STRL OPEN HOUSE 2023

NHK

Empowering the media, creating the future
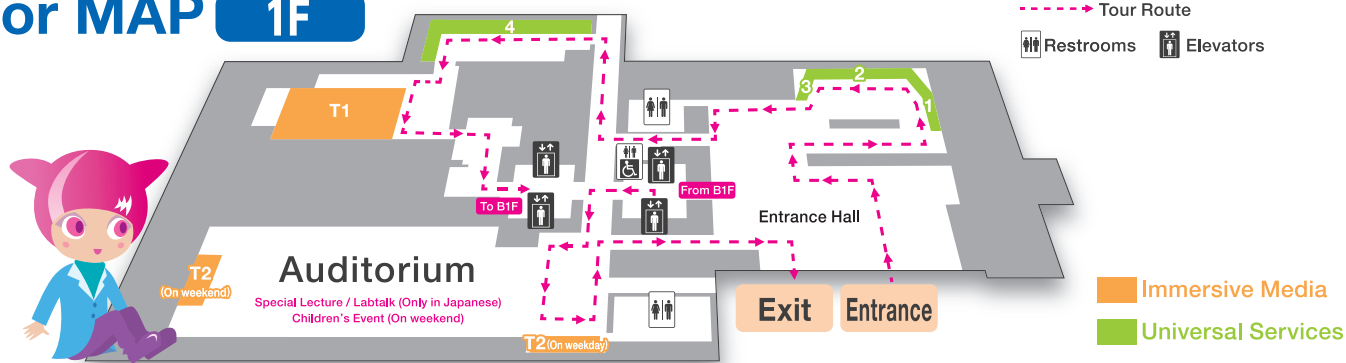
6/1 Thu - 4 Sun
10:00 am - 5:00 pm
https://www.nhk.or.jp/strl/english/open2023/

Floor MAP 1F

- - - → Tour Route
- Restrooms
- Elevators

Immersive Media
Universal Services

T1

To B1F
From B1F

Entrance Hall

T2 (On weekend)
Special Lecture / Labtalk (Only in Japanese)
Children's Event (On weekend)

Auditorium

T2 (On weekday)

Exit Entrance

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1 Web-Based Broadcast Media
① Content Viewing Application Technology
Technology to deliver content to all viewers

With web-based broadcast media, content is delivered via various forms of applications depending on the situation and purpose, regardless of the transmission route (broadcast or internet). STRL is researching ways for applications to use content-related data, personal data, and external data to enable users to receive the information they want or need to know in simple and easy ways to suit the situation.

2 Web-Based Broadcast Media
② Cooperation and Processing Technology of Content and Data
Towards providing reliable and useful content

In this exhibition, we show technologies to facilitate the collaboration of data from inside and outside broadcast station and to provide users with reliable and useful content, by data description of content-related information and associated reliability information, knowledge related to content, and users' personal data in a form that can be interpreted by software.

3 Web-Based Broadcast Media
③ Cloud Native Delivery Platform Technology
Aiming to achieve reliable and low-latency content delivery

STRL is researching cloud-native delivery platform technology to reliably and efficiently provide online video-delivery services to meet diverse needs. Providing various linear channels and low-latency delivery technology will help achieve a better content-viewing experience.

4 Supporting Technology for Accessibility Services
Making broadcasting accessible to everyone

STRL is researching information transmission technologies to make broadcasting widely accessible to everyone, including visually impaired, hearing-impaired, elderly, and non-Japanese people. Take a look at some of the technologies that help people to understand content: from sign-language CG to audio description, closed captioning, and translation.

T1 The Future of Content as Envisioned by Immersive Media
Experience the next generation of live entertainment!

This exhibit presents an experience-based concept of immersive media, showing how the world of content will expand with large-screen displays, AR glasses, and VR goggles. Visitors can experience immersive, interactive content with family and friends.

T2 Undersea Photography VR
Capture a moment of 360-degree video!

STRL is developing VR content linked to TV programs and events. Enjoy an interactive VR experience, taking photos of fish in the sea with an underwater cameraman.

Spacial Lecture **6/1** (Only in Japanese)

● Diversity in Society Created by AI with Human Sensibilities

SAKAMOTO Maki
Vice-President, Professor, The University of Electro-Communications

● How Virtual Embodied Experiences Change Ourselves and Our Society

NARUMI Takuji
Associate Professor, The University of Tokyo

Lab Talk **6/2** (Only in Japanese)

● Video summarization and extraction of thumbnail images using AI
-Giving viewers a quick preview of a TV program-

MAEZAWA Momoko
Smart Production Research Division
MOCHIZUKI Takahiro
Smart Production Research Division

● Media research for a sustainable society with respect for diversity
-Promoting research with ELSI in mind-

