Dr. Shohei Mori

Position Postdoctoral Researcher (University Project Assistant),
Institute of Computer Graphics and Vision, Graz University of Technology
Guest Lecture (Global),
Graduate School of Science and Technology, Keio University

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Education

2016 Doctor of Engineering, Graduate School of Information Science and Engineering, Ritsumeikan University, Japan (Supervision: Prof. Asako Kimura, Referee: Prof. Satoshi Tanaka, Referee: Prof. Haruo Noma)

2013 Master of Engineering, Graduate School of Information Science and Engineering, Ritsumeikan University, Japan (Supervision: Prof. Hideyuki Tamura)

2011 Bachelor of Science, College of Information Science and Engineering, Ritsumeikan University, Japan (Supervision: Prof. Hideyuki Tamura.)

Professional

Academic

10/2018–present **Postdoctoral Researcher (University Project Assistant)**, Institute of Computer Graphics and Vision, Graz University of Technology, Austria

04/2021–03/2022 **Guest Lecture (Global)**, Graduate School of Science and Technology, Keio University, Japan

08/2017–09/2018 **Guest Researcher**, Institute of Computer Graphics and Vision, Graz University of Technology, Austria

04/2016–09/2018 **Visiting Researcher (JSPS PD)**, Dept. of Information and Computer Science, Keio University, Japan

04/2013–03/2016 **Research Fellow (JSPS DC-1)**, Graduate School of Information Science and Engineering, Ritsumeikan University, Japan

Organization

07/2016–present **Support Member**, ISO/IEC JTC 1/SC 24/WG 9 (Augmented reality continuum concepts and reference model)

04/2015–present **Support Member**, TrakMark (Benchmark test schemes for AR/MR geometric registration and tracking methods)

04/2020–present **Academic Journal Committee**, The Virtual Reality Society of Japan

07/2016–03/2020 **Newsletter Committee**, The Virtual Reality Society of Japan

04/2016–03/2019 **Secretary**, Technical Committee on Plenoptic Time-Space Technology

Awards and Scholarships

2020 Best Paper Award at IEEE Workshop KELVAR

2016 Reading Group Competition Award at ICCVSS. For Reading Group 1

2015 Best Demo Award at IEEE ISMAR

2014, 2015 Best Presentation Award at KJMR

2011 Ritsumeikan University Saionji Graduate School Encouragement Scholarship (For the top graduate)

2008–2010 Ritsumeikan University Saionji Ikuei Scholarship (For the top three high achievers)

2009 Dean of College of Information Science and Engineering Education Award, Ritsumeikan University Parents Association of Student Education Assistance

2007, 2008 College of Information Science and Engineering Education Award, Ritsumeikan University Parents Association of Student Education Assistance

Service

2021 International Program Committee Member, IEEE Virtual Reality (VR)

International Program Committee Member, IEEE Int. Symp. on Mixed and Augmented Reality (ISMAR)

2020 Science and Technology Program Committee (Europe), IEEE Int. Symp. on Mixed and Augmented Reality (ISMAR)

Doctoral Consortium Co-Chair, IEEE Int. Symp. on Mixed and Augmented Reality (ISMAR)

International Program Committee Member, Int. ACM Conf. on 3D Web Technology

2019 International Program Committee Member (Conference Papers), IEEE Virtual Reality (VR)

Web Co-Chair, IEEE Virtual Reality (VR)

2018 Demo Co-Chair, IEEE Int. Symposium on Augmented and Mixed Reality (ISMAR)

2017 International Program Committee Member, Int. Conf. on Artificial Reality and Telexistence & Eurographics Symposium on Virtual Environments (ICAT-EGVE)

General Chair, Highly Diverse Cameras and Displays for Mixed and Augmented Reality (HDCD4MAR)

Publication Co-Chair, Annual Conf. of the Virtual Reality Society of Japan

Local Arrangement Chair, Plenoptic Time-Space Technology Symposium

2016 Workshop Organizing Chair, Int. Workshop on Diminished Reality as Challenging Issue in Mixed and Augmented Reality (IWDR)

