

INTERNATIONAL MATHEMATICS FESTIVAL: A FUN AND COLLABORATIVE EVENT FOR STUDENTS TO DISCOVER “WHY” AND “WHAT IF”

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Short description of the Workshop Groups: organizers, aims and underlying ideas

A mathematics festival is an extra-curricular activity for K-12 students which provides them with advanced and attractive mathematics in a non-competitive situation. Rather than textbook exercises, a festival offers colorful puzzles, games, and hands-on activities to inspire students to think creatively and encourage collaborative problem-solving.

The typical mathematics festival is in-person in format. We set up 10-20 tables in a large space. On each table, we place different problem sets or mathematical activities. Each activity comes with a wide range of problems on a given topic that students of different abilities can work on. Students can choose from among the activities freely, decide for themselves how long to work at each activity, and move to another table at their own pace. The length and depth of student engagement provides a useful evaluation of the activity.

The festival supports students' thought processes, helping them to discover mathematical patterns and relationships and to take joy in finding new insights. Students join together in informal work groups, adding to the enjoyment of the experience. Snacks and drinks contribute to the festive atmosphere.

We had originally planned to host a full-scale in-person mathematics festival at ICME-14. We have switched to an online version. At the beginning of the workshop, we will demonstrate a festival game and illustrate the progressive style of questions that students can explore. Then mathematics teachers and students will share their experiences. We will also conduct a live discussion with Rick Sommer, Hector Rosario and other mathematics professionals who have extensive experience in K-12 mathematical enrichment programs to share their insights.

Planned structure:

Insert the planned structure of the workshop in the table below. You can insert rows if needed.

Planned timeline	Planned activity	Working format /Responsible person
00:00 – 00:10	Welcome and introduction	Online/ Mark Saul and Cherry Pu
00:10 – 00:45	Demo class of a festival game with international students joining online	Online/ Mark Saul and festival table facilitator
00:45 – 00:60	Interview with students and teachers	Online and pre-recorded videos / Mark Saul and Cherry Pu
00:60 – 00:75	Panel discussion between Rick Sommer, Hector Rosario, Mark Saul and guest	Online/ Mark Saul and Cherry Pu

Last names of the organizers

	speakers on the K-12 mathematics enrichment program	
00:75 – 00:90	Q&A for conference participants	Online/ Mark Saul and Cherry Pu

Venue requirement:

Indicate the requirement of the venue capacity and facilities here.

It can be written in English or Chinese.

Online

We will broadcast a few pre-recorded videos and can upload these to the ICME-14 server in advance.