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programming contest



icpc global sponsor  
programming tools



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multi-regional sponsor

## **ICPC Asia Yokohama Regional Contest 2022**

# **Contest Program**

Host: Keio University, Japan  
December 27-28, 2022

# International Collegiate Programming Contest Asia Yokohama Regional Contest 2022

Sanbo Hall  
December 27-28, 2022

- Organized by
- ICPC Asia Yokohama Regional Contest Organizing Committee
  - International Information Science Foundation
  - Keio University
- Supported by
- Ministry of Economy, Trade and Industry
  - Ministry of Education, Culture, Sports, Science and Technology
  - Ministry of Internal Affairs and Communications
  - Japan Information Technology Services Industry Association (JISA)
  - Japan Science and Technology Agency (JST)
  - Information Processing Society of Japan (IPSJ)
  - Japan Society for Software Science and Technology (JSSST)
- ICPC Global Programming Tools Sponsor
- JetBrains
- ICPC Diamond Multi-Regional Sponsor
- Huawei
- Industrial Sponsorship
- Google Japan G.K.
  - MC Digital, Inc.
  - e-Seikatsu Co., Ltd.
  - Fixstars Corporation
  - KLab Inc.
  - LegalOn Technologies, Inc.
  - Opt, Inc.
  - Preferred Networks, Inc.
  - Retrieva, Inc.
  - UTokyo Innovation Platform Co., Ltd.

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## Contest Information

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ICPC Asia Yokohama Regional Contest 2022

<https://icpc.iisf.or.jp/2022-yokohama/asia-yokohama-regional-contest-2022/>

ICPC Japan Site <https://icpc.iisf.or.jp/>

## **Welcome to ICPC Asia Yokohama Regional Contest!**

It is a great pleasure to welcome all of you to the ICPC Asia Yokohama Regional Contest.

Keio University is proud to host the Asia Regional Contest for the fifth consecutive year, sixth time overall. We are especially happy to host the regional contest onsite for the first time in three years. I am sure that all the contestants are also happy to participate in an onsite contest.

On July 8, 298 teams from 79 colleges and universities all over Japan competed in the Japan Online Contest. Although the number of teams was far less than the record 495 teams in 2019, the competition was held at a very high level. 43 teams from 30 colleges and universities advanced to this ICPC Asia Yokohama Regional Contest. They will vie for the rights to go to the World Finals. Details of the World Finals have not been announced as of the time of the preparation of this program.

We believe that this contest will be a great opportunity for participating students to demonstrate their programming skills acquired through their daily studies. We also believe that participation in this contest will be a wonderful opportunity for students of varying backgrounds to interact and exchange ideas with each other.

This contest would not have been possible without the contribution of many people. We would first like to thank Dr. Tomoharu Ugawa and the judge team for spending countless hours preparing the contest problems. The ICPC Board oversaw the contest organization. The International Information Science Foundation handled many behind-the-scene tasks. The ICPC ‘Secretaries’ Team provided high-quality technical support and service. Thanks also go to all the volunteer staff including the ICPC Japanese Alumni Group and student staff from Keio University. The 10 local industrial sponsors provided invaluable financial support. Last but not least, this contest would not even exist without all the participants, so a special thanks go to all participants at the Regional Contest AND those who unfortunately could not advance.

Good luck to all of this year’s regional contest participants!

Shingo Takada  
Director, ICPC Asia Yokohama Regional Contest 2022  
Professor, Department of Information and Computer Science, Keio University, Japan