TAKOU Reiko
Smart Production Research Division
YANAGI Kenichiro
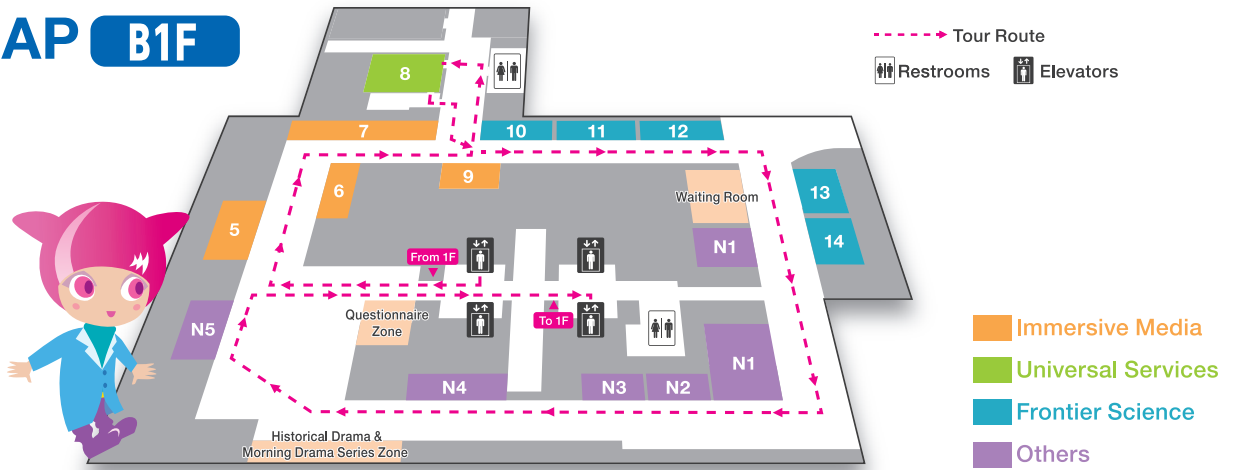Planning & General Affairs Division, NHK Broadcasting Culture Research Institute

● Authoring tool for 3D space
-Designing time-series 3D space for immersive content-

AOKI Shuichi
Advanced Television Systems Research Division

Children's Event **6/3-4**

Floor MAP B1F

🚻 Restrooms 🛗 Elevators

8
7
10 11 12
9
6
Waiting Room
5
N1 13
14
From 1F
Questionnaire Zone
To 1F
N5
N1
N4 N3 N2
Historical Drama & Morning Drama Series Zone

■ Immersive Media
■ Universal Services
■ Frontier Science
■ Others

5 Authoring Tool for 3D Space
Designing time-series 3D space for immersive content

STRL is researching ways to create immersive media, allowing users to enjoy moving freely within a three-dimensional (3D) image space. STRL has developed a 3D space authoring tool that makes it easy to create immersive content and a system to deliver this content to various types of display devices.

6 400Mbps Class Millimeter-Wave Wireless Transmission Technology for Contents Production
Wireless relay of ultra-high-definition 360-degree video

STRL is conducting research into large-capacity transmission technology used for 360-degree contents production, to help provide realistic immersive-media services. This demonstration shows real-time transmission of ultra-high-definition 360-degree video using a wireless transmission system with a 400-Mbps-class transmission capacity using millimeter waves.

7 Advanced Terrestrial Broadcasting
High-quality and multi-functional broadcast services using the latest video/audio coding and delivery and transmission technologies

STRL is pursuing research towards the next generation of Digital Terrestrial Broadcasting (DTB). The new terrestrial broadcasting system shown here uses the latest video/audio coding, delivery and transmission technologies, which form part of the ISDB-T advanced terrestrial broadcasting system that is standardized in Japan.

8 TV Companion Robot on Various Devices
An easy way to experience watching TV with a robot

STRL is researching robots that chat with users and express emotions to make watching TV even more enjoyable. So that more people can easily experience watching TV with a robot, STRL has developed a robot application that can be executed on a smartphone or PC.

9 Scene-Adaptive Imaging Technology
New image sensor allowing resolution and frame rate to be set for each area

STRL is researching imaging technology that will enable images to be captured with different imaging conditions depending on the scene, to produce 360-degree video involving objects with different motion or brightness on the same screen. This technology instantly analyzes images and changes the image sensor frame rate or resolution for each area.

10 Automatic Program Video Summarization System Using Image Analysis AI
Creating short videos for quick and easy viewing

STRL is researching automatic video summarization technology to support the production of short videos for online distribution in order to showcase TV programs to viewers. This exhibit shows a system to automatically generate a summary video of a program using scenes selected by image analysis AI.

11 Approach to ELSI Toward Realization of People-Friendly Society
Promoting research with ELSI in mind

In order to channel research results back to society in a desirable form, as well as investigating technical issues, ELSI (Ethical, Legal and Social Issues) must also be taken into consideration. This exhibit shows STRL's approach to these issues in research, development and practical application of new technologies.

12 Technology for Automatic Viewpoint Selection in 3D Space
Towards a technique to shoot 3D models in a user friendly way

STRL is developing an algorithm to estimate the appropriate shooting position for a scene composed of multiple 3D models, to make video production more efficient. This technology automatically finds the best camera position to shoot images focusing on a specified 3D model.

13 Display Technologies for Immersive Content Experiences
Aiming for stretchable and deformable displays

STRL is conducting research into stretchable displays that can be deformed into different shapes, allowing users to enjoy realistic and immersive content anytime and anywhere. This exhibit shows stretchable display and quantum-dot LEDs to produce vibrantly colored displays.

14 Lifelike 3D Motion Images with Holographic Display
Development of high-density spatial light modulator (SLM) for wide viewing zone angle

Holographic displays reproduce lifelike three-dimensional (3D) images without wearing special glasses. To widen the viewing zone angle of holographic displays, STRL has been developing a high-density Magneto-Optical Spatial Light Modulators (MOSLM) with submicron scale small-pixels. We have successfully demonstrated 3D holographic images with wide viewing zone angle using the MOSLM.

N1 Application and Development of NHK's Technologies
Broadly returning the fruits of our research and development to society

N2 NHK STRL Open Lab

N3 NHK Environmental management

N4 4K8K Broadcasting & Reception Consulting Section

N5 Exhibition commemorating the 70th anniversary of TV broadcasting
Television has shown all kinds of aspects of Japan beginning with Japanese character イ