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Senior Research Scientist, Cluster Metaverse Lab

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yhiroi.github.io | scholar.google.com/citations?user=_ICkxzkAAAAJ

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RESEARCH INTERESTS

Augmented Reality (AR), Optical See-Through Head-Mounted Displays (OST-HMDs), Realistic Visual Appearance Reproduction, Vision Measurement and Vision Augmentation

WORK EXPERIENCE

Jul. 2023 – **Present** Tokyo, Japan	**Senior Research Scientist** Cluster Metaverse Lab, Cluster Inc.	AR Displays Personalized VR/AR Interaction
Jul. 2023 – **Present** Tokyo, Japan	**Visiting Researcher** The University of Tokyo, Jun Rekimoto Lab.	AR Displays Vision Augmentation
Apr. 2022 – Jun. 2023 Tokyo, Japan	**JSPS Research Fellow (PD)** The University of Tokyo (Advisor : Jun Rekimoto)	AR Displays Vision Augmentation
Jun. 2021 – Jun. 2023 Kyoto, Japan	**Non-full-time Researcher** Sony Computer Science Laboratories Kyoto	AR Displays Neural Rendering
Dec. 2022 – Jan. 2023 Nov. 2019 – Jan. 2020 Otago, New Zealand	**Visiting Researcher** University of Otago (Advisor : Tobias Langlotz)	AR Displays Vision Augmentation
Apr. 2020 – Mar. 2022 Tokyo, Japan	**JSPS Research Fellow (DC2)** Tokyo Institute of Technology (Advisor : Yuta Itoh)	AR Displays Vision Augmentation
Jan. 2019 – Mar. 2020 Yokohama, Japan	**Project Researcher** Keio University (Advisor : Maki Sugimoto)	Collective Visual Sensing
Apr. 2017 – Dec. 2018 Yokosuka, Japan	**Full-time Researcher** NTT Service Evolution Laboratory	Object Tracking Conditioned Image Generation
Apr. 2017 – Sep. 2017 Tokyo, Japan	**System Engineer (Short-term Contract)** NTT DATA Corporation	Mobile Application Development

EDUCATION

Apr. 2019- Mar. 2022 Tokyo, Japan	**Ph. D. of Engineering** Tokyo Institute of Technology (Supervisor : Yuta Itoh) Title: "Realistic Appearance Reproduction by Optical See-Through Head-Mounted Display based on Light Measurement and Modulation"
Apr. 2015 - Mar. 2017 Yokohama, Japan	**M.S. of Engineering** Keio University (Supervisor : Maki Sugimoto)

GRANTS

Apr. 2025 – **Mar. 2028** **(active)**	**(PI) JSPS Grant-in-Aid for Scientific Research (B)** 25K03173 Project: "Visual Augmentation through Integration of Event-Based Ocular Aberration Measurement and Retinal Projection"	7.7 M JPY
Apr. 2025 – **Mar. 2028** **(active)**	**(Co-PI) JSPS Grant-in-Aid for Scientific Research (B)** 25K00145 Project: "Tactile Display Using Photo-acoustic Effects Generated by Laser-Induced Cavitation" (PI: Takefumi Hiraki)	3.2 M JPY
Feb. 2024 – **Mar. 2027** **(active)**	**(Co-PI) JST ASPIRE for Rising Scientists** JPMJAP2327 Project: "Seamless Reality: A Technological Foundation for Merging Cyber-Physical Spaces through Real-World-Oriented Avatars" (PI: Yuta Itoh)	30.6 M JPY
Sep. 2024 – **Mar. 2027** **(active)**	**(Co-PI) JSPS KAKENHI for the Promotion of Joint International Research** 24KK00187 Project: "Unobtrusive Augmented Reality Visual Guidance with Visual Modality Modulation" (PI: Yuta Itoh)	6.5 M JPY
Apr. 2023 – Mar. 2025	**(PI) JSPS KAKENHI for Early-Career Scientists** 23K16920 Project: "Spatial Calibration of Head-Mounted Displays Based on Implicit Function Representation of Light Fields Using Deep Learning"	3.5 M JPY
Apr. 2022 – Mar. 2025	**(PI) JSPS KAKENHI for JSPS Research Fellow (PD)** 22J01340 Project: "Low-latency Vision Augmentation Integrating High-Speed Human and Environmental Measurements with Field-of-View Prediction"	3.4 M JPY
Apr. 2020 – Mar. 2022	**(PI) JSPS KAKENHI for JSPS Research Fellow (DC2)** 20J14971 Project: "Visual Appearance Reproduction by Optical See-Through Head-Mounted Displays based on Measurement and Modulation of Lights"	1.9 M JPY
Apr. 2019 – Mar. 2020	**Tokyo Tech TSUBAME Scholarship for Doctoral Students**	0.5 M JPY