Invited Talks

1 **Augmented Visualization: Observing as Desire** Shohei Mori and Hideo Saito, Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (**APSIPA ASC**), 13/12/2017

2 **Augmented and Diminished Reality: Computational Imaging of Existence and Non-Existence** Shohei Mori, Int. Display Workshop (**IDW**), 8/12/2017

Tutorials

1 **Rendering and Visualization in Mixed Reality** Markus, Tatzgern, Shohei Mori, Christoph Ebner, David Mandl, Kasper Ladefoged, Peter Mohr, and Denis Kalkofen, Eurographics 2021, 4/5/2021

2 **Diminished Reality -History, New Definition, and Recent Progress-** Shohei Mori, Diminished Reality Tutorial in IEEE ISMAR 2014, 9/9/2014

Books

Chapters

1 Hideaki Uchiyama, Takafumi Taketomi, Sei Ikeda, and Shohei Mori. *Springer International Publishing*, Basics and Advances in Monocular vSLAM. Smart Sensors and Systems: Technology Advancement and Application Demonstrations, pp. 93–104 (2020)

Japanese Translation

2 Michael Beyeler (2017). *Packt Publishing*, Machine Learning for OpenCV: Intelligent Image Processing with Python. Translated by Sei Ikeda, Yuki Uranishi, Yuta Nakajima, Shohei Mori, Hirotake Yamazoe, and Goshiro Yamamoto, Machine Learning Programming Using OpenCV and Python (in Japanese),*Mynavi Publishing Corporation* (2018)

3 Dieter Schmalstieg and Tobias Höllerer (2016). *Addison Wesley*, Augmented Reality: Principles and Practice. Translated by Sei Ikeda, Ryosuke Ichikari, Mai Otsuki, Norihiko Kawai, Nobuchika Sakata, Takafumi Taketomi, Yuichiro Fujimoto, Shohei Mori, and Goshiro Yamamoto, Textbook of Augmented Reality (in Japanese), *Mynavi Publishing Corporation* (2018)

Peer Reviewed Publications - Last 5 Years

1 **Neural Cameras: Learning Camera Characteristics for Coherent Mixed Reality Rendering** David Mandl, Peter Mohr, Tobias Langlotz, Christoph Ebner, Shohei Mori, Stefanie Zollmann, Peter Roth, and Denis Kalkofen IEEE Int. Symp. on Mixed and Augmented Reality, 2020 (To Appear)

2 **Visualization Techniques in Augmented Reality: A Taxonomy, Methods and Patterns** Stefanie Zollmann, Raphael Grasset, Tobias Langlotz, Wei Hong Lo, Shohei Mori, and Holger Regenbrecht IEEE Transactions on Visualisation and Computer Graphics (**TVCG**), Vol. 27, Issue 9, 2020

3 **InpaintFusion: Incremental RGB-D Inpainting for 3D Scenes** Shohei Mori, Okan Erat, Wolfgang Broll, Hideo Saito, Dieter Schmalstieg, and Denis Kalkofen IEEE Trans. on Visualisation and Computer Graphics (**TVCG**), Vol. 26, Issue 10, 2020

4 **Video-Annotated Augmented Reality Assembly Tutorials** Masahiro Yamaguchi, Shohei Mori, Peter Mohr, Markus Tatzgern, Ana Stanescu, Hideo Saito, and Denis Kalkofen Proc. ACM Symp. on User Interface Software and Technology (**UIST**), 2020

5 **Global-Map-Registered Local Visual Odometry Using On-the-Fly Pose Graph Updates** Masahiro Yamaguchi, Shohei Mori, Hideo Saito, Shoji Yachida, and Takashi Shibata Proc. Int. Conf. on Augmented Reality, Virtual Reality, and Computer Graphics (**SALENTO AVR**), 2020

6 **Mixed Reality Light Fields for Interactive Remote Assistance** Peter Mohr, Shohei Mori, Tobias Langlotz, Bruce H. Thomas, Dieter Schmalstieg, and Denis Kalkofen, ACM Conference on Human Factors in Computing Systems (**CHI**), 2020