## Organizers

Director	Shingo Takada (Keio University)	
Chief Judge	Tomoharu Ugawa (The University of Tokyo)	
Organizing Committee Members	Claus Aranha (University of Tsukuba) Issei Fujishiro (Keio University) Katsuhiko Kakehi (IISF, Waseda University, ICPC Board Chair) Hiroshi Shigeno (Keio University) Takahiro Yakoh (Keio University) Rie Shigetomi Yamaguchi (The University of Tokyo)	
Judges	Takashi Chikayama (The University of Tokyo) Kento Emoto (Kyushu Institute of Technology) Akifumi Imanishi (Preferred Networks, Inc) Kazuhiro Inaba (Google Japan G.K.) Kiyoshi Ishihata Shuichi Hirahara (National Institute of Informatics) Yoichi Iwata (AtCoder) Masatoshi Kitagawa (Waseda University) Koichi Kubota (Chuo University) Soh Kumabe (The University of Tokyo) Mitsuru Kusumoto (Preferred Networks, Inc.) Takanori Maehara (Meta Platforms, Inc.) Kiminori Matsuzaki (Kochi University of Technology) Kohei Morita (Indeed Japan) Tomohiro Oka (Google Japan G.K.) Ryotaro Sato (MC Digital, Inc.) Etsuya Shibayama (The University of Tokyo) Shinya Shiroshita (Preferred Networks, Inc) Fumihiko Yamaguchi (University of Nagasaki) Yutaro Yamaguchi (Osaka University)	
ICPC Board	Katsuhiko Kakehi (IISF, Waseda University, ICPC Board Chair) Takashi Chikayama (The University of Tokyo) Kiyoshi Ishihata Etsuya Shibayama (The University of Tokyo) Shingo Takada (Keio University) Rie Shigetomi Yamaguchi (The University of Tokyo)	
ICPC Secretaries	Hidehiko Abe Yuichiro Hanada Takuya Hashimoto Takashi Imamichi Yusuke Izumi Shinya Kawanaka Yoshiaki Matsuoka	Naoto Mizuno Shohei Nishida Hiroki Sato Yu Sugawara Shuhei Takahashi Hiroshi Yamaguchi Rie Shigetomi Yamaguchi (ICPC Secretaries Chair)

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### International Information Science Foundation

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## Timetable

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**December 27 (Tue) Yokohama Sanbo Hall (横浜産貿ホール)**

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- 13:00 – 14:00     Registration
- 14:00 – 16:30     Opening, Orientation, and Rehearsal
- 16:30 – 18:00     Team Introduction
- (Dinner on your own.)

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**December 28 (Wed) Yokohama Sanbo Hall (横浜産貿ホール)**

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- 08:40 – 09:10     Contest Check-in
- 09:30 – 14:30     Asia Regional Contest
- Note: There will be no space for coaches in the contest area. We have reserved Room B102 on the B1 floor of Sanbo Hall for coaches.
- 15:00 – 15:40     Commentaries on Problems
- 15:40 – 17:00     Award and Closing Ceremony
1. Greetings from Sponsors
    - Kyojiro Sei (Huawei Technologies Japan)
    - Yuma Inoue (Google Japan G.K.)
    - Rei Kubonaga (MC Digital, Inc.)
  2. Results and Awards
  3. Closing Remarks
    - Katsuhiko Kakehi (International Information Science Foundation)
- 17:00 – 18:00     Meet and Greet Sponsors

Note: Due to the COVID pandemic, we will not hold a conventional closing party.

### Map of Area



### Yokohama Sanbo Hall



## Participating Teams

Team	Institution
CUPC	Chiba University
icecream	Doshisha University
Tokishirazu	Hokkaido University
thorny castle	Ibaraki University
Anrirded	Keio University
KOSMOS	Keio University
Bu-Bu-Du-Ke	Kyoto University
Heno World	Kyoto University
KUB1pp	Kyoto University
heap_q	Kyushu University
tebasaki	Nagoya Institute of Technology
flow-chow	Nagoya University
incomplete	Nara National College of Technology
Toukyou Daigaku	National Institute of Technology, Ichinoseki College
Girigiri_yellows	Osaka University
TLE_WARLD	Osaka University
Maximum-goodlife9	Saitama University
Senshu	Senshu University
corbeau	Shibaura Institute of Technology
BiWACoder	Shiga University
HamsterHeaven	Shizuoka University
Kidamari Sketch	The University of Electro-Communications
DELIAIR	The University of Tokyo
KOMOREBI	The University of Tokyo
oraCle_MaChine	The University of Tokyo
SPJ	The University of Tokyo
The Raspberry Candies	The University of Tokyo
Time Manipulators	The University of Tokyo
Aobayama_dropout	Tohoku University
suzukaze_Aobayama	Tohoku University
ousama_pngn	Tokyo Institute of Technology
tonosama	Tokyo Institute of Technology
triC	Tokyo Metropolitan University
nowcow	Tokyo University of Agriculture and Technology
Spring Curve	Tokyo University of Science
TUTankhamun	Toyohashi University of Technology
ei1333333333333333	University of Aizu
Tsuruga_MLE	University of Aizu

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otagai_tasukeai	University of Tsukuba
haunting	University of Yamanashi
Give us sociability	Waseda University
MSB	Waseda University
Tsubaki	Yokohama National University