

Shunichi Kasahara, Ph.D.

Researcher, Engineer and Artist

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Research Statement: Cybernetic Humanity

Enabling the new self emerging from human-computer integration

Computers are no longer just tools for humans, but are deeply intervening in our bodies and behavior. When humans integrate with computers and acquire abilities and different bodies beyond what we currently possess, how do we define our own humanity?

Experience

Period	Position
2026 – Present	Research Director & Senior Researcher, Sony Computer Science Laboratories, Inc.
2023 – Present	Visiting Researcher, Okinawa Institute of Science and Technology (OIST) — Cybernetic Humanity Studio
2020 – 2026	Researcher / Project Leader, Sony Computer Science Laboratories, Inc.
2018 – 2021	Project Assistant Professor, Research Center for Advanced Science and Technology, The University of Tokyo
2017 – 2020	Associate Researcher, Sony Computer Science Laboratories, Inc.
2014 – 2017	Assistant Researcher, Sony Computer Science Laboratories, Inc.
2014 – 2017	Research Affiliate, MIT Media Lab
2008 – 2014	Engineer / Researcher, Sony Corporation

Education

- **Ph.D.**, Interdisciplinary Information Studies, The University of Tokyo, 2017
- **M.Sc.**, Applied Physics (Human-Computer Interaction), Waseda University, 2008

Grants & Funding

Period	Program	Role	Title
2026 – 2031	JST BOOST	PI	Self-Extension and Co-Evolutionary Relationship Building through AI Self-Clones
2026 – 2028	JSPS Grant-in-Aid for Transformative Research Areas (A) — Publicly Offered Group	PI	Empirical Verification and Quantification of the Face’s Self-Referential Qualia Structure
2026 – 2028	JST Moonshot R&D (Phase 2)	Co-PI	Development of Cybernetic Avatar Technology and Social Infrastructure for Physical Co-Creation (PI: K. Minamizawa, Keio University)

Period	Program	Role	Title
2025 – 2031	JST CREST	Co-PI	Creating a Body-Fusion Learning Platform for Realizing Highly Skilled Robots (PI: Y. Tanaka, Nagoya Institute of Technology)
2025 – 2029	JSPS KAKENHI Grant-in-Aid for Scientific Research (A)	Co-I	Elucidating Cognitive Contexts Linked to Motor Memory (PI: N. Hagura, NICT)
2025 – 2029	JSPS KAKENHI Grant-in-Aid for Scientific Research (A)	Co-I	Integration of Multimodal “Selfhood”: A Comprehensive Understanding from Psychology, Computational Theory, and Neuroscience (PI: R. Ohata)
2025 – 2030	JST ASPIRE	Co-PI	Expertise Science and Technology
2023 – 2027	JST PRESTO	PI	Building Self-Extension Systems through Human-AI Fusion and Elucidating Extended Self-Subjectivity
2020 – 2026	JST Moonshot R&D (Phase 1)	Co-PI	Development of Cybernetic Avatar Technology and Social Infrastructure for Physical Co-Creation (PI: K. Minamizawa, Keio University)

Academic Service

- **General Co-Chair**, ACM Augmented Humans 2026 (OIST, Okinawa, March 16–19, 2026)
- **Co-Organizer**, NII Shonan Meeting No.216: Human-Computer-Interfaces × Neuroscience (June 23–26, 2025)
- **Organizer (Panel 4)**, IAA+Soc2025: Intelligence Augmentation and Amplification plus Society 2025 (March 4, 2025)
- **Reviewer**: ACM CHI, ACM UIST, ACM SIGGRAPH, ACM VRST, IEEE VR, IEEE ISMAR, and others

Awards

- **Best Paper Award**, ACM CHI 2025
- **Special Prize for Distinguished Poster**, Japanese Psychological Association 87th Annual Meeting, 2024
- **Best Demonstration Award**, SIGGRAPH Asia 2022
- **Innovative Technologies 2021 Prize**, Morphing Identity
- **Best Paper Award**, ACM Augmented Humans 2021
- **Laval Virtual Grand Prize**, ACM SIGGRAPH 2019 Emerging Technologies
- **Best Use of Technology Award**, SXSW Creative Experience “Arrow” Awards, 2019
- **Best Paper Award**, ACM VRST 2015
- **Award for Excellence**, VRC Award 2015
- **Best Presentation Award**, ACM Augmented Human 2014
- **Best Demo Honorable Mention**, ACM UIST 2014
- **Best Paper Award**, IPSJ Interaction 2014
- **Best Demonstration Award**, IPSJ Interaction 2014
- **Jury Selections**, Japan Media Arts Festival, 2013
- **Emerging Technologies Prize**, SIGGRAPH Asia 2012

