CHITOSE INTERNATIONAL FORUM 23

September 28th – 29th 2023
Chitose, Japan

Sponsored by

Chitose Institute of Science and Technology (CIST)
Photonics World Consortium (PWC)
Photonic Science Technology Inc.
Rikei Corporation

Co-sponsored by

The Engineering Academy of Japan Inc., Hokkaido Branch

Sponsors

CHITOSE INSTITUTE OF SCIENCE AND TECHNOLOGY

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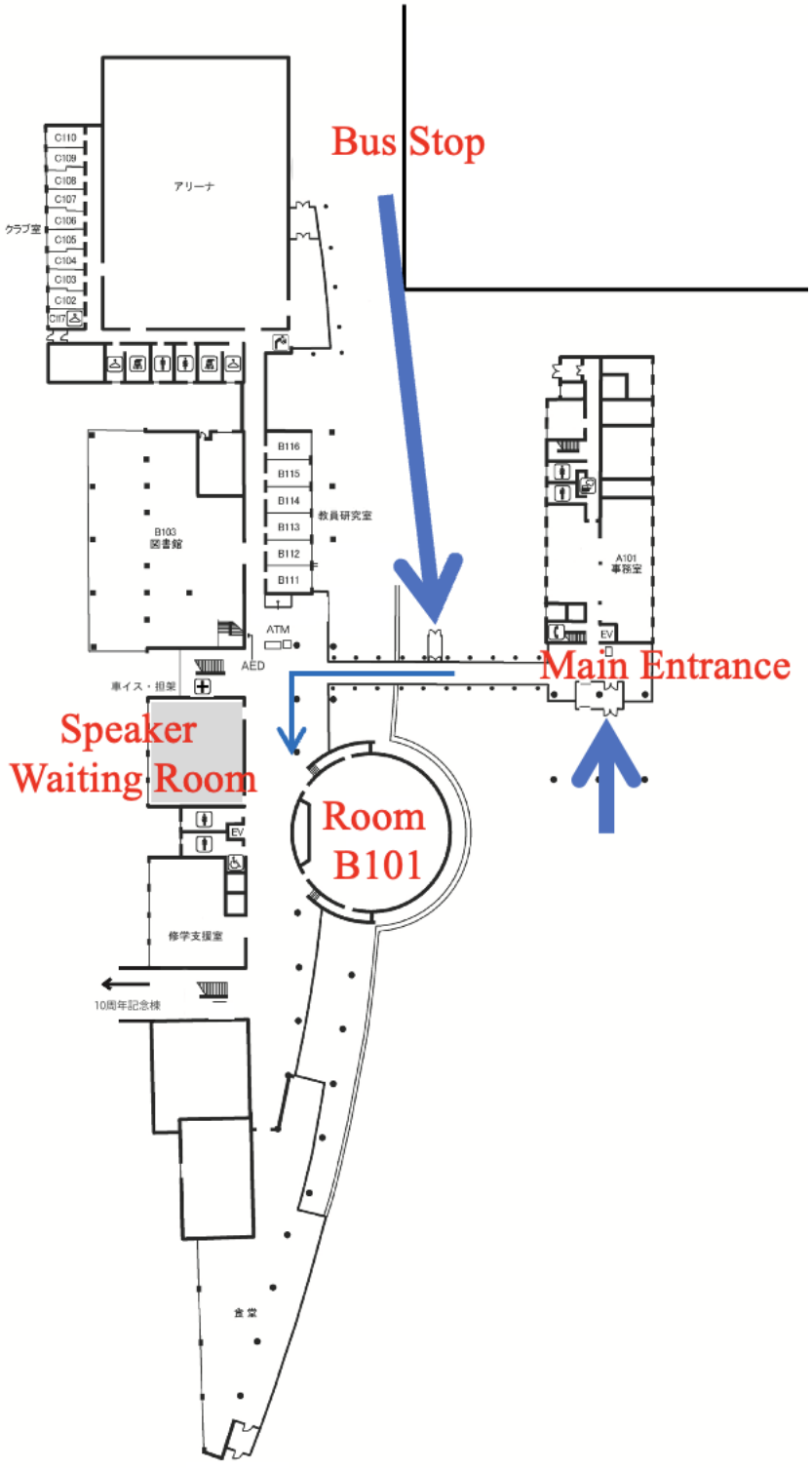
公益社団法人
日本工学アカデミー
THE ENGINEERING ACADEMY OF JAPAN

