

IYRC
2024

PROGRAM

9th INTERNATIONAL YOUNG RESEARCHERS' CONFERENCE

June 8, 2024 (the University of Tokyo)

TABLE OF CONTENTS

About IYRC	2
General Conference Information	3
Keynote Speaker	4
Instruction for Presenter	5
Tentative Program: The In-person Conference	6

About IYRC

The IYRC was founded in 2017 as a platform for high school students to share their research projects with the community. Since then, the organization has expanded to include not only research, but also community projects, global health narratives, case study competitions, and student-led programming. The IYRC is registered as an independent public benefit incorporation in Japan and a part of the Global Health Organization at Columbia VP&S in New York. We work with hundreds of students from more than twenty countries. Our program would not be possible without the generous support of our university partners, student leaders, and reviewers.

The IYRC is an interdisciplinary conference where high school students publish original research from all disciplines and present it to an international audience. Since 2018, eight IYRC conferences have been successfully organized, attracting the participation of aspiring young researchers from 25 countries, resulting in the acceptance of 400 papers.

IYRC Team



NEIL NGUYEN

Founder and Director



PAUL LEWIS

Founder and Director



VU DUC CANH

Coordinator



FAIRUZ ALFADIA

Assistant

Conference Organizing Team

Paul Lewis, *IYRC Founder and Director, Columbia University*

Neil Nguyen, *IYRC Founder and Director, Tokyo Academics*

Vu Duc Canh, *IYRC Coordinator, the University of Tokyo*

Fairuz Alfadia, *IYRC Assistant*

Onyinyechi Owo, *Dartmouth College*

Hannah Pescaru, *Stanford University*

Ruotong Wang, *Columbia University*

Emma Van Praagh, *Columbia University*

Jasmine Posner, *Columbia University*

Kevin Yang, *Columbia University*

Bianca (Gabbie) Acot, *Columbia University*

Mehal Churiwal, *Columbia University*

Karen Chen, *Columbia University*

Quinn Anderson, *Columbia University*

Acknowledgment: *We express our deep gratitude to Prof. Le Duc Anh for his invaluable support in making the IYRC conference possible at the University of Tokyo. Without his support, organizing the conference at the University of Tokyo would not have been feasible.*

GENERAL CONFERENCE INFORMATION

DATE: June 8, 2024

VENUE:

Address:

#76 Faculty of Engineering Building 2, room 212

The University of Tokyo 7-3-1 Hongo, Bunkyo-ku, Tokyo, 113-8656 JAPAN

Access:

- 10 min walk from Hongo-Sanchome Station (Tokyo Metro Marunouchi Line, Tokyo metropolitan Oedo Line)
- 5 min walk from Todaimae Station (Tokyo Metro Nanboku Line)
- 10 min walk from Nezu Station (Tokyo Metro Chiyoda Line)

Google Access: <https://goo.gl/maps/cM5p58os2iZ8wzaJ7>



INSTRUCTION FOR PRESENTERS

- Each presentation is 12 minutes in length, followed by 3 minutes for Q&A.
- Please submit your final presentation file to the conference via the provided [LINK](#) by June 1, 2024.
- A laptop will be available in all rooms, so using your own laptop is not necessary and may cause technical difficulties and delays. As a backup, please bring your presentation on a USB and make sure to download it to your device prior to the conference in case of Wi-Fi difficulties.
- We kindly ask you to be in the room 15 minutes before the start of your block and upload your presentation onto the prepared laptop. Presentation formats: PowerPoint (format 16:9) or PDF
- File name: No_Presenter name (e.g., 01_R. Jang). The number (No.) can be found in the detailed schedule

KEYNOTE SPEAKER

Prof. Masaaki Kitajima
The University of Tokyo

Masaaki Kitajima is a Project Professor at the University of Tokyo. He earned his PhD from the University of Tokyo in 2011, following which he held postdoc positions at the University of Arizona from 2011 to 2013 and at the Singapore-MIT Alliance for Research and Technology from 2014 to 2016. After working as an Assistant and Associate Professor at Hokkaido University in Japan for 8 years, he started his current appointment at the University of Tokyo in March 2024. His research focuses on environmental virology, particularly in the field of wastewater-based epidemiology. His impactful contributions have led to his recognition as a Highly Cited Researcher by Clarivate for two consecutive years (2022 and 2023).

