

NEW ACTIVITIES THAT PROMOTE MATHEMATICS IN YOUNG PEOPLE AND IN SOCIETY

Gregory Makrides

ABSTRACT

Two new activities for young people of age 9-18 are developed that seem to be very promising in promoting mathematics among the young generation, promoting the development of young researchers and also bringing mathematics closer to society. One event is a student conference named EUROMATH that started in 2009 and the other event is the MATHEMATICS THEATER competition that started in 2010. Below we explain how the two events are developed and describe the experiences and future plans.

A. European Student Conference in Mathematics EUROMATH

Partners in the organization of this event were the THALES Foundation, the Cyprus Mathematical Society, the European Mathematical Society, the Sonderpädagogisches Zentrum Gmunden Süd and the Department of Social and Political Science, University of Cyprus. This event started in 2009 with EUROMATH 2009. The idea was to promote among young students of age 12-18 the cooperative work on a mathematics project and give them a chance to write an abstract, then present it at a conference in front of their colleagues and teachers in an international language and then prepare a full paper following given specifications so that the paper can be published in the conference proceedings.

The EUROMATH 2009 was organized in Cyprus in February 2009 in which some 45 international students participated plus 60 Cypriots all involved in presentations. The EUROMATH 2010 was organized in Bad Goisern Austria in February 2010 with the participation of 180 students and teachers with about 120 students involved in presentations.

The results and the quality of the presentations and papers submitted show that many of these students do not have only a talent in mathematics but also in communicating mathematics. Communication of mathematics is becoming more important than knowledge of mathematics. Young students and possibly future teachers and professors have to develop communication skills so that they can transfer their knowledge and understanding to others.

The young students exhibit creativity and innovation in their presentation and approach and it is believed that the EUROMATH activity could contribute to the development of young researchers for Europe and beyond.

The EUROMATH 2011 is planned to take place in Athens, Greece from 29 March to 1 April 2011. There will be two new competitions developed within EUROMATH from next year. One will be to give a prize to the best three presentations and the other to run a Mathematics Poster Design competition. The rules for these two new activities will be available in the conference website, but it is believed that there will be new motivation for the students and a chance for them to express their talent in both mathematics communication and for mathematics theme design.

The programme and papers of the EUROMATH conferences appear on the site www.euromath.org.

B. MATHEMATICS THEATRE Competition 2010 **29 April -14 May, 2010**

Partners in the organization of this event were the THALES Foundation, the Cyprus Mathematics Society, the European Office of Cyprus, the University of Cyprus, the Technological University of Cyprus and the European project CASC under the action FP7 Science in Society.

The idea of this activity is to give the opportunity to students of age 12-18 to develop and theatre play with mathematics as the major theme. In this year's competition there were sixteen school participations with groups of students. There were excellent plays prepared on many different mathematics themes, including ancient and modern mathematics history, drama, simple mathematics properties, musicals, comics. There was a pre-selection procedure through which five schools were selected in a short list to appear again in a final round. Three schools were the winners, the first prize was awarded to the theme "17 days", based on the last 17 days of the life of Hilbert in the hospital, the second prize was awarded to the theme "The Diamond Theorem" and the third prize was awarded to the theme "The Numbers".

The regulations for the participation in this activity are shown below:

Participation is accepted by Public and Private schools and by Theatre Schools or Consortiums.

The following regulations apply:

1. The subject of the play must be related to mathematics and the participation of the actors must be a minimum of two per play and ages 9-18.
2. Each play will be performed in public against a jury and the length should not exceed 20 minutes.

3. Stage designs set-up is not required and cannot be provided by the organizers. Constructions that can be set-up in 5 minutes and be removed in 5 minutes are allowed with the responsibility of the participants. The organizers will have available two lap-tops and two LCD projectors, which will project on two independent screens. One of the lap-top will be connected to the sound system. The management of the projections will be the responsibility of the participants.

4. The text of the play must be submitted together with the application form by 1 March 2010.

5. The performance could be done in either Greek or English or combination.

6. The stage design is not part of the assessment.

7. There will be stage performances until all the participants present their plays. Each performance is expected to allow about 6 plays to be presented. When all plays are presented, the Jury will announce the best three or four without ranking. The best three or four will be invited to the finals and will be asked to present their play again in order to rank them into First, Second and Third Prize.

Prizes for the first three best plays will be:

First Prize: 600 euro and certificate of success to the actors

Second Prize: 400 euro and certificate of success to the actors

Third Prize: 200 euro and certificate of success to the actors

8. The Jury will consist of Theatre experts, Mathematicians, Educators from Primary, Secondary and Tertiary Education System.

9. Programme of presentations

Part A:

29 April 2010, 16:00 – 19:00, Auditorium Theatre of the University of Cyprus, Kallipoleos Avenue, Nicosia

Part B:

30 April 2010, 16:00 – 19:00, Auditorium Theatre of the University of Cyprus, Kallipoleos Avenue, Nicosia

Part C:

3 May 2010, 16:00 – 19:00, The theatre of the Municipality of Agios Athanasios, Limassol

Final: 14 May 2010, 10:00 – 13:00 The theatre of the Municipality of Agios Athanasios, Limassol

The video of all the plays can be found on the site www.thalescyprus.com. The competition will continue in 2011. The organizers are examining the possibility to run the competition at European Level. In such a case the following procedure is proposed:

Step 1: Videos are uploaded on website or sent by mail in a DVD.

Step2: Jury views videos and votes on-line

Step3: Best 8-10 plays are invited for live presentation during EUROMATH conference

The partners are looking to expand the network of those interested in the activities above and everyone interested is urged to write to the author.

Dr Gregory Makrides

President, Cyprus Mathematical Society

President, THALES Foundation of Cyprus

Director of Research and International Relations, University of Cyprus

www.thalescyprus.com, www.cms.org.cy, www.euromath.org

makrides.g@ucy.ac.cy, makrides.greg@usa.net