

Science Show Competition

POLICY GUIDELINES OF SCIENCE ME!

As an essential science dialogue tool between scientists and the public, **Science Me!**, the European Science Show Competition, is an innovative instrument aimed at offering to the general audience the possibility to evaluate, at the measuring rod of their own sensitivity and understanding, short presentations of scientific subjects in all fields of science and technology given in a playful and interactive manner. The evaluation of each show by the public is complemented with an evaluation by a jury of independent experts.

Science Me! is a science-promotion tool designed to strengthen the interactions between the public of non-specialists and scientists, to contribute to a better perceived image of STEM among the young and adult citizen.

As far as possible, **Science Me!** competitions are organised on a regular basis in different locations, under the authority of an advisory board (steering committee) and under the responsibility of a local organising committee.

The present document lists all information pertaining to the long-term preservation of the spirit and policy guidelines of **Science Me!**.

1. ORIGIN

Science Me! is a joint initiative of *Chimioscope – UNIGE* (<https://scienscope.unige.ch/chimioscope>), the outreach platform of the University of Geneva, and *Musée d'Histoire des Sciences – city of Geneva*. The project has been financed by *Agora*, the scientific communication funding scheme of the *Swiss National Science Foundation* (<https://www.snf.ch/>) for its first occurrence.

The first occurrence of the event, **Science Me! 2016**, has been planned in July 2016, in the *Perle du Lac* park showcasing the *Musée d'Histoire des Sciences*, during the 11th edition of the biannual *Nuit de la Science* public science fair (<http://www.ville-ge.ch/lanuitdelascience/>).

Science Me! finds its origin in June 2014, when a *Scienceshow Championship* was proposed in Copenhagen by members of Aarhus University and Technical University of Denmark as a side event of a science forum (*Euroscience Open Forum*, ESOF) and its public-oriented science fair (*Science in the City*). Although it was a one-shot event with a small number of participants, the *Scienceshow Championship* created interest in further similar events and thus inspired the creation of the present **Science Me!** concept.

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2. STATUS

Science Me! is structured in a similar way as a scientific symposium:

- **Advisory board (Steering committee):**

- The advisory board consists of members of the previous local organising committees and members of the forthcoming local organising committee, or their representatives; each organising committee counts for a single voice, in particular when decisions are to be voted.
- The advisory board works towards maintaining as far as possible the durability of the concept.
- The advisory board guarantees that the organisation of **Science Me!** events fits to the original policy guidelines which make the concept unique.
- The advisory board ensures that the forthcoming event will be organised under appropriately high standards of quality.
- The advisory board maintains and updates a website listing all previous and forthcoming events.
- The advisory board transparently provides to the local organising committee of the forthcoming event all information on the previous events that should facilitate the organisation of the next competition; this includes expertise, mailing lists, data on budgets and logistics, logos, templates and examples of documents from the previous events, etc.

- **Local organising committee:**

- The local organising committee consists of members of an institution which will organise the forthcoming event.
- The local organising committee guarantees that the forthcoming event will be organised under the appropriately high standards of quality requested by the advisory board; this includes compliance of the event to the general policy, seek of sponsors, communication on the event among the scientific and public communities, administration of the participating teams, etc.

3. RULES OF THE COMPETITION

In principle, the guidelines and rules applying to the competition are the ones that were enforced during the organisation of the first event, **Science Me! 2016**.

These guidelines and rules may evolve in the forthcoming events, provided that the modifications proposed by the advisory board or by the current local organising committee are approved by the advisory board.

Modifications should be brought in order to enhance the global quality of the event without deeply changing the philosophy of the concept.