Welcome to CIF23

MAP OF CONFERENCE SITE



Paper list

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Yoshiaki Yamabayashi, CIST, Japan

Vice Chair

Naoto Yoshimoto, CIST, Japan

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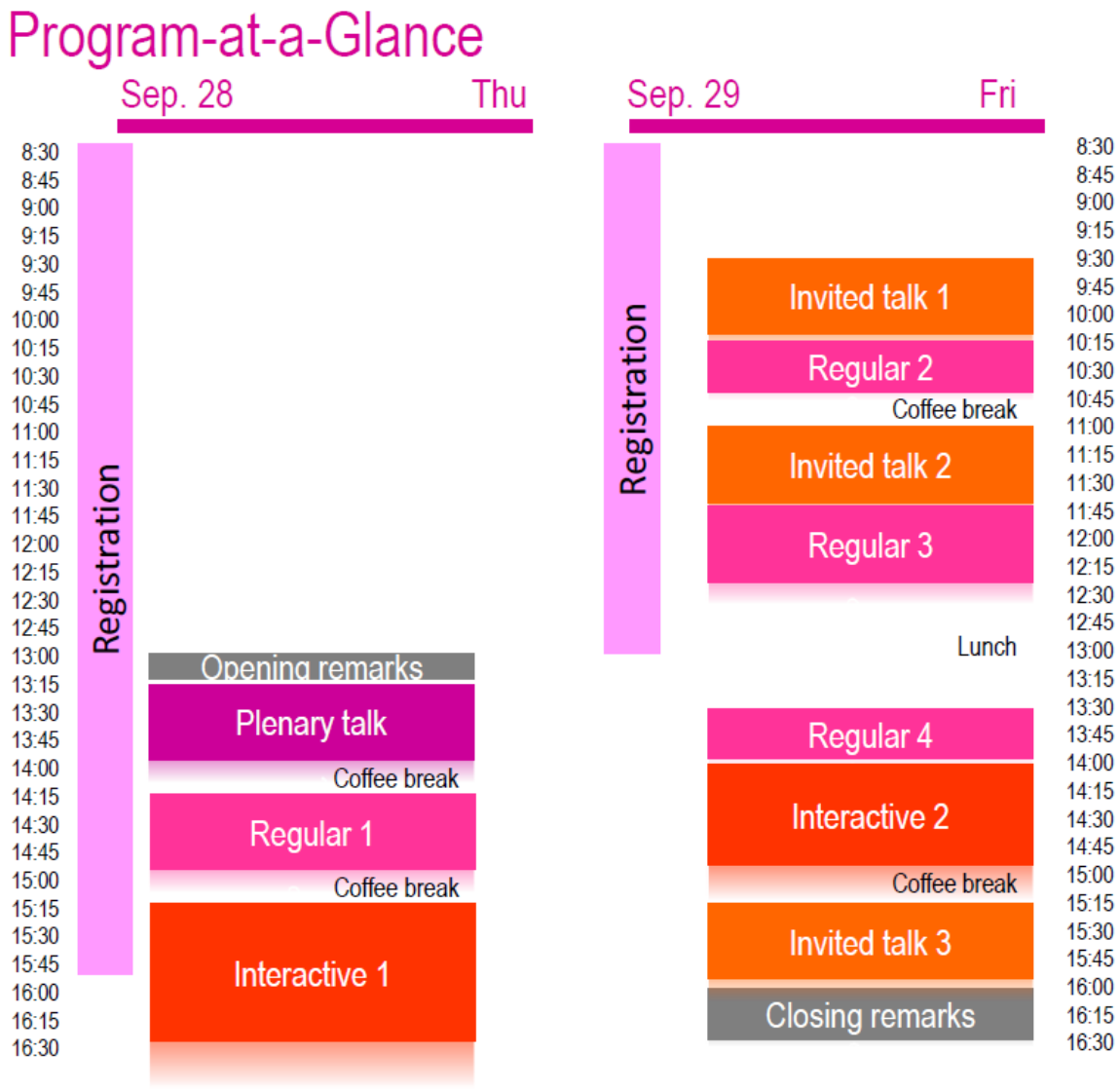


Banquet information

Date time: Sep. 28th, 6:30 pm
Location: Hotel Grand Terrace Chitose

The Banquet is NOT INCLUDED in the registration fee. The ticket is provided within the badge. And extra banquet ticket could be purchased at the Registration Desk for 7,000JPY per person.