TENTATIVE PROGRAM

JST time zone		The in-person IYRC conference	
June 8, 2024			
9:00 AM	9:30 AM	Registration	
9:30 AM	10:15 AM	Opening and Keynote Speech : Prof. Masaaki Kitajima, The University of Tokyo	
10:15 AM	11:45 AM	General Session 1	
	No.		
10:15 AM	10:30 AM	EXAMINING THE INFLUENCE OF MICROPLASTICS ON PHOTOSYNTHESIS AND ASSESSING PROBIOTIC BACTERIA AS A REMEDIAL APPROACH R. Jung Orange County School of the Arts (OCSA), USA	1
10:30 AM	10:45 AM	EVALUATING THE EFFECTS OF THERMAL STRESS ON THE PHYTOCHEMICALS AND ANTIOXIDANT ACTIVITY OF HYGROPHILA DIFFORMIS N.B. Bagadiiong, J.M.N. De Matta, M.A. Millares, J.S. Rafael, B.G. Redona De La Salle Medical and Health Sciences Institute, Philippines	2
10:45 AM	11:00 AM	IDENTIFYING AND MAPPING POTENTIAL ACID SULFATE SOILS ACROSS NORTHLAND, NEW ZEALAND S. Perry (1), B. Perry (2), C. Rees (3) (1) Kerikeri High School, Kerikeri, New Zealand (2) Vision Consulting Engineers Ltd, Kerikeri, New Zealand (3) Massey University, Palmerston North, New Zealand	3
11:00 AM	11:15 AM	DEVELOPING 3D MINI-BRAIN PROTOTYPE WITH HUMAN BRAIN CELL LINES H. Sung Chadwick International School, South Korea	4
11:15 AM	11:30 AM	DEATHS OF DESPAIR AND ECONOMIC INSECURITY IN KOREA Yoonjae LEE Osaka International School of Kwansai Gakuin, Japan	5
11:30 AM	11:45 AM	WHAT PREDICTS INDIVIDUAL VARIATION IN SPEECH MOTOR LEARNING? A. Parekh (1), L. Ansley (2), M. Cuervo-Cano (3), A. Buchwald (3) (1) New Explorations into Science, Technology, Math School, USA (2) Brooklyn Technical High School, USA (3) New York University, USA	6
11:45 AM	12:00 PM	EVALUATING THE ADSORPTIVE CAPACITY OF CACAO (THEOBROMA CACAO L.) POD HUSK ON DIFFERENT PETROLEUM PRODUCTS C.A. Lagmay, R.K. Francisco, J.R. Garvez, M.A. Mextrillo, C.R. Yu De La Salle Medical and Health Sciences Institute, Philippines	7
12:00 PM	1:00 PM	Lunch	
1:00 PM	2:00 PM	General Session 2	
	No.		
1:00 PM	1:15 PM	EVALUATING THE EFFICACY OF MORINGA OLEIFERA SEEDS FOR WATER TREATMENT AND DISINFECTION: ELIMINATION OF ESCHERICHIA COLI IN AQUEOUS ENVIRONMENTS Nguyen Hai Phong (1) and Luong Minh Quang (1) Hanoi-Amsterdam High School for the Gifted, Vietnam	8
1:15 PM	1:30 PM	THE CONSEQUENCES OF AESTHETIC-DRIVEN SELECTIVE BREEDING PRACTICES IN THE DOG INDUSTRY Juna Ariyoshi Taejon Christian International School, South Korea	9
1:30 PM	1:45 PM	THE GUT MICROBIOME: KEY PLAYER IN GUT-BRAIN AXIS REGULATION AND HUMAN HEALTH	10