AWARDS

International

Aug. 2024 — **1st Place in SIGGRAPH 2024 Student Research Competition for Undergraduate Work**
S. Hattori, **Y. Hiroi**, T. Hiraki, "Measurement of the Imperceptible Threshold for Color Vibration Pairs Selected by using MacAdam Ellipse"

Mar. 2024 — **Best Paper Honorable Mention, IEEE VR 2024**
H. Aoki, T. Tochimoto, **Y. Hiroi**, Y. Itoh, "Towards Co-operative Beaming Displays: Dual Steering Projectors for Extended Projection Volume and Head Orientation Range"

Mar. 2023 — **Best Poster Honorable Mention, Augmented Humans 2023**
Y. Koike, **Y. Hiroi**, Y. Itoh, J. Rekimoto. 2023. "Brain-Computer Interface using Directional Auditory Perception"

Mar. 2017 — **Best Paper 3rd Place, Augmented Human 2017**
Y. Hiroi, Y. Itoh, T. Hamasaki, M. Sugimoto, "AdaptiVisor: Assisting Eye Adaptation via Occlusive Optical See-Through Head-Mounted Displays"

Domestic

May. 2025 — **拡張体験デザイン協会 (DAXX) Good Experience Design Award 2025**
R. Kurai, H. Yanagawa, **Y. Hiroi,** T. Hiraki, "MetaGadget: An Accessible Framework for IoT Integration into Commercial Metaverse Platforms"

Mar. 2025 — **インタラクティブ発表賞（PC推薦）, インタラクション 2025**
沈有方，土佐凛斗，畑田裕二，**廣井裕一**，平木剛史，苗村健，"HMDユーザの探索行動支援に向けた目立たない両眼相補的色振動による視線誘導"，情報処理学会 インタラクション2025, 2025年

Dec. 2024 **特集テーマセッション賞（ソーシャル・インタラクション）, HCGシンポジウム 2024**

花島諒，平木剛史，浦川智弘，倉井龍太郎，**廣井裕一**，大山潤爾，”メタバース社会のコミュニケーションにおける感情表現の大規模調査：ソーシャルVRのエモート分析から”，電子情報通信学会 HCGシンポジウム, 2024年

Jun. 2023 **2022年 日本の光学研究を代表する成果に選定, 日本光学会**

Y. Hiroi, K. Someya, Y. Itoh, “Neural Distortion Fields for Spatial Calibration of Wide Field-of-View Near-Eye Displays”, OSA Optics Express, 2022.

Mar. 2019 **SIG-MR賞, 日本VR学会複合現実感研究会**

浜崎巧，伊藤勇太，**廣井裕一**，岩井大輔，杉本麻樹，“光学透過型ヘッドマウントディスプレイを組み合わせた高ダイナミックレンジなプロジェクションマッピング”，第57回 複合現実感研究会 (SIG-MR)，2019年

Feb. 2014 **CG-ARTS賞, 画像情報教育振興協会**

廣井裕一、CG-ARTS主催のエキスパート認定試験で優秀な成績を収める（CGエンジニアエキスパート、画像処理エンジニアエキスパート）

TEACHING EXPERIENCE

Apr. 2020 – Jul. 2020 **Teaching Assistant on Augmented Reality** (CSC.T439)

Apr. 2019 – Jul. 2019 Tokyo Institute of Technology

Implemented code, created teaching materials and supported the class for MEng/Ph.D. students to develop applications with full-scratch implementation of AR markers using Processing, OpenGL and OpenCV.