Plenary talk

Sep. 28th, 1:15pm

Rapidus: Innovative Integration for Manufacturing

Atsuo Shimizu (Rapidus Corporation)

Invited talk

Sep. 29th, 9:30am

Privacy-Preserving Machine Learning for Big Data Analysis - How can we solve social issues using AI? -

Prof. Ozawa (Kobe University)

Sep. 29th, 11:00am

Towards a Speech Version of ChatGPT

Prof. Hung-yi Lee (National Tiwan University)

Sep. 29th, 3:15pm

Heterogeneous Integration of Membrane III-V Photonic Devices on Si Platform

Dr. Toru Segawa (NTT Device Technology laboratories)

Regular

Sep. 28th, 2:30pm

R1_01
Efficient Optimal Design of THz-band Waveguide Devices

Md. Iquebal Hossain Patwary, Akito Iguchi, Yasuhide Tsuji (Muroran Institute of Technology)

Sep. 28th, 2:45pm

R1_02
Estimation of Radio Propagation Characteristics in an Urban Area of Sapporo City Using Large-scaled Parallel FDTD Analysis

Kohsuke, Ushimaru, Takashi Hikage (Graduate School of Information and Technology, Hokkaido University), Manabu Omiya (Information Initiative Center, Hokkaido University)

Sep. 28th, 3:00pm

R1_03
Spin dynamics in Co(II) and Cu(II) doped metal-organic frameworks

Masanori Wakizaka (Chitose Institute of Science and Technology)

Sep. 29th, 10:15am

R2_01
Applied EBG Structure for Microwave Snow Melting

Koyo Hatazawa, Tamami Maruyama, Manabu Omiya, Tsunayuki Yamamoto, Takahiko Nakamura, Masashi Nakatsugawa

Sep. 29th, 10:30am

R2_02

Self-Healing Properties of Coatings Formed on Al Alloy Surface with Porous Film Filled with Healing Agent of Coating

Makoto Chiba, Shoya Ohmura(National Institute of Technology, Asahikawa College), Rin Takada(National Institute of Technology, Asahikawa College), Makoto Chiba(National Institute of Technology, Asahikawa College)

Sep. 29th, 11:45am

R3_01

Conditioning Latent Diffusion Model for Object Detection Dataset

Riku, KAMADA, Hiroshi TENMOTO (National Institute of Technology, Kushiro College)

Sep. 29th, 12:00pm

R3_02

Lonicera Caerulea Fruits Detection with Microsoft Azure Cognitive Service Custom Vision

Ryuta Kojo, Naoto Yoshimoto (Chitose Institute of Science and Technology)

Sep. 29th, 1:15pm

R4_01

Examination on Vection Display System for Observers in Motion

Yusuke Nakayama, Hirooki Aoki（Institute of Science and Technology）

Sep. 29th, 1:30pm

R4_02

Construction of a Cable-Driven Parallel Robot Using Convex Tapes

Reo Yamada, Hirooki Aoki (Chitose Institute of Science and Technology)

On-line interactive

Sep. 28th, 3:30pm

IT_01

Method for improving the quality of images acquired by chirped pulse phase-shifting digital holography

Wataru Fukuda, Shu Imashiro, Shunji Kubota, Naoki Karasawa (Chitose Institute of Science and Technology)

Sep. 28th, 3:30pm

IT_02

Realization of Multi-Protocol Industrial Ethernet with General-Purpose Servers

Shuhei Otaki, Takashi Yamada(Chitose Institute of Science and Technology);Yushi Koyasako,Tomoya Hatano,Tatsuya Shimada,Tomoaki Yoshida(NTT Access Network Service Systems Laboratories)

Sep. 28th, 3:30pm

IT_03

3D Full-Vectorial Bidirectional Beam Propagation Method for Non-Radiative Dielectric Waveguide with Consideration of Dielectric Losses

Hyunuk Ahn, Akito Iguchi, Yasuhide Tsuji (Muroran Institute of Technology); Keita Morimoto (University of Hyogo)

Sep. 28th, 3:45pm

IT_04

Corrosion morphology of pure iron surface after wet-dry repeated cycling tests with Na2SO4 solution

Makoto Chiba, Fuka Kawamura(National Institute of Technology, Asahikawa College), Soshiro Yamazaki(National Institute of Technology, Asahikawa College), Koki Saito(National Institute of Technology, Asahikawa College), Keisho Nishida(National Institute of Technology, Asahikawa College), Makoto Chiba(National Institute of Technology, Asahikawa College)

