mail)**

**REGISTRATION FORM
of a young candidate metrologist for participation in the Competition
"The Best Young Metrologist of COOMET-20__"**

Candidate for participation in the Competition	
Co-authors (if any)*	
Title of the paper submitted for the competition	
Full name	
Date of birth	
Department, position etc.	
Academic degree	
Academic rank	
Work experience in metrology (number of years)	
Telephone, e-mail	
Home address	
Home telephone	
Other information	

We hereby agree that:

- the attached paper submitted by the above mentioned author (a group of authors) will be included in the Collection of papers of the competition **"The Best Young Metrologist of COOMET – 20__"** in full size in _____ (language is chosen and stated by the candidate),
- abstracts will be published on the COOMET website in English and in Russian (available for all visitors),
- access to the materials of the paper, presented at the competition as a presentation, will be received by all participants of the event (some slides can be excluded for the purposes of copyright protection or for other reasons), and confirm the compliance with the rules for preparing publications, reports etc., set in our institution.

Candidate (Name/signature) _____ / _____ /

Co-author #1(Name/signature)* _____ / _____ /

Co-author #2(Name/signature)* _____ / _____ /

Co-author #3(Name/signature)* _____ / _____ /

Head of NMI/metrological institution _____ / _____ /
(signature) (name)

* if the papers has co-authors.

Seal

**The form of background information about a candidate for participation in the competition
"The Best Young Metrologist of COOMET"**

Filled by the candidate and representatives of the NMI/metrological institution which nominated the candidate (by the Heads or Chairperson of the Council for nomination of candidates for CYM (Academic Council, Scientific and Technical Council)) from the corresponding NMI/metrological institution

BACKGROUND INFORMATION

about scientific and practical activities of the candidate for participation in the competition
"The Best Young Metrologist of COOMET-20__"

1 Main fields of scientific and practical activity: _____

2 Title of the paper, submitted for the competition, with an abstract:

3 Number of publications, including:

monographs: _____,

articles in peer reviewed international scientific journals in English: _____,

articles in other peer reviewed scientific journals: _____,

non-peer-reviewed articles: _____,

oral reports at scientific conferences: _____,

inventions: _____, patents: _____.

4 Experience of the candidate in metrology (work in other organizations, staying/studying abroad, participating in implementation of projects, appointment as a head of laboratory/department etc.):

5 Additional information about the candidate: _____

_____ 20__

(candidate's signature)

Chairperson of the Council for nomination
of candidates (Academic Council,
Scientific and Technical Council)

_____ / _____/

(signature)

(name)

The form of an extract from the Minutes of the meeting held by the Council for nomination of candidates for CYM (Academic Council, Scientific and Technical Council) from the corresponding NMI/metrological institution

Drawn up by the Secretary and signed by the Chairperson of the corresponding Council (with possible involvement of the Head of the department/division, to which the candidate belongs)

ATTENTION: This form is used to provide the Scientific Committee of the CYM with some common information about the importance of the candidate's paper (when evaluating according to the criteria 2 and 4 of Annex 9) for the corresponding NMI/metrological institution/country

EXTRACT

from the Minutes of the meeting held by the Council for nomination of candidates for the competition "The Best Young Metrologist of COOMET – 20__"
(Academic Council, Scientific and Technical Council)

HEARD: About the (full name of the organization) nomination of the paper of

(name(s) of the candidate(s))

(title of the paper)

for participation in the competition "**The Best Young Metrologist of COOMET**" in 20__

DECIDED: To propose the above paper for participation in the competition "**The Best Young Metrologist of COOMET**" in 20__ .

IMPORTANCE OF THE CANDIDATE'S PAPER

1) for metrological activities within the institution	
2) for ensuring traceability within the institute or on a national scale	
3) for economics of the country and society on the whole	

Note – Justification shall be provided for each of items 1 – 3.

PERSONAL CONTRIBUTION OF THE CANDIDATE

(shall be evaluated in case the paper, presented at the CYM, has co-authors: independent studies carried out by the candidate, his contribution to the paper as an author, available articles, patents, reports at conferences on the paper subject shall be mentioned)

Chairperson of the Council for nomination of candidates (Academic Council, Scientific and Technical Council))

_____/_____
(signature) (name)

Seal

Secretary of the Council for nomination of candidates (Academic Council, Scientific and Technical Council))

_____/_____
(signature) (name)

Evaluation Criteria
(instructions for the members of the Scientific Committee (competition jury))

Innovation	1	Relevance and scientific novelty of the paper (implementation) Weighing factor 0.1 Points from 1 to 5	The paper is considered relevant if it concerns a scientific field, actively developed by the world's community. The paper is distinguished by scientific novelty if new (previously unknown) scientific results were obtained.
	2	Practical significance of the paper Weighing factor 0.1 Points from 1 to 5	Practical significance (application) of the paper and its importance shall be shown, the way, in which the obtained results can be applied, shall be described.
	3	Practical use and implementation of the results of the paper Weighing factor 0.1 Points from 1 to 5	The results of making practical use of the paper shall be achieved.
Presentation skills and performance	4	Quality of the paper design Weighing factor 0.1 Points from 1 to 5	A qualitatively designed paper shall be written in a clear formal language using generally accepted language norms and formatting standards*. The text on the slides shall be convenient to read for everyone, including those in the back row. The visual presentation and oral explanation should complement each other and help the audience to understand the contents of the report. The paper shall have the appropriate illustrative material. *— including the requirements of Annex 5 of COOMET Recommendation R/GM/18
	5	Quality of presentation Weighing factor 0.2 Points from 1 to 5	In evaluation of the quality of paper presentation the following criteria are taken into account: <ul style="list-style-type: none"> • the reporter interacts with the listeners; • the reporter observes the time limit for statements; • the reporter speaks correctly, clearly and comprehensibly; • the reporter gives correct and convincing answers to questions; • the reporter uses, where necessary, additional equipment for the presentation of his paper (flip chart, white board, etc.)

According to these criteria:

maximum possible total points – 5

minimum total points – 1

(rounding of intermediate values to 0.1 point)

The final score is determined according to the formula:

$$C = \sum_{i=1}^7 a_i \cdot b_i,$$

where a_i is the weighing factor of the i criterion, b_i is the point of the i criterion.