Sep. 2015 – Mar. 2016 **Teaching Assistant on Experiments in Information Engineering II**

Keio University

Implemented code, created teaching materials and supported the class for Bachelor 3rd students to develop 3D AR applications with Unity and PlayStation Move Controller.

SKILLS

Technical **Very Experienced:** Python, PyTorch, MATLAB, C++, C#, Microsoft Office, Adobe Aftereffects, Adobe Animate, **Experienced:** Unity, C, Java, JAX, TensorFlow, Processing, Arduino, Optics Design for Head-Mounted Displays and Projectors, WebRTC, Adobe Illustrator, Adobe Photoshop, Adobe InDesign, Blender, Git, **Basics:** Network Communication (WebRTC), JavaScript, Motion Capture, Raspberry Pi, Robot Operation System (ROS)

Language **Japanese**: Native, **English**: CEFR C1 (Passed EIKEN English Proficiency Test Grade 1, ’25/3)

Chinese: CEFR A1-2 (Passed HSK3, ’24/7), **French & Russian**: Beginner

PATENTS

US Patent

Registered	2022	Y. Ishii, K. Hidaka, Y. Tonomura, T. Tokunaga, **Y. Hiroi**, “Object tracking device, object tracking method, and object tracking program”, Nippon Telegraph and Telephone Corp, 2022-07-26.	US11398049
		Y. Hiroi, Y. Ishii, T. Tokunaga, Y. Tonomura, K. Hidaka, “Object tracker, object tracking method, and computer program”, Nippon Telegraph and Telephone Corp, 2022-02-22	US11257224
Pending	2023	C. W. Ooi, Y. Hiroi, Y. Itoh, “An Occlusion-Capable Optical See-Through Head-Mounted Display”, The University of Tokyo, 2023-03-10	US63/489,502

Japanese Patent

Registered	2021	**Y. Hiroi**, Y. Ishii, T. Tokunaga, Y. Tonomura, K. Hidaka, “Object tracker, object tracking method, and computer program”, Nippon Telegraph and Telephone Corp, 2021-03-10	àǵ□□□□□□□□
	2020	Y. Ishii, K. Hidaka, Y. Tonomura, T. Tokunaga, **Y. Hiroi**, “Object tracking device, object tracking method, and object tracking program”, Nippon Telegraph and Telephone Corp, 2020-11-11.	àǵ□□□□□□□□

Pending	2024	**Y. Hiroi**, T. Hiraki, “Information Processing Equipment, Information Processing Methods, and Programs“, Cluster Inc., 2024-03-12

SERVICE

Conference Organizing Committees

2025 **Program Chair**, APMAR 2025

Workshop Organizer - “2nd & 3rd Workshop on Seamless Reality : AR Technologies for Seamless Perception and Cognition between Cyber and Physical Spaces (WSR)“, IEEE VR 2025 / ISMAR 2025

2024 **Workshop Organizer** - “1st Workshop on Seamless Reality : AR Technologies for Seamless Perception and Cognition between Cyber and Physical Spaces (WSR)“, IEEE VR 2024

Program Committees (PC)

2025 IEEE VR, IEEE ISMAR

2024 IEEE ISMAR, ICAT-EGVE, APMAR

Journal Reviewer

International

2025 IEEE TVCG x1, OPTICA Optics Express x2, OPTICA Optics Letters x1

2024 IEEE TVCG x2, Elsevier Displays x1

2023 OPTICA Applied Optics x1

2021 OPTICA Optics Express x1

Domestic

2023 Journal of the Virtual Reality Society of Japan (VRSJ) x1

Conference Reviewer

2025 IEEE VR x9 (PC), IEEE ISMAR x9 (PC)

2024 IEEE ISMAR x5 (PC), ICAT-EGVE x3 (PC), ACM VRST x3, IEEE VR x2, ACM CHI x1, ACM SUI x1, APMAR x1 (PC), SIGGRAPH Asia E-Tech x1