7 **Tools for Teaching Mining Students in Virtual Reality based on 360° Video Experiences** Denis Kalkofen, Shohei Mori, Tobias Ladinig, Lea Daling, Anas Abdelrazeq, Markus Ebner, Manuel Ortega, Susanne Feiel, Sebastian Gabl, Taras Shepel, James Tibbett, Teemu H. Laine, Michael Hitch, Carsten Drebenstedt, and Peter Mose, IEEE VR Workshop on K-12+ Embodied Learning through Virtual & Augmented Reality (**KELVAR**), 2020

7 **Image-based Center of Mass Estimation of the Human Body via 3D Shape and Kinematic Structure** Tomoya Kaichi, Shohei Mori, Hideo Saito, Kosuke Takahashi, Dan Mikami, Mariko Isogawa, and Yoshinori Kusachi, Sports Engineering, 2019

8 **Removing Fences from Sweep Motion Videos Using Global 3D Reconstruction and Fence-aware Light Field Rendering** Chanya Lueangwattana, Shohei Mori, and Hideo Saito, Computational Visual Media (**CVM**), 2018

9 **An Overview of Augmented Visualization: Observing the Real World as Desired** Shohei Mori and Hideo Saito, APSIPA Transactions on Signal and Information Processing (**ATSIP**), 2018

10 **Superimposing Thermal-Infrared Data on 3D Structure Reconstructed by RGB Visual Odometry** Masahiro Yamaguchi, Trong-Phuc Truong, Shohei Mori, Vincent Nozick, Hideo Saito, Shoji Yachida, and Hideaki Sato, IEICE Transactions on Information and Systems, 2018

11 **Perceived Weight of a Rod under Augmented and Diminished Reality Visual Effects** Satoshi Hashiguchi, Shohei Mori, Miho Tanaka, Fumihisa Shibata, and Asako Kimura, The ACM Symposium on Virtual Reality Software and Technology (**VRST'18**), 2018

12 **Diminishing Fence from Sweep Image Sequences Using Structure from Motion and Light Field Rendering** Chanya Lueangwattana, Shohei Mori, and Hideo Saito, Asia Pacific Workshop on Mixed and Augmented Reality (**APMAR'18**), 2018

13 **BrightView: Increasing Perceived Brightness of Optical See-Through Head-Mounted Displays Through Unnoticeable Incident Light Reduction** Shohei Mori, Sei Ikeda, Alexander Plopski, and Christian Sandor IEEE Virtual Reality (**VR'18**), 2018

14 **A Refocus-Interface for Diminished Reality Work Area Visualization** Momoko Maezawa, Shohei Mori, and Hideo Saito, Stereoscopic Displays and Applications at IS&T Electronic Imaging Symposium (**SD&A'18**), 2018

15 **Multi-view Surface Inspection Using a Rotating Table** Tomoya Kaichi, Shohei Mori, Hideo Saito, Junichi Sugano, and Hideyuki Adachi, Intelligent Robotics and Industrial Applications Using Computer Vision at IS&T Electronic Imaging (**IRIACV'18**), 2018

16 **3D PixMix: Image Inpainting in 3D Environment** Shohei Mori, Jan Herling, Wolfgang Broll, Norihiko Kawai, Hideo Saito, Dieter Schmalstieg, and Denis Kalkofen, Poster at IEEE International Symposium on Mixed and Augmented Reality (**ISMAR'18**), 2018

17 **Estimation of Center of Mass for Sports Scene Using Weighted Visual Hull** Tomoya Kaichi, Shohei Mori, Hideo Saito, Kosuke Takahashi, Dan Mikami, Mariko Isogawa, and Hideaki Kimata, IEEE Conference on Computer Vision and Pattern Recognition Workshops (**CVPRW**), 2018

18 **A Work Area Visualization by Multi-view Camera-based Diminished Reality** Shohei Mori, Momoko Maezawa, and Hideo Saito, MDPI Transactions on Multimodal Technologies and Interaction, 2017