The rules of the competition that applied during the first event, including potential enhancements which arose at the completion of the first event, are summarised below:

- **Participating teams:**

- A team consists of a **maximum of two participants on stage**; additional members can participate in the event (e.g., they can help in the preparation of their show), but they will not be accepted on stage. Non-respect of this rule will lead to a deduction of points to the final score of the team.
- A team may not necessarily consist of exclusively scientists; art performers, high-school students or teachers or scientists active in a private company (not a private company specialised in science shows, see below) or retired scientists can also be members of the team; there is no age limit for team members.
- Professionals of science shows (i.e. scientists or art performers working for a private entity specialised in science shows and receiving a salary for their public performances) are not allowed to participate.
- Teams wishing to participate to the competition apply to the local organising committee; if the number of applicant teams exceeds the total number of teams that can be programmed during the event, the local organising committee evaluates the quality of all applications and determines which teams will be invited to participate in the event.

- **Science domains and themes:**

- All domains of science and technology are allowed to apply for participation to the event; this includes fundamental and applied sciences (physics, astronomy, mathematics, chemistry, biology, earth science, environmental science, neurosciences, medicine, informatics, pharmaceutical science, engineering, etc.; this list is non-exclusive), but also other “softer” sciences (e.g. psychology, affective sciences, social

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sciences, etc.) as far as these include a kind of scientific approach and scientific treatment of data/results.

- The local organising committee determines which science domains and which teams will participate in the event, depending on the total number of applications, on the smooth balance between the domains proposed by applicants, and on the smooth balance between languages and affiliations of applicants.

● **Pre-show checks:**

- According to the experience gained during the 1st edition of the event, teams should compulsorily pass a safety/sound/light/presentation check with the local organising committee, before the shows start; this allows to avoid technical problems facing the backstage and control room staff on start of shows with more-than-regular technical requirements (sequences of audio and/or video and/or light effects, or use of specific material, etc.) and to guarantee a smooth conduct of the event for the general audience.

● **Science shows:**

- Each team is allowed a single **10-minute science show on stage**; the time required to set up and disassemble the show on stage is not included in this duration. Shows lasting more than 10 minutes will lead to a deduction of points; shorter shows will not lead to a deduction or supplement of points.
- The language of the shows is either English or the native language of the country hosting the event, or speechless. Speechless shows, or shows in which the language is not an issue, will lead to a supplement of points (as far as the scientific content of the show is understandable); shows given in the native language of the host country by teams speaking another language will lead to a supplement of points.
- The presentations must consist of experiments, demonstrations or explanations that have been prepared by the presenters or their institution and are conducted by the presenters.
- The use of commercial devices or instruments designed to purposely produce special effects is not allowed and will lead to a deduction of points; such devices are however permitted if they are used to drive an experiment for which they are not originally meant.
- Safe experiments are the best ambassadors of quality science among the general audience and **safety issues are of paramount importance**. Shows using spectacular special effects, which will or could be dangerous or which could impair the public or the presenters, will lead to a deduction of points.

● **Evaluation of shows by the public:**

- Shows are evaluated by the public on the basis of the quantitative determination of the strength and duration of the applause recorded at the completion of each show by a dB-meter, weighted by the number of persons present in the audience.
- During the event, the audience is instructed that the applause-meter records all sounds, including the ones that could arise from a “negative evaluation”.
- During the 1st edition of the event in Geneva, the recorded sound value was “Leq dB(C) 1min”, i.e. the average frequency-weighted decibel recording over a 1-minute period, following the C curve adapted to measure noises above 70 dB.
- The calibrated high-sensitivity microphone was placed on top of the theatre pointing right to the audience; decibel data measured were weighted by the duration of the applause period (min. 12 s, max. 24 s) and the number of persons in the public (min. 90, max. 160) according to:
$$\text{Score} = \text{Log}_{10}(10^{\text{Leq dB(C) 1min}} \times [\text{duration} / \text{audience}]).$$
- Any professional dB-meter (e.g., professional 10EaZy instrument; <http://10easy.com>) can be used, and log files of the instrument are used to determine the scores attributed by the public.