2023 IEEE ISMAR x3, IEEE VR x1, ACM SUI x1

Academic Society Committee & Memberships

Committee

Domestic: Journal Editor Committee, Virtual Reality Society of Japan (VRSJ, 2025-), VRSJ Special Interests Group of Mixed Reality (SIG-MR, 2023-)

Member

International: IEEE, ACM **Domestic**: VRSJ

Others

2025 Session Chair, IEEE VR

2024 Session Chair, IEEE VR

2022 Session Chair, ACM VRST

PUBLICATIONS AND PRESENTATION LIST

International Journals & Magazines
(Peer-Reviewed)

(under review) Yong-Hao Hu, Sotaro Yokoi, Yuji Hatada, **Yuichi Hiroi**, Takuji Narumi, and Takefumi Hiraki. “LUIDA: Large-scale Unified Infrastructure for Digital Assessments based on Commercial Metaverse Platform“, IEEE Transaction on Visualization and Computer Graphics (TVCG).

(under review) Ryutaro Kurai, Takefumi Hiraki, **Yuichi Hiroi**, Yutaro Hirao, Monica Perusquia-Hernandez, Hideaki Uchiyama, Kiyoshi Kiyokawa, “MagicCraft: Natural Language-Driven Generation of Dynamic and Interactive 3D Objects for Commercial Metaverse Platforms“, IEEE Access.

(under review) Yuichi Hiroi, Yuji Hatada, Takefumi Hiraki, “Cross-Reality Lifestyle: Integrating Physical and Virtual Lives through Multi-Platform Metaverse“, IEEE Pervasive Computing.

(under review) Ryutaro Kurai, Hikari Yanagawa, **Yuichi Hiroi**, Takefumi Hiraki, “MetaGadget: An Accessible Framework for IoT Integration into Commercial Metaverse Platforms“, IEEE Pervasive Computing.

(under review) Ryutaro Kurai, Takefumi Hiraki, Yuichi Hiroi, Yutaro Hirao, Monica Perusquia-Hernandez, Hideaki Uchiyama, Kiyoshi Kiyokawa, "MetaProxy: Bridging Agents and Environments in Commercial Metaverse Platforms through Remote Intermediary Monitoring", IEICE Special Session of Human Communication VI, 2025.

2025 1. Rinto Tosa, Shingo Hattori, **Yuichi Hiroi**, Yuta Itoh, Takefumi Hiraki, "ChromaGazer: Unobtrusive Visual Modulation using Imperceptible Color Vibration for Visual Guidance", IEEE Transaction on Visualization and Computer Graphics (TVCG), vol. 31, no. 5, pp. 3450-3458, 2025 (Also present at IEEE VR 2025).

2. Ryutaro Kurai, Takefumi Hiraki, **Yuichi Hiroi**, Yutaro Hirao, Monica Perusquia-Hernandez, Hideki Uchiyama and Kiyoshi Kiyokawa, "MagicItem: Dynamic Behavior Design of Virtual Objects with Large Language Models in a Commercial Metaverse Platform," IEEE Access, vol. 13, pp. 19132-19143, 2025.