Sep. 28th, 3:45pm

IT_05

Evaluation of Corrosion Resistance of Anodized Aluminum Alloy after Pore-sealing Treatment with High Humidity

Makoto Chiba, Maho Yamaguchi(National Institute of Technology, Asahikawa College), Koki Saito(National Institute of Technology, Asahikawa College), Makoto Chiba(National Institute of Technology, Asahikawa College)

Sep. 28th, 3:45pm

IT_06

Development of Composite Corrosion Protection Layer Combining Two Types of Self-Healing Surface Layers, for Aluminum Materials

Makoto Chiba, Kasumi Fukuzawa(National Institute of Technology, Asahikawa College), Keisuke Kuroda(National Institute of Technology, Asahikawa College), Haruka Okuyama(National Institute of Technology, Asahikawa College), Makoto Chiba(National Institute of Technology, Asahikawa College)

Sep. 28th, 4:00pm

IT_07

Persulfate-based catalytic decomposition of organic dye over porous carbon surface

Tomoya Takada, Keitaro Okamoto (Chitose Institute of Science and Technology)

Sep. 28th, 4:00pm

IT_08

Study on measurement for thermo-optic constants of optical materials by prism deviation method

Taigo Sumiya, Hisaya Oda, and Nobuhiro Umemura (Chitose Institute of Science and Technology)

Sep. 28th, 4:15pm

IT_09

Identification of Surgical Instruments by Calculating Dimensional Information using an RGB-D Camera

Nagaaki Higaki, Nagaaki Higaki(Chitose Institute of Science and Technology)
Noriaki Fujita(Hokkaido University Hospital)
Hirooki Aoki(Chitose Institute of Science and Technology)

Sep. 28th, 4:30pm

IT_10

A Study on Non-contact Heartbeat Measurement System Using Stereo Matching

Takuro, Mizuno, Hirooki Aoki (Chitose Institute of Science and Technology)

Sep. 28th, 4:30pm

IT_11

Requirements for LED Matrix in Optical Camera Communications Using QR Code Recognition System

Nagataka,Higaki, Naoto Yoshimoto (Chitose Institute of Science and Technology)

Sep. 29th, 2:00pm

IT_21

Automatically Learning Advising using a Generative AI

Taketo, Tsurube, Takano Yasuomi(Chitose Institute of Science and Technology), Haruki Ueno(Chitose Institute of Science and Technology), Hiroshi Komatsugawa(Chitose Institute of Science and Technology)

Sep. 29th, 2:00pm

IT_22

Development of a Mutually Usable Computer Adaptive Testing Tools Using LTI

Takashi Nishimura, Haruki Ueno, Hiroto Yamakawa (Faculty of Science and Technology, Chitose Institute of Science and Technology), Hiroshi Komatsugawa (Graduate School of Science and Engineering, Chitose Institute of Science and Technology)

Sep. 29th, 2:00pm

IT_23

Development of Network Instructional Materials using Mixed Reality

Shunsuke, Toyosaki, Hiroshi Komatsugawa, Haruki Ueno (Chitose Institute of Science and Technology)

Sep. 29th, 2:15pm

IT_24

A Machine Learning Algorithm for Classification of Difficulty Levels of CATs Considering Education Institution Circumstances

Koki, Araseki, Haruki Ueno, Hiroshi Komatsugawa (Chitose Institute of Science and Technology)

Sep. 29th, 2:15pm

IT_25

Research on Support for Constructing a Corpus of Sentence Examples as Teacher Labels to Judge Ambiguous Spoken Language

Hibiki Niida, Yumiko Yamashita (Center for Teaching and Learning, Teikyo University), Hiroto YAMAKAWA (Chitose Institute of Science and Technology), Hiroshi KOMATSUGAWA (Chitose Institute of Science and Technology)

Sep. 29th, 2:30pm

IT_26
Evaluation of Spatial Cognition of Virtual Pedestrian Space with Biomorphic Elements

Mana Nakai, Misuzu Hasegawa(Chitose Institute of Science and Technology), Shinji Miyake(Graduate School of Chitose Institute of Science and Technology), Daiji Kobayashi(Chitose Institute of Science and Technology)

Sep. 29th, 2:45pm

IT_27
Effects of External Human Machine Interface on Pedestrians in Automated Vehicles

Ibuki, Hori, Yuga Kato, Daiji Kobayashi (Chitose Institute of Science and Technology);

