Garimagai Borjigin

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Research Interests

autostereoscopic displays, super-multiview displays, integral volumetric imaging, virtual/augmented reality (VR/AR)

Education & Employment

Present		**Visiting scholar, University of Central Florida**, CREOL, College of Optics and Photonics, Florida, USA
Present	|	**Postdoctoral fellow, University of Tsukuba**, Faculty of Engineering, Information and Systems, Ibaraki, Japan
2022	|	**Ph.D. in Engineering, University of Tsukuba**, Doctoral Program in Intelligent and Mechanical Interaction Systems, Graduate School of Science and Technology, Ibaraki, Japan
2020	|	**Master in Engineering, University of Tsukuba**, Master's Program in Intelligent Interaction Technologies, Graduate School of Systems and Information Engineering Technology, Ibaraki, Japan
2016	|	**Service engineer, Beijing-Fanuc Mechatronics CO., LTD.**, Beijing, China
2013	|	**Bachelor in Engineering, Beijing Institute of Technology**, Electrical Engineering & Automation, School of Automation, Beijing, China

Publications

Reviewed Journal Papers:

1) **Viewing zone expansion of a dual-viewer autostereoscopic display with inclined interleaved linear Fresnel lens arrays and a time-division quadruplexing directional backlight**
   Optics Express, 31(11):17321-17330, 2023.
   Garimagai Borjigin and Hideki Kakeya
2) **Backlight System Using an Interleaved Fresnel Lens Array that Attains a Uniform Luminance and Two-dimensional Directional Light Control**
   Optics Letters, 47(2):301-304, 2022.
   Garimagai Borjigin and Hideki Kakeya

3) **Autostereoscopic Display for Multiviewers Positioned at Different Distances Using Time-multiplexed Layered Directional Backlight**
   Applied Optics, 60(12):3353-3357, 2021.
   Garimagai Borjigin and Hideki Kakeya
4) **Autostereoscopic Displays with Time Multiplexed Directional Backlight Using Curved Lens Arrays**
   ITE Transactions on MTA, 9(1): 80–85, 2021.
   Garimagai Borjigin and Hideki Kakeya

Reviewed Conference Proceedings:

1) **Coarse Integral Imaging Displays with Interleaved Fresnel Lenses**
   SID Display Week, SID Symposium Digest of Technical Papers, 36.2, 2023.5.
   Garimagai Borjigin and Hideki Kakeya
2) **Autostereoscopic Display for Two Viewers Providing Images Specific to Each Viewpoint**
   SID Display Week, SID Symposium Digest of Technical Papers, 1286-1289, 2022.5.
   Garimagai Borjigin and Hideki Kakeya
3) **Autostereoscopic Display with Time-Multiplexed Directional Backlight Using a Novel Linear Fresnel Lens Array [🏆IDW'20 Best Paper Award]**
   International Display Workshops, Proceedings of IDW'20, 482-485, 2020.12.
   Garimagai Borjigin and Hideki Kakeya
4) **Autostereoscopic Display with a Deep Viewing Zone Using Time-Multiplexed Directional Backlight**
   SID Display Week, SID Symposium Digest of Technical Papers, 51(1): 1615-1618, 2020.6.
   Garimagai Borjigin and Hideki Kakeya
5) **Autostereoscopic Display with Time-Multiplexed Directional Backlight Using a Curved Lens Array**
   International Display Workshops, Proceedings of IDW'19, 3DSA5/3D5-4, 2019.12.
   Garimagai Borjigin and Hideki Kakeya
6) **An autostereoscopic Display with Time-multiplexed Directional Backlight Using a Decentered Lens Array**
   Digital Holography and Three-Dimensional Imaging, W2A.2, 2019.5.
   Garimagai Borjigin and Hideki Kakeya

Nonreviewed Reviewed Proceedings:

1) **Evaluation of High Resolution Time-multiplexed Autostereoscopy Providing Two Viewers with Images Specific to Each Viewpoint**
   Technical Group on Three-Dimensional Media Technology (ITE-3DMT), 2022.10.
   Garimagai Borjigin and Hideki Kakeya
2) **Performance Improvement of Focal Accommodation Induction in Super-Multiview Display [🏆 ITE Student Encouragement Award]**
   Three-Dimensional Media Technology (ITE Japan), 2022.3.
   Garimagai Borjigin, Akira Nagai and Hideki Kakeya

3) **Autostereoscopic Display for Two Viewers Providing Images Specific to Each Viewpoint**
   ITE Winter Annual Convention, 2021.12.
   Garimagai Borjigin and Hideki Kakeya
4) **An autostereoscopic Display with Time Division Multiplexing Directional Backlight Using a Decentered Lens Array [🏆 ITE Student Presentation Award]**
   ITE Winter Annual Convention, 2018.12.
   Garimagai Borjigin and Hideki Kakeya

Grants & Fellowships

1) Research Fellowship for Young Scientists (PD) | $80k
   Japan Society for the Promotion of Science | 2022.04 – 2024.03

Honors & Awards

08/2022		Student Encouragement Award (Technical Group on Three-Dimensional Image Technology, ITE-3DMT)
03/2022		Dean Award for Academic Excellence (IMIS, University of Tsukuba)
03/2020		The Department Award for Academic Excellence (IIT, University of Tsukuba)
03/2020		Award for Excellent Master's Thesis (IIT, University of Tsukuba)
12/2020		IDW ‘20 Best Paper Award
08/2019		Student Presentation Award (ITE Winter Annual Convention 2018)

Languages

Mandarin, Japanese, English, Mongolian

Skills

Programming (C++, C#, OpenGL)
Hardware (Arduino)
Software (Unity, Blender, Matlab, Zemax)
Digital fabrication (CAD, 3D printing)