● **Evaluation of shows by the jury:**

- The jury is selected by the local organising committee among the science community and the science show/communication community; the jury must understand the language in which the presentations will be given, must be neutral and independent, and must not be linked to the institutions of either the local organising committee or the participating teams, to guarantee the total independence of their evaluation.
- In principle, the jury is composed of more than one member, to avoid or minimise personal biases.
- Shows are evaluated by the jury on the basis of a certain number of pre-determined (quantitative + qualitative) criteria.
- For the 1st edition of the event in Geneva, 30 criteria were used by the jury, in the following categories: content, experimentation, entertainment, professionalism/adaptability, safety, others; each categories included 6 sub-criteria, to take into account all aspects of the shows.
- Globally, the following important points must be included in the evaluation by the jury: respect of safety regulations, novelty of the subjects, didactics and explanations, interactivity with the public, visual aspects

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and fun, originality, artistic and poetic inputs, interdisciplinarity, scientific relevance (well-known concepts vs. front-edge research presented), simplicity, respect of the time allotted, etc.

• **Global score of shows:**

- The local organising committee calculates the global score of each show at the completion of the event, to determine the rank of each participating team.
- The global score is a combination of the evaluation score given by the public (duration- and audience-weighted) and of the evaluation score given by the jury. Weighting of the public evaluation and of the jury evaluation is determined in advance between the local organising committee and the jury.
- For the 1st edition of the event in Geneva, the weighted applause-meter results (between 80 dB and 95 dB; minimum 12 s, maximum 24 s) were normalised to have a maximum extent in the same range as the evaluation scores given by the jury.
- Prior to public announcement of the awarded teams (Prize ceremony), the jury and the local organising committee discuss together the results of the evaluations; in case of disagreement between the opinion of the local organising committee and the jury, the decision of the jury predominates.

• **Logistics of the competition:**

- As far as technically possible, the local organising committee will provide, in addition to a stage with sufficient dimensions for shows, a master of ceremony, and additional facilities such as a backstage with instructed staff that can be accessed by participating teams to prepare their show, a control room with instructed staff to guarantee a smooth conduct of all shows including control over computer presentations, audio, video, and light.
- Invited teams will have to send in advance to the local organising committee their requirements in terms of stage show (type of presentation, use of light show and/or audio and/or video, etc.).
- As far as technically possible, the interval between two shows will be kept as short as possible, to ensure that the public will not have to suffer long breaks.

• **Support provided to teams and jury:**

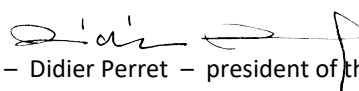
- As far as possible, the local organising committee provides all required support to the teams and to the members of the jury; this includes letters of attendance (for persons requiring a Visa), total or partial financial support for travel fees, total or partial support for on-site lodging during the event, and certificates of attendance for participants.
- According to the experience gained during the 1st edition of the event, original proofs of payments (paper or electronic train or flight tickets, boarding passes, fuel tickets, highway toll tickets, etc.) should be provided as soon as possible to the local organising committee to avoid delayed reimbursements.
- As far as possible, the local organising committee proposes pre- or post-competition events to the teams; the choice of the contents of the potential events (scientific, artistic, social) are under the authority of the local organising committee.

• **Frequency of the events:**

- In principle, the competition will be organised each year at a flexible date taking into account local constraints; if the forthcoming event cannot be organised the next year, the advisory board will make sure that the event can be planned the year after.
- In principle, the competition will be organised each time in a different place; however, the initiators of the project (namely: the *Chimiscope – UNIGE* and the *Musée d'Histoire des Sciences – city of Geneva*) can propose to organise the competition in Geneva, during the *Nuit de la Science* public science fair, to be held every even year.
- In case the advisory board is not able to identify a local organising committee to organise the competition within a delay of two years, the advisory board can decide to stop the project, either for a limited number of years or forever.

• **Changeover to the next local organising committee:**

- Applications for potential forthcoming events will be advertised in advance among the scientific community (including all institutions that participated in previous editions of the event), so that the advisory board can identify the most relevant application at least during the current event and discuss feasibility issues with the potential future local organising committees.



Geneva, August 10, 2016 – Didier Perret – president of the steering committee

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