

SOUNDS OF SPACE

THE MAARBLE “SOUNDS OF SPACE”

MUSICAL COMPOSITION CONTEST

Notes for Guidance – Terms and Conditions

Essential Information About the Contest

Planet Earth is a natural source of radio waves, which surround us all the time. Although most of these waves are in the acoustic frequency range, they are not audible by humans. They are electromagnetic waves – not acoustic ones; we would have “heard” them if we had radio antennas instead of ears.

Radio waves can be detected by our ears if we convert them to sound waves, by using a very low frequency (VLF) receiver. A VLF receiver consists of an antenna and a radio amplifier, and it is sensitive to radio waves. After converting electromagnetic (radio) waves into acoustic (sound) waves, with the same frequency, the sounds produced by our planet can be “heard”.

These sounds correspond to several types of radio emissions propagating in the Earth’s atmosphere, ionosphere and magnetosphere. The way these waves sound, when played through an audio system, defines their name: sferics, tweeks, whistlers, chorus, and hiss. We also call them “Earth Songs”.

The **MAARBLE contest of musical composition** combines scientific and artistic ways of thinking, i.e. the art of Music and Space science. It is an original idea to provide scientific information to the public, inviting people to “feel” the science and to think about art. Composers from all EU countries, USA and Canada, are invited to take part in the MAARBLE musical composition contest. The leading concept is to use the natural sounds of the Earth’s magnetosphere in order to compose **electroacoustic music**.

At the MAARBLE Outreach website additional information is provided as to the physical mechanisms responsible for these emissions:

<http://www.maarble.eu/outreach/index.php/multimedia/sounds-of-space>

A large sample of magnetospheric sounds is compiled through the Canadian Array for Realtime Investigations of Magnetic Activity (CARISMA) data (Audio Data courtesy of CARISMA, operated by the University of Alberta, funded by the Canadian Space Agency). These are audio files in standard Windows PCM WAV format, made from 20Hz data with higher pitch:

<http://bluebird.physics.ualberta.ca/carisma/semiconductor/FullRangeFiles/>

or 100Hz data with lower pitch and long run-length:

http://bluebird.physics.ualberta.ca/carisma/semiconductor/100Hz_FullRange/

Composers have to use at least some of these sounds to create their pieces of music. The space sounds should form a prominent part of the composition, either in their original form or in a technically modified form.

Eligibility – who can participate?

Anyone, amateur or professional musician, who comes from an EU member state (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom) or from a non-EU country participating in the MAARBLE project (Canada, USA).

Important Dates

The competition is officially starting on **April 2, 2014**. The **deadline** for submission of the musical pieces is set on **May 31, 2014 (23:00 CET)**. Please note that we cannot accept submissions after the set deadline. An acknowledgement of receipt will be sent by e-mail at submission of musical compositions. The winners will be announced on the MAARBLE Outreach Web Site (<http://www.maarble.eu/outreach/>) on **June 25, 2014**.

Limitations

Each participant can only submit one musical piece. We will not accept team submissions (only one composer per musical piece).

Data Protection – Intellectual Rights

The titles and composer names of the short-listed compositions will be published on the MAARBLE Outreach website. MAARBLE reserves the right to circulate information about the short-listed compositions to all other applicants, general audiences, the media, and through its outreach website in order to share best practice and to publicise the project. MAARBLE reserves the right to use the short-listed/finalist musical compositions solely for the purposes of science communication and outreach. There will be no commercial exploitation of the submitted/winning pieces by the MAARBLE project. The composers reserve all intellectual rights of their compositions.

Required Specific Characteristics of Musical Pieces

- Electroacoustic, of maximum duration 10 min.
- The application form must be sent by email; the subject line should read as follows: **MAARBLE COMPOSITION CONTEST – NAME SURNAME**
- The musical piece that will be submitted must be named as follows: **NAME_SURNAME_TITLE**
- All musical compositions must be submitted in the following format: stereo wav or aiff, 44.1kHz, bitrate 16 or 24
- The composition file and the completed application form must be submitted to maarblemusic@noa.gr through www.wetransfer.com or any other suitable file transfer tool.

Evaluation Procedure: How the Musical Pieces Are Judged

The selection committee comprises musicians and physicists as follows:

Anastasios Anastasiadis, PhD, Solar physicist, Leader of MAARBLE Dissemination and Outreach, Research Director at the National Observatory of Athens (members.noa.gr/anastasi/index.html)

Eleni Chatzichristou, PhD, Astrophysicist, Outreach officer of the MAARBLE project, Director of Education & Development at the College of Rhodes (www.rodos-college.gr)

Ioannis A. Dagleis, PhD, Space physicist, Coordinator of the MAARBLE project, Professor of the University of Athens (proteus.space.noa.gr/~daglis/)

Nickos Harizanos, MMus, Composer, General Secretary of the Contemporary Music Research Centre, Athens (www.nickosharizanos.com/)

Costas Mantzoros, Composer, Contemporary Music Research Center, Athens (<http://ksyme.weebly.com/>)

George Palamiotis, Musician, bass artist, composer, Athens (www.georgepalamiotis.com)

Costas Papadoukas, Musicologist (DEA Paris IV), film composer and orchestrator, Paris (<https://soundcloud.com/costa-papadoukas/>)

The members of the committee mark each submission independently. After the musical pieces have been marked, they are ranked according to their average scores. The judges then meet to finalise the marks and select the winners.

Prizes – Visibility of Winning Pieces

There will be **three winners** announced at the MAARBLE Contest of Musical Composition.

The first winning composition will receive an **award of 1500 €**.

The second winning composition will receive an **award of 750 €**.

The third winning composition will receive an **award of 500 €**.

All three winning pieces will be uploaded on the MAARBLE Outreach Web Site (<http://www.maarble.eu/outreach/>) and will be officially presented during the international conference "Geospace revisited: a Cluster/MAARBLE/Van Allen Probes Conference", which will take place in Rhodes island, Greece, on September 15–19, 2014. Each winning composition will be presented along with a parallel projection of photos and videos describing the physical mechanisms involved in the production of the original sounds used in the specific composition. Travel expenses within EU to Rhodes and accommodation in Rhodes will be covered for the winning composers.

Further Information

We are here to support you during the application process. If you have any questions please contact the MAARBLE Outreach Team at elthchatz@gmail.com