1. Vega, Gabriela, Johanna K. Didion, Reshma Ann Daniel, Nihar Sabnis, Daisuke Tajima, Shunichi Kasahara, and Paul Strohmeier. 2026. "Faster Than Muscle: Executing Action based on Voluntary Nervous Signals." ACM UIST 2026. (accepted)
2. Takada, Kazuma, Wen Wen, Shunichi Kasahara, and Tom Froese. 2025. "Updating Internal Model Affects Exploration of Sense of Agency and Regularity Detection." *Consciousness and Cognition*. 10.1016/j.concog.2025.103980
3. Cheng, Yi Fei, Hirokazu Shirado, and Shunichi Kasahara. 2025. "Conversational Agents on Your Behalf: Opportunities and Challenges of Shared Autonomy in Voice Communication for Multitasking." ACM CHI 2025. **[Best Paper Award]**
4. Shirado, Hirokazu, Kye Shimizu, Nicholas A. Christakis, and Shunichi Kasahara. 2025. "Realism Drives Interpersonal Reciprocity but Yields to AI-Assisted Egocentrism in a Coordination Experiment." ACM CHI 2025.
5. Wen, Wen, Jie Mei, Hakan Aktas, Acer Yu-Chan Chang, Yosuke Suzuishi, and Shunichi Kasahara. 2024. "Control over Self and Others' Face: Exploitation and Exploration." *Scientific Reports* 14 (1): 15473.
6. Kasahara, Shunichi, Nanako Kumasaki, and Kye Shimizu. 2024. "Investigating the Impact of Motion Visual Synchrony on Self Face Recognition Using Real Time Morphing." *Scientific Reports* 14 (1): 13090.
7. Shirado, Hirokazu, Shunichi Kasahara, and Nicholas A. Christakis. 2023. "Emergence and Collapse of Reciprocity in Semiautomatic Driving Coordination Experiments with Humans." *PNAS* 120 (51): e2307804120.
8. Kye Shimizu, Santa Naruse, Jun Nishida, and Shunichi Kasahara. 2023. "Morphing Identity: Exploring Self-Other Identity Continuum through Interpersonal Facial Morphing Experience." ACM CHI 2023.
9. Barbareschi, Giulia, Midori Kawaguchi, Hiroaki Kato, Masato Nagahiro, Kazuaki Takeuchi, Yoshifumi Shiiba, Shunichi Kasahara, Kai Kunze, and Kouta Minamizawa. 2023. "'I Am Both Here and There' Parallel Control of Multiple Robotic Avatars by Disabled Workers in a Café." ACM CHI 2023.
10. Takada, Kazuma, Nanako Kumasaki, Tom Froese, Kazuhisa Shibata, Jun Nishida, and Shunichi Kasahara. 2023. "ShadowClones: An Interface to Maintain a Multiple Sense of Body-Space Coordination in Multiple Visual Perspectives." ACM AHs 2023.
11. Adrien Verhulst, Yasuko Namikawa, Shunichi Kasahara. 2022. "Parallel Adaptation: Switching between Two Virtual Bodies with Different Perspectives Enables Dual Motor Adaptation." IEEE ISMAR 2022.
12. Shimizu, Kye, Naoto Ienaga, Kazuma Takada, Maki Sugimoto, and Shunichi Kasahara. 2022. "Human Latent Metrics: Perceptual and Cognitive Response Correlates to Distance in GAN Latent Space for Facial Images." ACM SAP 2022.
13. Kazuma Takada, Midori Kawaguchi, Akira Uehara, Yukiya Nakanishi, Mark Armstrong, Adrien Verhulst, Kouta Minamizawa, and Shunichi Kasahara. 2022. "Parallel Ping-Pong: Exploring Parallel Embodiment through Multiple Bodies by a Single User." ACM AHs 2022.
14. Maekawa, Azumi, Hiroto Saito, Daisuke Uriu, Shunichi Kasahara, and Masahiko Inami. 2022. "Machine-Mediated Teaming: Mixture of Human and Machine in Physical Gaming Experience." ACM CHI 2022.
15. Miura, Reiji, Shunichi Kasahara, Michiteru Kitazaki, Adrien Verhulst, Masahiko Inami, and Maki Sugimoto. 2022. "MultiSoma: Motor and Gaze Analysis on Distributed Embodiment With Synchronized Behavior and Perception." *Frontiers in Computer Science* 4.
16. Barbareschi, Giulia et al. 2023. "Accessible Parallel Embodiment of Multiple Robotic Avatars in a Cafe." *XRDS* 29 (2): 36–41.
17. Daisuke Tajima, Jun Nishida, Pedro Lopes, and Shunichi Kasahara. 2021. "Whose Touch Is This? Understanding the Agency Trade-off Between User-Driven Touch vs. Computer-Driven Touch." *ACM Transactions on Computer-Human Interaction (TOCHI)*.
18. Shunichi Kasahara and Kazuma Takada. 2021. "Stealth Updates of Visual Information by Leveraging Change Blindness and Computational Visual Morphing." *ACM Transactions on Applied Perception (TAP)*.
19. Saito, Hiroto et al. 2021. "Transparency in Human-Machine Mutual Action." *Journal of Robotics and Mechatronics* 33 (5): 987–1003.