		J. Lee International School of Beijing, China	
1:45 PM	2:00 PM	CLASSIFYING THE FEASIBILITY OF PUBLIC FACILITIES AS EVACUATION SHELTERS USING MACHINE LEARNING A. Narayanasamy Hiroo Gakuen Koishikawa Senior High School, Japan	11
2:00 PM	2:15 PM	Break	
2:15 PM	3:30 PM	General Session 3	
			No.
2:15 PM	2:30 PM	EFFICIENCY OPTIMIZATION OF ELECTRIC MOTORS: A REVIEW N. Benba American School in Japan, Japan	12
2:30 PM	2:45 PM	THE STATUS OF MUKBANG WATCHING AND ITS PERCEIVED EFFECT ON THE EATING HABITS AND FOOD PREFERENCES AMONG DLSMHSI SENIOR HIGH SCHOOL STUDENTS PL. Benosa, JB. Cheng, MT. Constantino, XF. Doceo, AL. Soberano, V. Ramirez De La Salle Medical and Health Sciences Institute (DLSHSI), Philippines	13
2:45 PM	3:00 PM	LEVELS OF AWARENESS ON BREAST CANCER AND EARLY DETECTION PRACTICES AMONG HIGH SCHOOL STUDENTS IN SELECTED SCHOOLS IN DASMARIÑAS, CAVITE P.A. Amparo, G.G. Gallego, A.P. Magno, M.G.N. Salazar, Y.J. Segismundo De La Salle Medical and Health Sciences Institute (DLSHSI), Philippines	14
3:00 PM	3:15 PM	THE IMPACT OF TFPI2 AND TERT GENE ALTERATIONS ON BRAIN CANCER PATIENT SURVIVAL AND CANCER CELL VIABILITY S.Lee BranksomeHall Asia, South Korea	15
3:15 PM	3:30 PM	WHAT IF... I RECOVERED? O. Walkowska Leysin American School, Switzerland	16
3:30 PM	3:45 PM	Break	
3:45 PM	4:45 PM	General Session 4	
			No.
3:45 PM	4:00 PM	INVESTIGATION OF DUSP6 GENE IN ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) BRAIN CELL MODELS H. Kang Branksomehall Asia, South Korea	17
4:00 PM	4:15 PM	DECIPHERING THE ROLE OF COPY NUMBER ALTERATIONS IN GLIOBLASTOMA PROGNOSIS: A COMPREHENSIVE GENOMIC AND GENE NETWORK ANALYSIS A. Arafah Islamic Educational College, Jordan	18
4:15 PM	4:30 PM	IDENTIFICATION OF THE MOST COMMON MICROORGANISMS AND ITS ANTIMICROBIAL SUSCEPTIBILITY IN SELECTED STREET-VENDED FOOD ALONG CONGRESSIONAL ROAD DASMARIÑAS, CAVITE A.M. Viray, A.G. Arquiza, A.C.K. Villanueva, G.J. Loteria De La Salle Medical and Health Sciences Institute, Philippines	19
4:30 PM	4:45 PM	PREDICTING NEUROLOGICAL EFFECTS ASSOCIATED WITH TRAUMATIC BRAIN INJURIES USING VIDEO ANALYSIS AND FINITE ELEMENT MODELING B. Acot (1), B. Glisic (2), A. Dettwiler (2), and M. Gilchrist(3) (1) Columbia University Vagelos College of Physicians and Surgeons, USA (2) Princeton University, USA (3) University College Dublin, Ireland	20
4:45 PM	6:15 PM	Game Competition	
6:15 PM	6:20 PM	Closing remark	

Note: Each presentation is 12 minutes in length, followed by 3 minutes for Q&A