Sep. 29th, 2:45pm

IT_28
Development of AI for English presentation learning support

Miku Fujishima, Haruki Ueno(Faculty of Science and Technology, Chitose Institute of Science and Technology), Tomokazu Nakayama(Jissen Women's University); Hiroshi Komatsugawa(The Graduate School of Science and Engineering, Chitose Institute of Science and Technology)

Sep. 29th, 2:45pm

IT_29
Research on a Machine Learning Model for Emotion Estimation Based on Multimodal Information from Voice and Text

Yamato, Nitta, Haruki Ueno, Hiroshi Komatsugawa (Chitose Institute of Science and Technology)

VoD

Video on demand

VO_01

Study on Topology Optimization to Design Optical Waveguide Devices with Simple Profiles

Yoshitaka Uchida, Akito Iguchi, Yasuhide Tsuji (Muroran Institute of Technology)

Video on demand

VO_02

Analysis of Metasurface Using Finite Element Based Bidirectional Eigenmode Propagation Method

Masaya Kitani, Akito Iguchi, Yasuhide Tsuji (Muroran Institute of Technology)

Video on demand

VO_03

Topology Optimal Design of Nonlinear Optical Waveguide Devices

Hayase Hirao, Akito Iguchi, Yasuhide Tsuji (Muroran Institute of Technology)

Video on Demand

VO_04

Design of Optical Isolator Using Magnetic Photonic Crystal Fiber

Shengbo Li, Akito Iguchi, Yasuhide Tsuji (Muroran Institute of Technology)

Video on Demand

VO_05

Analysis of Optical Waveguide Devices Using Partition of Unity Finite Element Method

Taiki Matsuzaki, Akito Iguchi, Yasuhide Tsuji (Muroran Institute of Technology)

Video on Demand

VO_06

Effects of Supportive Information on Training in Virtual Environment

Ryusei Fukuda, Daiji Kobayashi (Chitose Institute of Science and Technology)

Video on Demand

VO_07

Simulation time reduction of photonic integrated circuit using super-resolution technique

Shota Toyota, Hiroshi Fukuda (Chitose Institute of Science and Technology)

Video on Demand

VO_08

Automatic Generation of Feedback Utilizing Large Language Model in Clinical Decision Support System in Nursing Learning

Reo, Satou, HIroto Yamakawa (Chitose Institute of Science and Technology), Hiroshi Komatsugawa (Graduate School of Science and Engineering, Chitose Institute of Science and Technology)

Video on Demand

VO_09

Evaluation of self-healing property of electrodeposition coating with micro-capsule, by using micro-Vickers indenter and 3D observation

Rin Takada (National Institute of Technology, Asahikawa College), Makoto Chiba (National Institute of Technology, Asahikawa College)

Video on Demand

VO_10

Development of surface layer for corrosion protection of Al materials with rapid self-healing properties

Noe Hatakeyama (National Institute of Technology, Asahikawa College), Reina Shibata(National Institute of Technology, Asahikawa College), Koki Saito(National Institute of Technology, Asahikawa College), Kasumi Fukuzawa(National Institute of Technology, Asahikawa College), Makoto Chiba(National Institute of Technology, Asahikawa College)

Video on Demand

VO_11

Experiments on long-term stability of full-coherent underwater optical wireless communication

Ryusei Oikawa, Naoto Yoshimoto (Chitose Institute of Science and Technology)

Video on Demand

VO_12

Metabolite Profiling of Broccoli Degradation Process by LC-MS

Shota Doigawa, Kento Okoshi (Chitose Institute of Science and Technology)

Video on Demand

VO_13

Structural Study on Coil-Rod-Coil Block Copolymer Synthesized by ATRP

Takaharu Onishi, Kento Okoshi (Chitose Institute of Science and Technology)

Video on Demand

VO_14
Synthesis and Structure-Activity Relationships of Bubblin Derivatives of Plant Stomatal Clustering Factors

Keisuke Matsuda, Toshiro Imai (Chitose Institute of Science and Technology)
Kento Okoshi (Chitose Institute of Science and Technology)
Tomoo Shimada (Kyoto University)

Video on Demand

VO_15
Performance Verification of DoA Estimation for MUSIC-like Statistical-based and LSTM Classification-based Algorithms

Haruta Inoue, Yasuhiro Takano (Chitose Institute of Science and Technology), Hsuan-Jung Su (National Taiwan University), Seiich Ozawa. (Kobe University)

Video on Demand

VO_16
Performance Verification of a KNN-based RSSI Localization

Reiya Muraguchi, Yasuhiro Takano (Chitose Institute of Science and Technology), Hsuan-Jung Su (National Taiwan University)