20. Shunichi Kasahara, Kazuma Takada, Jun Nishida, Kazuhisa Shibata, Shinsuke Shimojo, and Pedro Lopes. 2020. "Preserving Agency During Electrical Muscle Stimulation Training Speeds up Reaction Time Directly After Removing EMS." ACM CHI 2021.
21. Miura, R., Kasahara, S., Kitazaki, M., Verhulst, A., Inami, M., and Sugimoto, M. 2021. "MultiSoma: Distributed Embodiment with Synchronized Behavior and Perception." ACM AHs 2021. **[Best Paper Award]**
22. Shunichi Kasahara, Jun Nishida, and Pedro Lopes. 2019. "Preemptive Action: Accelerating Human Reaction using Electrical Muscle Stimulation Without Compromising Agency." ACM CHI 2019.
23. Shunichi Kasahara, Keina Konno, Richi Owaki, Tsubasa Nishi, Akiko Takeshita, Takayuki Ito, Shoko Kasuga, and Junichi Ushiba. 2017. "Malleable Embodiment: Changing Sense of Embodiment by Spatial-Temporal Deformation of Virtual Human Body." ACM CHI 2017.
24. S. Kasahara, S. Nagai, and J. Rekimoto. 2017. "JackIn Head: Immersive Visual Telepresence System with Omnidirectional Wearable Camera." IEEE Transactions on Visualization and Computer Graphics, vol. 23, no. 3.
25. Shunichi Kasahara, Mitsuhito Ando, Kiyoshi Suganuma, and Jun Rekimoto. 2016. "Parallel Eyes: Exploring Human Capability and Behaviors with Paralleled First Person View Sharing." ACM CHI 2016.
26. Shunichi Kasahara and Jun Rekimoto. 2015. "JackIn Head: Immersive Visual Telepresence System with Omnidirectional Wearable Camera for Remote Collaboration." ACM VRST 2015. **[Best Paper Award]**
27. Shunichi Kasahara, Shohei Nagai, and Jun Rekimoto. 2015. "First Person Omnidirectional Video: System Design and Implications for Immersive Experience." ACM TVX 2015.
28. Shohei Nagai, Shunichi Kasahara, and Jun Rekimoto. 2015. "LiveSphere: Sharing the Surrounding Visual Environment for Immersive Experience in Remote Collaboration." TEI 2015.
29. 笠原俊一, 曆本純一. 2015. "JackIn: 一人称視点と体外離脱視点を融合した人間による人間のオーグメンテーションの枠組み." 情報処理学会論文誌 vol. 56, no. 4, pp. 1248-1257. (特選論文)
30. Shunichi Kasahara and Jun Rekimoto. 2014. "JackIn: Integrating First-Person View with Out-of-Body Vision Generation for Human-Human Augmentation." ACM AH 2014. **[Best Presentation Award]**
31. Valentin Heun, Shunichi Kasahara, and Pattie Maes. 2013. "Smarter Objects: Using AR Technology to Program Physical Objects and Their Interactions." ACM CHI EA 2013.
32. Shunichi Kasahara, Ryuma Niiyama, Valentin Heun, and Hiroshi Ishii. 2013. "exTouch: Spatially-Aware Embodied Manipulation of Actuated Objects Mediated by Augmented Reality." TEI 2013.