19 **A Survey of Diminished Reality: Techniques for Visually Concealing, Eliminating, and Seeing Through Real Objects** Shohei Mori, Sei Ikeda, and Hideo Saito, IPSJ Trans. on Computer Vision and Applications (**CVA**), 2017

20 **Reference Framework on vSRT-method Benchmarking for MAR** Ryosuke Ichikari, Takeshi Kurata, Koji Makita, Takefumi Taketomi, Hideaki Uchiyama, Tomotsugu Kondo, Shohei Mori, and Fumihisa Shibata, International Conference on Artificial Reality and Telexistence & Eurographics Symposium on Virtual Environments (**ICAT-EGVE'17**), 2017

21 **Registration of RGB and Thermal Point Clouds Generated by Structure From Motion** Trong Phuc Truong, Masahiro Yamaguchi, Shohei Mori, Vincent Nozick, and Hideo Saito, IEEE International Conference on Computer Vision Workshops (**ICCVW**), 2017

22 **Semantic Object Selection and Detection for Diminished Reality based on SLAM with Viewpoint Class** Yoshikatsu Nakajima, Shohei Mori, and Hideo Saito, IEEE International Symposium on Mixed and Augmented Reality (**ISMAR-Adjunct**), 2017

23 **An Instant See-Through Vision System Using a Wide Field-of-View Camera and a 3D-Lidar** Kei Oishi, Shohei Mori, and Hideo Saito, IEEE International Symposium on Mixed and Augmented Reality (**ISMAR-Adjunct**), 2017

24 **A Multi-view Camera-based Diminished Reality for Work Area Visualization** Momoko Maezawa, Shohei Mori, and Hideo Saito, Asia Pacific Workshop on Mixed and Augmented Reality (**APMAR'17**), 2017

25 **Influence on Weight Sensation Caused by Visual Diminishing of Real Objects** Miho Tanaka, Ayushi Misra, Kana Oshima, Satoshi Hashiguchi, Shohei Mori, Fumihisa Shibata, Asako Kimura, and Hideyuki Tamura, Asia Pacific Workshop on Mixed and Augmented Reality (**APMAR'17**), 2017

26 **Empowering a POB-Diminished Reality Method to Handle Rigid Moving Objects with Real-time Observation** Masaru Horita, Daiki Sakauchi, Shohei Mori, Fumihisa Shibata, Asako Kimura, and Hideyuki Tamura, Asia Pacific Workshop on Mixed and Augmented Reality (**APMAR'17**), 2017

27 **BrightView: Increasing Perceived Brightness in Optical See-through Head-mounted Displays** Shohei Mori, Sei Ikeda, Christian Sandor, and Alexander Plopski, Poster at IEEE International Symposium on Mixed and Augmented Reality (**ISMAR'17**), 2017

28 **Further Experiments and Considerations on Weight Perception Caused by Visual Diminishing of Real Objects** Miho Tanaka, Ayushi Misra, Kana Oshima, Satoshi Hashiguchi, Shohei Mori, Fumihisa Shibata, Asako Kimura, and Hideyuki Tamura, Poster at IEEE International Symposium on Mixed and Augmented Reality (**ISMAR'17**), 2017

29 **Background Image Registration as a Post-processing Technique in Diminished Reality Rendering Procedures** Shohei Mori, Jianing Qie, Sei Ikeda, Fumihisa Shibata, Asako Kimura, and Hideyuki Tamura, Poster at IEEE International Symposium on Mixed and Augmented Reality (**ISMAR'17**), 2017

30 **Design and Implementation of a Common Dataset for Comparison and Evaluation of Diminished Reality Methods** Taiki Morozumi, Shohei Mori, Sei Ikeda, Fumihisa Shibata, Asako Kimura, and Hideyuki Tamura, Poster at IEEE International Symposium on Mixed and Augmented Reality (**ISMAR'17**), 2017

31 **Diminished hand: A Diminished Reality-based Work Area Visualization** Shohei Mori, Momoko Maezawa, Naoto Ienaga, and Hideo Saito, Demo at IEEE Virtual Reality (**VR'17**), 2017