Video on Demand

VO_17
Hybrid Configuration of Renewable Energy Sources for Carbon-Neutral Smart Sensing in Agricultural Field

Shunsuke Yoshihara, Tsubasa Maeda, Daikichi Fukuda, and Naoto Yoshimoto (Chitose Institute of Science and Technology)

Video on Demand

VO_18
A Survey on Deep Learning-based Channel Estimation Techniques

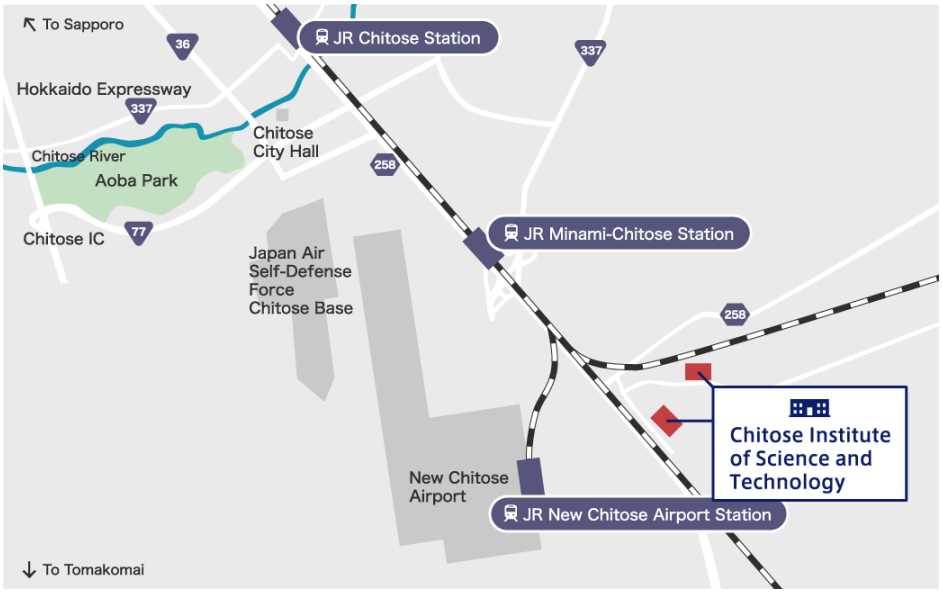
Kandai, Fujita, Yasuhiro Takano (Chitose Institute of Science and Technology), Hsuan-Jung Su (National Taiwan University)

Bus Timetable (Free Shuttle Bus)

Chitose Sta.	Minami-Chitose Sta.	RESEARCH CAMPUS	MAIN CAMPUS	Note
8:00	8:10	8:18	8:21	
8:30	8:40	8:48	8:51	
8:54	9:04	9:12	9:15	Operates only on Sep. 29th
9:20	9:30	9:38	9:41	
10:15	10:25	10:33	10:36	
10:45	10:55	11:03	11:06	
11:40	11:50	11:58	12:01	
12:15	12:25	12:33	12:36	
12:45	12:55	13:03	13:06	
13:28	13:38	13:46	13:49	
14:15	14:25	14:33	14:36	
15:18	15:28	15:36	15:39	
16:15	16:25	16:33	16:36	

MAIN CAMPUS	RESEARCH CAMPUS	Minami-Chitose Sta.	Chitose Sta.	Note
10:45	10:48	10:56	11:06	
11:25	11:28	11:36	11:46	
12:22	12:25	12:33	12:43	
13:05	13:08	13:16	13:26	
14:00	14:03	14:11	14:21	
14:55	14:58	15:06	15:16	
16:00	16:03	16:11	16:21	
16:45	16:48	16:56	17:06	
17:00	17:03	17:11	17:21	Operates only on Sep. 29th
17:20	17:23	17:31	17:41	
18:00	18:03	18:11	18:21	
18:30	18:33	18:41	18:51	
19:04	19:07	19:15	19:25	
19:29	19:32	19:40	19:50	
20:19	20:22	20:30	20:40	
21:08	21:11	21:19	21:29	

ACCESS



By air

Section	Required time
Tokyo (Haneda Airport) → New Chitose Airport	Approx. 90 min.
Osaka (Kansai International Airport) → New Chitose Airport	Approx. 110 min.

By car

Section	Required time
JR Minami-Chitose Station → CIST	Approx. 5 min.
JR Chitose Station → CIST	Approx. 15 min.
New Chitose Airport → CIST	Approx. 7 min.