

NHK STRL Open House 2022

“Cutting edge technologies to spin up future media”

NHK Science & Technology Research Laboratories (STRL) will open its doors for the STRL Open House 2022 from Thursday, May 26 to Sunday, May 29. This annual event, where we present the results of our R&D on broadcast media technology to the general public, will take place both online—with content accessible via STRL’s website—and in person—with exhibitions at STRL site.



Under the theme of “Cutting edge technologies to spin up future media,” 16 research and development results will be demonstrated, including three-dimensional (3D) video technologies to enable new types of viewing experiences, technologies to allow media content to be seamlessly enjoyed regardless of the delivery platform, and fundamental research on imaging and display technology.

In addition to opening remarks from the Director of STRL, presentations will include “Lab Talks”—in which researchers discuss their work—and special lectures by invited speakers from outside STRL.

To minimize the risk of COVID-19 transmission, the number of visitors to the in-person exhibitions at STRL sites will be limited, and **advance reservations will be required for admission**. Visit the [STRL Open House 2022 website](https://www.nhk.or.jp/strl/english/open2022/) for details. For those outside Japan who are difficult to enter Japan, visit the online exhibitions.

When: Thursday, May 26 – Sunday, May 29 10 AM – 5 PM daily

Where (in-person): NHK STRL (Setagaya-ku, Tokyo, JAPAN)

Where (online): <https://www.nhk.or.jp/strl/english/open2022/>

Note: Due to the ongoing uncertainty surrounding COVID-19, it may prove necessary to cancel real exhibitions. In this case, the Open House 2022 will take place entirely online.

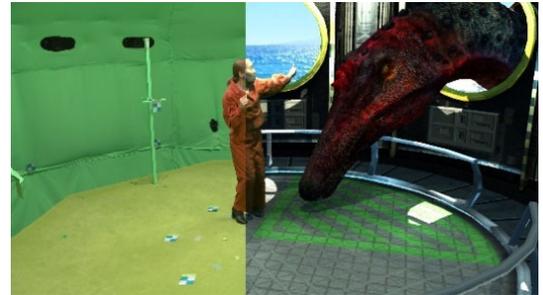
■ **Highlights**

Here we note several topics of interest from three key focal points of [Future Vision 2030-2040](#), STRL’s statement of goals and directions for R&D initiatives.

Immersive Media: Experiencing more realistic world

◆ Volumetric Data Acquisition by Meta Studio

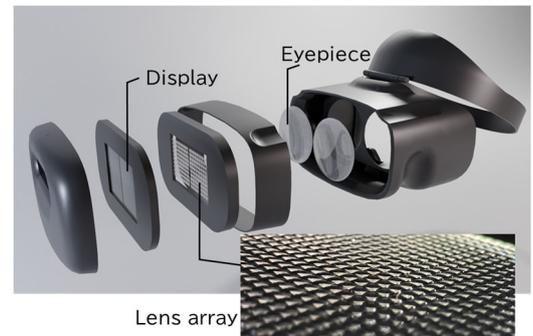
This image-capture technique acquires detailed information on the 3D shapes and patterns of objects, thereby allowing reproductions that feel startlingly realistic. After images have been captured, post-processing techniques allow perspectives, textures, and light sources to be freely adjusted. Anime-like editing and a variety of other augmentations are also possible.



Left: Raw captured image.
Right: Post-processing after image capture yields highly realistic video images.

◆ Light Field Head-mounted Display

This display technology uses lens arrays—consisting of many small lenses arranged in orderly alignments—to reproduce the ways in which light comes from objects in the real world. This offers viewers highly natural 3D video experiences that are expected to result in less eyestrain than conventional technologies.



Universal Services: Anytime, anywhere, to anyone

◆ Seamless Linking Technology between Broadcast and OTT platforms

This technology uses both broadcast and broadband channels to deliver services to any and every conceivable viewing device, thereby allowing viewers to enjoy content without worrying about the specifics of transmission pathways. The technique also allows seamless switching back and forth between broadcast programming and internet-delivered video.

◆ Personal and Content Data Utilization Technology

These techniques adapt the framework of personal data store (PDS)—in which individuals store, manage, and use personal data—to the world of broadcast services. This allows personalized broadcast services to be provided by establishing connections between personal data—generated in the course of daily life activities—and data describing broadcast content.

Frontier Science: Creating the media of the future through fundamental research

◆ 3D Imaging by Computational Photography

This basic research targets image-capture techniques using principles of holography to acquire 3D video of objects in natural light. In combination with techniques for achieving ultra-high resolution, this allows highly detailed 3D video to be captured by a single camera.

■ Research to be exhibited

Immersive Media	Volumetric Data Acquisition by Meta Studio
	Light Field Head-mounted Display
	Streaming Technology for Free-viewpoint AR Services
	Portable Interactive 3D Display
	Next-generation Broadcasting System Using Object-based Audio
	Sound Field Synthesis Technology using Linear Loudspeaker Arrays
	Bendable, Rollable, Sound-producing Display
	Transmission Systems and Broadcasting Services for Advanced Terrestrial Broadcasting
	Video and Audio Coding Technology for Advanced Terrestrial Broadcasting
Universal Services	Seamless Linking Technology between Broadcast and OTT platforms
	Personal and Content Data Utilization Technology
	Sign Language CG Generation Technology from Japanese News Script
	Production and Distribution System for Audio Descriptions Targeting Live TV Sports Programs
Frontier Science	3D Imaging by Computational Photography
	AI-based News Manuscript Analysis System
	Only 0.07 mm! OLED Film Thinner than Paper
Related exhibits	4K8K Broadcasting & Reception Consulting Section
	Application and Development of NHK's Technologies (NHK Engineering System, Inc.)

■ Opening remarks: Thursday, May 26

- ◆ NHK STRL's activities for realizing "Future Vision 2030-2040"

IMAI Toru

Director of Science & Technology Research Laboratories, NHK

■ Special Lectures: Thursday, May 26

- ◆ "Human-oriented information systems" in the era beyond 5G

SUNADA Kaoru

President, Information Systems Society of Japan

Executive Research Fellow

Center for Global Communications (GLOCOM), International University of Japan

- ◆ Alternative Interfaces and Media - Information and imagination

HASHIDA Tomoko

Professor, Waseda University

■ Lab Talks: Friday, May 27

- ◆ NHK STRL researchers will introduce their latest work.