Demo / Symposium Papers

1. Nishida, Jun, Daisuke Tajima, Yasuko Namikawa, and Shunichi Kasahara. 2024. "Demonstrating Magnus: A Magnetic Hand Exoskeleton for Fast and Dexterous Finger Actuation." ACM SIGGRAPH 2024 Emerging Technologies.
2. Shimizu, Kye, Santa Naruse, Jun Nishida, and Shunichi Kasahara. 2023. "A Demonstration of Morphing Identity." ACM SIGGRAPH 2023 Emerging Technologies.
3. Kawamura, Koki, Shunichi Kasahara et al. 2023. "SyncArms: Gaze-Driven Target Object-Oriented Manipulation for Parallel Operation of Robot Arms." ACM SIGGRAPH 2023 Emerging Technologies.
4. Tajima, Daisuke, Taku Tanichi, Mohammad H. Shehata, and Shunichi Kasahara. 2022. "Low-Latency Motion Transfer with Electromagnetic Actuation for Joint Action." SIGGRAPH Asia 2022 Emerging Technologies.
5. Verhulst, Adrien, Yasuko Namikawa, and Shunichi Kasahara. 2022. "Demonstrating Parallel Adaptation." SIGGRAPH Asia 2022 XR.
6. Kazuma Takada et al. 2021. "Parallel Ping-Pong: Demonstrating Parallel Interaction through Multiple Bodies by a Single User." SIGGRAPH Asia 2021 Emerging Technologies.
7. Maekawa, Azumi et al. 2021. "Behind The Game: Implicit Spatio-Temporal Intervention in Inter-Personal Remote Physical Interactions." ACM SIGGRAPH 2021 Emerging Technologies.
8. Kure, Tatsuya, and Shunichi Kasahara. 2021. "LighterBody: RNN Based Anticipated Virtual Body Makes You Feel Lighter." IEEE VR 2021.
9. Maekawa, Azumi, Shunichi Kasahara et al. 2020. "The Tight Game: Implicit Force Intervention in Inter-Personal Physical Interactions." ACM SIGGRAPH 2020 Emerging Technologies.

10. Shunichi Kasahara, Satoru Higa, and Akihiro Komori. 2019. "Fragment Shadow." ACM SIGGRAPH 2019 Studio.
11. Jun Nishida, Shunichi Kasahara, and Pedro Lopes. 2019. "Demonstrating Preemptive Reaction." ACM SIGGRAPH 2019 Emerging Technologies.
12. Shunichi Kasahara. 2018. "Headlight: Egocentric Visual Augmentation by Wearable Wide Projector." ACM SIGGRAPH 2018 Emerging Technologies.
13. Shunichi Kasahara and Jun Rekimoto. 2015. "JackIn Head." SIGGRAPH Asia 2015 Emerging Technologies.
14. Shunichi Kasahara and Jun Rekimoto. 2014. "LiveSphere." UIST 2014 Adjunct. **[People's Choice Best Demo Honorable Mention]**
15. 笠原俊一, 暦本純一. 2014. "JackIn." 情報処理学会インタラクシオン 2014. **[Best Paper Award, Best Interactive Demo Award]**
16. Shunichi Kasahara, Valentin Heun, Austin S. Lee, and Hiroshi Ishii. 2012. "Second Surface." SIGGRAPH Asia 2012 Emerging Technologies. **[Emerging Technologies Prize]**

Patents

90+ Japanese patents and 14+ international patents.

