



INNOVATIVE  
RESEARCH  
INVENTION  
COMPETITION

**2024 - Season 1**

**Official Website**

[fusac.fusso.org](https://fusac.fusso.org)

**Competition Host**

[Future Science Scholar Organization](#)



# HOST INTRODUCTION

**Future Science Scholar Organization (FuSSO)** is a STEM academic community established in 2022 by scholars around the world. It is an inclusive, diverse, "purely academic," non-profit student organization with over 2500 professional scholars from 10+ countries and 50+ regions. This community includes a wide range of ethnicities, cultural backgrounds, academic expertise, and educational levels, spanning from high school students to Ph.D.

FuSSO's mission is to cultivate an exceptional team of research leaders to transform STEM knowledge into real-world application, benefiting societies with the power of science



# COMPETITION INTRODUCTION

## INNOVATIVE RESEARCH AND INVENTION COMPETITION

**The Innovative Research and Invention Competition (IRIC)** aims to stimulate innovative thinking among contestants, cultivate students' ability to use theoretical knowledge to create practical applications to solve social problems, and give high school students a platform to showcase their unique ideas. The competition will provide students with an open platform and extensive resources, which encourages students to learn interdisciplinary theoretical knowledge, use their strategies to face real-world challenges, solve urgent social problems, and meet urgent human needs in creative ways. Such competition can not only influence the way contestants view and solve problems, but also shape the leadership capabilities of future innovators and cultivate talents who are brave enough to explore the unknown.



# COMPETITION RANGE



**Competition Dates:** 4/1/2024 - 9/1/2024

**Competition Audience:** International High School Students

## SEASONAL THEME

### SUSTAINABLE DEVELOPMENT

**Each team will choose a topic from following:**

**Artificial Intelligence and Machine Learning:**

Exploring the Potential of Artificial Intelligence in Achieving a Zero-Waste Society

**Sustainable Energy:**

Next-Generation Energy Conversion Technologies: Beyond the Boundaries of Solar and Wind Power

**Robotics and Mechanics:**

Developing Robotic Solutions for Environmental Cleanup and Conservation

**Biotechnology:**

The Application and Ethical Considerations of Gene Editing Technology in Enhancing Agricultural Sustainability

**Material Science:**

Advancements in Sustainable Materials for Reducing the Environmental Footprint of Consumer Products

**Smart Cities and Transportation:**

Integrating IoT and Big Data for Adaptive Management Systems of Urban Infrastructure

**Chemistry:**

The Prospects of Nanotechnology in Environmental Pollution Control and Resource Recovery

**Social Science:**

The Impact of Social Behavior in the Digital Age on Sustainable Development Strategies

# Competition Process

## **Preparation Phase (Before April 1)**

- Contestants form teams and familiarize themselves with the competition's rules, procedures, scoring criteria, and other relevant information.

## **Initial Submission Phase (April 1 - April 20)**

- Teams submit their chosen topic and its outline to mentors for professional advice and preliminary ratings.

## **Research and Drafting Phase (April 20 - July 10)**

- Teams conduct academic research, complete the writing of the first draft paper, and submit it to their mentor for professional feedback and ratings.

## **Revision Phase (July 10 - July 30)**

- Teams submit the second draft of their paper to mentors and receive further professional advice and ratings.

## **Final Submission (August 5)**

- Teams submit the final draft of their paper, the PDF version of the display board, its explanation video, slides, and other auxiliary materials.

## **Judging and Voting Phase (August 5 - August 20)**

- Public and professional judges evaluate submissions. Meanwhile, teams canvass for votes and prepare for their final presentations.

## **Final Presentations (August 21)**

- Teams present their research outcomes in their final presentations.

## **Evaluation Phase (August 22 - August 26)**

- The organizing committee evaluates all scores received by each team.

## **Award Ceremony (August 27)**

- The competition concludes with an award ceremony to honor and celebrate the achievements of the participating teams.

# Prize Settings

## **First place (1 group):**

- Award certificates
- Honor Wall: All team members and their accomplishments will be displayed on IRIC's official website.
- Free paper revision guidance and publication by JOSER(Journal of Scientific Explorative Research).
- Fu-Lab Access: free mentoring, opportunity for recommendation letters, etc.
- Patent application assistance: If the research includes related innovative inventions products, IRIC would offer patent registration assistance

## **Second place (3 groups):**

- Award certificates
- Honor Wall: All team members and their accomplishments will be displayed on IRIC's official website.
- Free paper revision guidance and publication by JOSER(Journal of Scientific Explorative Research).
- Fu-Lab Access: free mentoring, opportunity for recommendation letters, etc.

## **Third place (5 groups):**

- Award certificates
- Honor Wall: All team members and their accomplishments will be displayed on IRIC's official website.
- Free paper revision guidance and publication by JOSER(Journal of Scientific Explorative Research).

## **Excellence Award (5 groups):**

- Award certificates
- Honor Wall: All team members and their accomplishments will be displayed on IRIC's official website.

## **Best Influence Award:**

- Award certificates

# Judges Introduction

## **The judge committee are from:**

Boston University  
University of North Carolina, Chapel Hill,  
Pennsylvania State University  
University of California, San Diego  
University College London  
Galway University School of Medicine  
Vanderbilt University  
China University of Political Science and Law  
Washington University, Monash University  
University of Toronto  
University of Toronto (Mississauga)  
Fudan University  
Hong Kong Polytechnic University (Hong Kong, China)  
Columbia University  
Haverford College  
University of California, Los Angeles  
New York University  
University of California, Merced  
National University of Singapore  
Johns Hopkins University  
University of Melbourne

# Registration Process

## Registration:

- Read the instructions on the official website: [fusac.fusso.org](https://fusac.fusso.org)
- Fill out the Registration Form on the website or scan the QR code on the right



## Registration Fee:

- There is no registration fee needed, but there will be penalty for violating the participants' agreement

## Team Up:

- Accepted participants would receive a email from the IRIC administration, including the instructions on "What to do next?"
- Participants' group-chat-links/QR codes would be attached to the email
- After joining the group chat, participants can form teams with 2-6 people
- The team captains would have to fill out the Team Registration Form

**Then, you can begin your innovative journey here at IRIC!**



# CONTACT

**Email Address:**

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**Official Website:**

[fusac.fusso.org](http://fusac.fusso.org)

**FuSSO WeChat Official Account:**

[FuSSO2022](#)