2024 3. Rina Nagano, Takehiro Kinoshita, Shingo Hattori, **Yuichi Hiroi**, Yuta Itoh, Takefumi Hiraki, "HaptoFloater: A Low-latency Visuo-Haptic Mid-Air Display by Embedding Imperceptible Color-Vibration Signals", IEEE Transaction on Visualization and Computer Graphics (TVCG), vol. 30, no. 11, pp. 7463-7472, 2024 (Also present at IEEE ISMAR 2024)

4. Hiroto Aoki, Takumi Tochimoto, **Yuichi Hiroi**, Yuta Itoh, "Towards Co-operative Beaming Displays: Dual Steering Projectors for Extended Projection Volume and Head Orientation Range," IEEE Transaction on Visualization and Computer Graphics (TVCG), vol. 30, no. 5, pp. 2309-2318, 2024 (Also presented at IEEE VR 2024)

5. **Yuichi Hiroi**, Takefumi Hiraki, Yuta Itoh, "StainedSweeper: Compact, Variable-Intensity Light-Attenuation Display with Sweeping Tunable Retarders", IEEE Transaction on Visualization and Computer Graphics (TVCG), vol. 30, no. 5, pp. 2682-2692, 2024 (Also presented at IEEE VR 2024)

2023 **6.** **Yuichi Hiroi**, Akira Watanabe, Yuri Mikawa, Yuta Itoh, "Low-Latency Beaming Display: Implementation of Wearable, 133μs Motion-to-Photon Latency Near-eye Display", IEEE Transaction on Visualization and Computer Graphics (TVCG), vol. 29, no. 11, pp. 4761-4771, 2023 (Also presented at IEEE ISMAR 2023)

2022 **7.** **Yuichi Hiroi**, Kiyosato Someya, Yuta Itoh, "Neural Distortion Fields for Spatial Calibration of Wide Field-of-View Near-Eye Displays", Optics Express, Vol. 30, Issue 22, pp. 40628–340644, 2022.

2021 **8.** **Yuichi Hiroi**, Takumi Kaminokado, Shunsuke Ono, Yuta Itoh, "Focal Surface Occlusion", Optics Express, Vol. 29, Issue 22, pp. 36581–36597, 2021.

2020 9. Takumi Kaminokado, **Yuichi Hiroi**, Yuta Itoh, "StainedView: Variable-Intensity Light Attenuation Display with Cascaded Spatial Color Filtering for Improved Color Fidelity," IEEE Transactions on Visualization and Computer Graphics (TVCG) 26(6): pp. 3576-3856, 2020 (Also presented at IEEE ISMAR 2020)

2018 10. Takumi Hamasaki, Yuta Itoh, **Yuichi Hiroi**, Daisuke Iwai, Maki Sugimoto, "HySAR: Hybrid Material Rendering by an Optical See-Through Head-Mounted Display with Spatial Augmented Reality Projection". IEEE Transaction on Visualization and Computer Graphics (TVCG) 24(4): pp. 1457-1466, 2018 (Also presented at IEEE VR 2018).

International Conference Proceedings
(Peer-Reviewed)

2025 1. Youfang Shen, Rinto Tosa, Yuji Hatada, **Yuichi Hiroi**, Takefumi Hiraki, Takeshi Naemura, "ChromaGazer-HMD: Visual Modulation using Unobtrusive Color Vibration for Gaze Guidance with Head-Mounted Displays", Augmented Humans 25, Abu-dabi, UAE, 2025.

2. Yuta Itoh, Tomoya Nakamura, **Yuichi Hiroi**, Kaan Aksit, "Slim Light-Receiving Glasses for Wide Head Orientation-Capable Beaming Displays using Diffractive Waveguide", In Proceedings of IEEE International Conference of Virtual Reality 2025 (IEEE VR 2025), Saint-Malo, France, 2025.

2024 **3.** **Yuichi Hiroi**, Takefumi Hiraki, Yuta Itoh, "FactoredSweeper: Optical See-Through Display Integrating Light Attenuation and Addition with Single Spatial Light Modulator", In Proceedings of International Symposium on Mixed and Augmented Reality (ISMAR 2024), pp. 61-70, Seattle, USA, Oct. 21-25, 2024.