Books & Articles

- 「動く顔」の自己認識と主体感の相互作用, 生体の科学 Vol.76 No.3, June 2025
- モノノメー身体論の現在 [巻頭座談会] 牛場潤一 × 緒方壽人 × 笠原俊一 × 田中みゆき
- 好奇心が未来をつくるーソニーCSL研究員が妄想する人類のこれから, 祥伝社 (笠原担当章)
- 自在化身体論ー超感覚・超身体・変身・分身・合体が織りなす人類の未来, NTS出版 (笠原: 第7章 柔軟な人間と機械との融合)

Selected Talks & Invited Lectures

2026

1. Invited Talk, NeuroDesign in HRI Workshop, ICRA 2026, Vienna, 2026.6.5
2. Invited Symposium, ESCAN 2026ー"Blurring the Self: Agency and Identity in Cybernetic Humanity", Sapienza University of Rome, 2026.6.4

2025

1. Panel Discussion, Asia Society Policy Salon Tokyoー"Japan's Research Renaissance: Strategies for Global Impact", 2025.11.26
2. Invited Speaker, VR Summit 2025, Bochum, Germany (Online), 2025.10.20
3. Career Talk, "Navigating Different Pathways", OIST Innovation, 2025.10.17
4. Talk, IMLEX Days 2025, University of Eastern Finland, 2025.9.17
5. Invited Lecture, Summer/Winter Seminar, University of Auckland, New Zealand, 2025.7.16
6. Talk, Interop Tokyo Conference 2025ー"Next-Generation Networks Supporting Cybernetic Avatars", 2025.6.13
7. Talk and Demo Tour, Converge Meeting 2025, 2025.5.13
8. Talk, Cybernetic Being Meetup vol.04, 2025.3.7
9. Symposium Talk, Vision Society of Japan 2025 Winter Meetingー"人間とコンピュータの融合、私はどこまで私か", 2025.1.15
10. Talk, Okinawa Animation Festival 2025, 2025.1.15

2024

1. Talk, Interself Interdisciplinary Conference 2024, Lisbon, 2024.10.21

2. Talk, OIST Talk Event “Science + Art: Creatively Communicating Research”, UN University, Tokyo, 2024.9.26
3. Talk, ICRA 2024 Workshop — “The Robotics, Psychology and Neuroscience of Body Augmentation”, 2024.5.13
4. Workshop, IIT — Sense of Agency: Theory, Measurement and Applications in Human Robot Interaction, 2024.4.13
5. Poster, NCM 33rd Annual Meeting — “Investigating View Direction and Perspective Cues with Varying Perturbation Profiles in Dual Visuomotor Adaptations”, 2024.4.13
6. Talk, CiNet Friday Lunch Seminar — “Cybernetic Humanity”, NICT, 2024.2.9
7. Science Talk in Onna Village, OIST, 2024.2.10

2022

1. Invited Talk, International Conference on Embodied Cognitive Science (ECogS 2022), 2022.11.10
2. Keynote Talk, ACM Symposium on Applied Perception 2022, 2022.9.22
3. Invited Talk, K Forum, Kayamori Foundation, Takayama, Gifu, 2022.8.22–24

2021

1. Panel Talk, The 5th Cybernetic Avatar Society Study Group, 2022.2.16
2. Invited Talk, CMU HCII Seminar Series, 2021.11.12
3. Panel Talk, Cybernetic Being Symposium, 2021.10.15
4. Keynote Talk, Entertainment Computing (EC2021), 2021.8.30
5. Panel Talk, Media Ambition Tokyo 2021, 2021.6.4

2019–2020

1. Seminar Talk, Empathic Computing Lab (ECL) Speaker Series, 2020.9.23
2. Keynote, This is Québec Tokyo [Mutek], 2019.12.13
3. Keynote Talk, Human and Building Augmentation, AIJISA 2019 Tokyo, 2019.12.13
4. Seminar Talk, Center for Neuroprosthetics & Brain Mind Institute (EPFL), 2019.11.28, Campus Biotech, Switzerland
5. Talk, SonySXSW 2019 — “Is your body yours?” with Prof. Olaf Blanke (EPFL), 2019.3.11, Austin, US
6. Talk, Innovative City Forum 2017, Art and Science Session
7. Talk, YCAM Perception Engineering Kick-off Symposium, 2017