2023 4. Hiroto Aoki, **Yuichi Hiroi**, Yuta Itoh, Jun Rekimoto, "Retinal Homing Display: Head-Tracking Auto-stereoscopic Retinal Projection Display", In Proceedings of International Conference of Virtual Reality Software Technology (VRST 2023), 13:1-13:10, Christchurch, New Zealand, 2023

5. Takekazu Kitagishi, **Yuichi Hiroi**, Yuna Watanabe, Yuta Itoh, Jun Rekimoto, "Telextile: End-to-end Remote Transmission of Fabric Tactile Sensation", In Proceedings of the ACM Symposium on User Interface Software and Technology 2023 (UIST 2023), 67:1-67:10, San Francisco, USA, 2023.

6. Chun Wei Ooi, **Yuichi Hiroi**, Yuta Itoh, "A Compact Photochromic Occlusion Capable See-through Display with Holographic Lenses", In Proceedings of IEEE International Conference of Virtual Reality 2023 (IEEE VR 2023), pp. 237-242, Shanghai, China, 2023.

2022 **7.** **Yuichi Hiroi**, Yuta Itoh, Jun Rekimoto, "NeARportation: A Remote Real-time Neural Rendering Framework", In Proceedings of International Conference of Virtual Reality Software Technology (VRST 2022), 23:1-23:5, Tsukuba, Japan, 2022.

8. Zhang Zhibin, **Yuichi Hiroi**, Yuta Itoh, "Towards Spatial Airflow Interaction: Schlieren Imaging for Augmented Reality", In Proceedings of International Symposium on Mixed and Augmented Reality (ISMAR 2022), pp. 215-223, Singapore, Singapore, 2022.

9. Takumi Tochimoto, **Yuichi Hiroi**, Yuta Itoh, "CircadianVisor: Image Presentation With an Optical See-Through Display in Consideration of Circadian Illuminance", In Proceedings of the Augmented Humans International Conference (AHs 2021), pp. 66-76, 2021.

10. **Yuichi Hiroi**, Takumi Kaminokado, Atsushi Mori, Yuta Itoh, "DehazeGlasses: Optical Dehazing with an Occlusion Capable See-Through Display," In Proceedings of the Augmented Humans International Conference (AHs 2020), 3:1-3:11, Virtual, 2020,

11. **Yuichi Hiroi**, Yuta Itoh, Takumi Hamasaki, Maki Sugimoto, "AdaptiVisor: Assisting Eye Adaptation via Occlusive Optical See-Through Head-Mounted Displays," The 8th Augmented Human International Conference (AH 2017), 9:1-9:9, Silicon Valley, USA, Mar. 16-18, 2017.

International Conference Workshop Proceedings
(Peer-Reviewed)

2025 1. Jonas Weigand, **Yuichi Hiroi**, Yuta Itoh, "BeamStellar: Low-Latency, 6-DoF Head Tracking for Beaming Displays with Spatio-Temporal LED Encoding", 2nd Workshop on Seamless Reality: AR Technologies for Seamless Perception and Cognition between Cyber and Physical Spaces (2nd WSR workshop, IEEEVR-Adjunct), 2025.

2. Yusuke Masubuchi, Takefumi Hiraki, **Yuichi Hiroi**, Masanori Ibara, Kazuki Matsutani, Megumi Zaizen, Junya Morita, "Development of Digital Twin Environment through Integration of Commercial Metaverse Platform and IoT Sensors of Smart Building", 2nd Workshop on Seamless Reality: AR Technologies for Seamless Perception and Cognition between Cyber and Physical Spaces (2nd WSR workshop, IEEEVR-Adjunct), 2025.

2024 3. Ryutaro Kurai, Takefumi Hiraki, **Yuichi Hiroi**, Yutaro Hirao, Monica Perusquia-Hernandez, Hideki Uchiyama and Kiyoshi Kiyokawa, "Design and Implementation of Agent APIs for Large-scale Social VR Platforms", 1st Workshop on Seamless Reality: AR Technologies for Seamless Perception and Cognition between Cyber and Physical Spaces (1st WSR workshop, IEEEVR-Adjunct), 2024.

2020 **4.** **Yuichi Hiroi**, Takumi Kaminokado, Atsushi Mori, Yuta Itoh, "DehazeGlasses: Optical Dehazing with an Occlusion Capable See-Through Display", 9th IEEE International Workshop on Computational Cameras and Displays (CCD, CVPR-Adjunct, 2020).

International Conference Poster
(Peer-Reviewed)

2025 1. Michikuni Eguchi, **Yuichi Hiroi**, Tomohiro Hayase, Takefumi Hiraki, "Cluster Haptic Texture Database: Haptic Texture Database with Controlled Sliding-Contact Interactions", IEEE World Haptics Conference 2025 Work-in-Progress, Suwon, Korea, 2025.

2. Ryutaro Kurai, Takefumi Hiraki, **Yuichi Hiroi**, Yutaro Hirao, Monica Perusquia-Hernandez, Hideaki Uchiyama, Kiyoshi Kiyokawa, "An implementation of MagicCraft: Generating Interactive 3D Objects and Their Behaviors from Text for Commercial Metaverse Platforms", IEEE VR 2025 Adjunct, pp. 1284-1285, Saint-Malo, France, 2025.

2024 3. Yuta Itoh, Tomoya Nakamura, **Yuichi Hiroi**, Kaan Akşit, "Towards Mobile Beaming Displays with Thin Holographic Waveguides", IEEE ISMAR Adjunct 2024, pp. 475-476, Seattle, USA, Oct. 21-25, 2024

4. Shingo Hattori, **Yuichi Hiroi**, Takefumi Hiraki, "Measurement of the Imperceptible Threshold for Color Vibration Pairs Selected by using MacAdam Ellipse", Proc. ACM SIGGRAPH 2024 Posters, pp. 68:1–2, Denver, CO, USA, Jul. 28-Aug. 1, 2024.

2023 5. Takumi Tochimoto, **Yuichi Hiroi**, Yuta Itoh, "Dual Beaming Display for Extended Head Orientation and Projection Volume," IEEE ISMAR Adjunct 2023, Sydney, Australia, Oct. 16-20, 2023

6. Yuto Koike, **Yuichi Hiroi**, Yuta Itoh, and Jun Rekimoto. 2023. Brain-Computer Interface using Directional Auditory Perception. In Proceedings of the Augmented Humans International Conference 2023 (AHs '23). Glasgow, UK, pp.342–345, 2023.

2021 7. Mayu Kaneko, **Yuichi Hiroi**, Yuta Itoh, "Focus-Aware Retinal Projection-based Near-Eye Display", IEEE ISMAR Adjunct 2021, Bari, Italy/Virtual, Oct. 04-09, 2021.

2020 8. Xuan Zhang, Jonathan Lundgren, Yoya Mesaki, **Yuichi Hiroi**, Yuta Itoh, "Stencil Marker: Designing Partially Transparent Markers for Stacking Augmented Reality Objects", IEEE ISMAR Adjunct 2020, Recife, Brazil/Virtual, Nov. 09-13, 2020.

2019 9. Kiyosato Someya, **Yuichi Hiroi**, Makoto Yamada, Yuta Itoh, "OSTNet: Calibration Method for Optical See-Through Head-Mounted Displays via Non-Parametric Distortion Map Generation," IEEE ISMAR Adjunct 2019, Beijing, China, pp 259-260, Oct. 14-18, 2019.

2017 **10.** **Yuichi Hiroi**, Yuta Itoh, Takumi Hamasaki, Daisuke Iwai, Maki Sugimoto, "HySAR: Hybrid Material Rendering by an Optical See-Through Head-Mounted Display with Spatial Augmented Reality", IEEE VR Adjunct 2017, Los Angeles, CA, USA, pp. 211–212, Mar. 18-22, 2017.

11. Takashi Kikuchi, **Yuichi Hiroi**, Ross T. Smith, Bruce H. Thomas, Maki Sugimoto, “MARCut: Marker-based Laser Cutting for Personal Fabrication on Existing Objects”, In Proceedings of 9th International Conference on Tangible, Embedded, and Embodied Interaction (TEI 2016), Eindhoven, Netherlands, pp.468-474, Feb. 14-17, 2016.