Guest Lectures

1. Guest Lecture, Musashino Art University, Visual Communication Design, 2022.11.7
2. Guest Lecture, Musashino Art University, Visual Communication Design, 2021.10.18
3. Lecture, “TouchDesigner as an integrated tool in the research scene”, Tokyo Developers Study Weekend, 2021.6.6
4. Guest Lecture, Meiji University, Dept. of Frontier Media Science, 2021.1.26
5. Guest Lecture, KMD Theory and Strategy Course, Physical Interaction, 2020.11.26

Selected Exhibitions

2026

1. ShallWeDance: Humanoid Robot G1 Interactive Demo, SIGGRAPH 2026 Emerging Technologies, July 19–20, Los Angeles
2. Nature Conference Seoul — AI Clone / Digital Twin Demonstration (Sensor Chief Editor clone; 100+ conversations/day), April 13–14, Seoul
3. 「AI科学コミュニケーター」 — 「未来をつくるラボ」 実証実験 (AI Science Communicator — “Mirai wo Tsukuru Lab” Field Trial), Miraikan, July 15–September 30, Tokyo (BYOD phase; Phase 1: April 27–June 29)

2025

1. CXC (Cybernetic X Communication), Miraikan, 2025–2026, Tokyo

2. Public Experiment — AI “Clone” Science Communicator, Miraikan, Oct 25–26, 2025
3. Public Experiment — AI Clone Science Communicator, Miraikan, Jul 21–31, 2025
4. Fragment Shadow, Magical Museum 2025, Santomyuze Ueda, Jul 11–Aug 31, 2025
5. Nature Resonance, Urban Echoes, OIST Tunnel Gallery, Sep 1–28, 2025, Okinawa
6. Oto-Iro (Sound · Color), OIST Tunnel Gallery, Feb 3–Mar 6, 2025, Okinawa

2024

1. Magnus (Exoskeleton), ACM SIGGRAPH 2024 Emerging Technologies
2. Transboundary Workshop on Human Augmentation & Cybernetic Humanity Studio Open Lab, OIST, Jun 24, 2024

2022–2023

1. Fragment Shadow, Taiwan International Light and Shadow Art Festival, NTMoFA, 2022.9–2023.2, Taiwan
2. Fragment Shadow × Silver Cloud, ANDY WARHOL KYOTO, Kyocera Museum of Art, 2022.9–2023.2, Japan
3. Morphing Identity, Miraikan, 2022.3–2022.8, Japan
4. Parallel Ping-Pong, SIGGRAPH Asia 2021 Emerging Technologies
5. Morphing Identity, Sony Park Exhibition “Research for the Future of Humanity”, 2021
6. Morphing Identity / Fragment Shadow, Media Ambition Tokyo 2021

2018–2020

1. Fragment Shadow, Queen in the Park / Ginza Sony Park, 2020, Japan
2. Fragment Shadow / Preemptive Action, SIGGRAPH 2019, Los Angeles, US
3. Fragment Shadow, SXSW 2019, Austin, US
4. Parallel Eyes, Ginza Sony Park, 2018.12–2019.1, Tokyo
5. Headlight, SIGGRAPH 2018, Vancouver / SXSW 2018, Austin
6. Parallel Eyes, SXSW 2017, Austin / TOKYO GAME SHOW 2016

Workshops

- Transboundary Workshop on Human Augmentation, OIST, 2024
- TouchDesigner online interactive workshop about Fragment Shadow, TDSW, Ginza Sony Park, 2020
- Parallel Eyes Workshop, Miraikan, Tokyo, 2018
- Parallel Eyes Workshop / Parasight Seek Workshop, YCAM Yamaguchi, 2015
- We-Coupling!: Designing New Forms of Embodied Interpersonal Connection, TEI 2017

Media & Features

- **Sony Group Brand Video 2026** — Fragment Shadow featured, April 2026
- Featured in **Nature Careers** — “Can creativity in science be learnt?”, August 2025
- Featured in **FM Okinawa** — Cybernetic Humanity Studio, December 2024
- **Manga inspired by research** — Project NeuWorld, December 2024
- Featured on **SIGGRAPH Blog** — “Unveiling the Illusion: Self-Other Identity with Facial Morphing”, March 2024
- **OIST Press Release** — “Morphing facial technology sheds light on the boundaries of self-recognition”, August 2024

Last updated: July 2026