2015 **12.** **Yuichi Hiroi**, Kei Obata, Katsuhiro Suzuki, Naoto Ienaga, Maki Sugimoto, Hideo Saito, Tadashi Takamaru, “Remote Welding Robot Manipulation using Multi-View Images”, Proceedings of 2015 IEEE ISMAR Adjunct 2015, Fukuoka, Japan, Sep. 29- Oct. 3, 2015

International Technology Demonstration (Peer-Reviewed)

2024 1. Ryutaro Kurai, **Yuichi Hiroi**, Takefumi Hiraki, “MetaGadget: IoT Framework for Event-Triggered Integration of User-Developed Devices into Commercial Metaverse Platforms”, IEEE ISMAR Adjunct 2024, pp. 632-633, Seattle, USA, Oct. 21-25, 2024.

2023 2. Takekazu Kitagishi, **Yuichi Hiroi**, Yuna Watanabe, Yuta Itoh, Jun Rekimoto, “Telextile: End-to-end Remote Transmission of Fabric Tactile Sensation”, User Interface Software and Technology 2023 (UIST 2023), San Francisco, USA, Oct.29 - Nov.1, 2023.

2016 3. Yuta Itoh, **Yuichi Hiroi**, Jiu Otsuka, Maki Sugimoto, Jason Orlosky, Kiyoshi Kiyokawa, Gudrun Klinker, “Laplacian Vision: Augmenting Motion Prediction via Optical See-Through Head-Mounted Displays and Projectors”, SIGGRAPH 2016 Emerging Technologies.

International Invited Talk

2024 **1.** **Yuichi Hiroi,** “Metaverse as Digital Living Spaces : Expanding Human Experience”, XR in Enterprise and Society of Japan, SIGGRAPH Asia 2024 Birds of a Feather, Tokyo, Japan, Dec. 5, 2024.

Japanese Invited Talk

2024 **1.** **廣井裕一,** ”（特別講演）メタバースが切り拓くサイバーフィジカル融合：空間と人間の新たな連携“，第33回レーザディスプレイ技術研究会 (LDT), 2024年11月25日

2. **廣井裕一**，近藤亮史，岩崎謙汰， 五十川麻理子，北原格，岩井大輔，内山英昭，武富貴史，藤本雄一郎， ”現実はどこまでスカウターに近づけたのか”，第29回バーチャルリアリティ学会大会，複合現実感研究会オーガナイズドセッション, 2024年9月12日.

3. **廣井裕一**，” Low-latency Beaming Display: 133μ秒の遅延で映像を提示する投影型接眼ディスプレイ”，第23回 情報科学技術フォーラム (FIT2024) トップコンファレンスセッション，2024年 9月6日.

4. **廣井裕一**，”視覚の自在な変調を目指した光学シースルーHMDの高性能化”，Future Humanity - 身体と感覚が紡ぐ未来シナリオ，博報堂 University of Creativity，2024年 2月17日

Japanese Commentary / Review Article

2025 **1.** **廣井裕一**，”5分で分かる!? 有名論文ナナメ読み「Pinlight Displays : Wide Field of View Augmented Reality Eyeglasses using Defocused Point Light Sources」, 情報処理,情報処理学会, Vol. 66, No. 5, 2025年

2023 **2.** **廣井裕一**，染矢清里，伊藤勇太，”深層光線場表現による収差推定：深層光線場表現に基づく広視野角HMDの空間較正”，機関誌「光学」2023年10月号，日本光学会， 2023年

Japanese Technology Demonstration

2025 1. 沈有方，土佐凜斗，畑田裕二，**廣井裕一**，平木剛史，苗村健，”HMDユーザの探索行動支援に向けた目立たない両眼相補的色振動による視線誘導”, インタラクション2025, 一橋記念講堂, 2025年

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