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Education

B.S. Information Science, The University of Tokyo, 1999.

M.S. Complexity Science and Engineering, The University of Tokyo, 2001.

Ph.D. Complexity Science and Engineering, The University of Tokyo, 2004,
Supervisor : Tomoyuki Nishita.

Employment

Assistant Professor, Wakayama University 2004–2007.

Lecturer, Wakayama University 2007–2009.

Associate Professor, Wakayama University 2009–present.

Selected Publications¹

Journal Articles (ACM TOG, CGF)

K. Nabata, **K. Iwasaki**, Y. Dobashi, T. Nishita, An Error Estimation Framework for Many-light Rendering, *Computer Graphics Forum*, Vol. xx, No. xx, pp. xx-xx, 2016, to appear.

K. Iwasaki, K. Mizutani, Y. Dobashi, T. Nishita, Interactive Cloth Rendering of Microcylinder Appearance Model under Environment Lighting, *Computer Graphics Forum (Eurographics 2014)*, Vol. 33, No. 2, pp. 333-340, 2014.

Y. Yue, **K. Iwasaki**, B.-Y. Chen, Y. Dobashi, T. Nishita, *Poisson-based Continuous Surface Generation for Goal-based Caustics*, *ACM Transactions on Graphics*, Vol. 33, No. 3, pp. 31:1-31:7, 2014.

K. Iwasaki, Y. Dobashi, T. Nishita, *Interactive Bi-scale Editing of Highly Glossy Materials*, *ACM Transactions on Graphics (SIGGRAPH ASIA 2012)*, Vol. 31, No. 6, pp. 144:1-144:7, 2012.

K. Iwasaki, W. Furuya, Y. Dobashi, T. Nishita, *Real-time Rendering of Dynamic Scenes under All-frequency Lighting using Integral Spherical Gaussian*, *Computer Graphics Forum (Eurographics 2012)*, Vol. 31, No. 2, pp. 727-734, 2012.

Y. Yue, **K. Iwasaki**, B.Y. Chen, Y. Dobashi, T. Nishita, *Pixel Art with Refracted Light by Rearrangeable Sticks*, *Computer Graphics Forum (Eurographics 2012)*, Vol. 31, No. 2, pp. 575-582, 2012.

Y. Yue, **K. Iwasaki**, B.-Y. Chen, Y. Dobashi, T. Nishita, *Toward Optimal Space Partitioning for Unbiased, Adaptive Free Path Sampling of Inhomogeneous Participating Media*, *Computer Graphics Forum*, Vol. 30, No. 7, pp. 1911-1919, 2011.

¹complete publication list is available upon request

Y. Yue, **K. Iwasaki**, B.-Y. Chen, Y. Dobashi, T. Nishita, *Unbiased, Adaptive Stochastic Sampling for Rendering Inhomogeneous Participating Media*, ACM Transactions on Graphics, Vol. 29, No. 5 (Proc. SIGGRAPH Asia 2010), pp. 177:1-177:7, 2010.

K. Iwasaki, H. Uchida, Y. Dobashi, T. Nishita, *Fast Particle-based Visual Simulation of Ice Melting*, Computer Graphics Forum, Vol. 29, No. 7, pp. 2215-2223, 2010.

Y. Yue, **K. Iwasaki**, B.Y. Chen, Y. Dobashi, T. Nishita, *Interactive Rendering of Interior Scenes with Dynamic Environment Illumination*, Computer Graphics Forum, Vol. 28, No. 7, pp. 1935-1944, 2009.

K. Iwasaki, Y. Dobashi, T. Nishita, *A Fast Rendering Method for Refractive and Reflective Caustics due to Water Surfaces*, Computer Graphics Forum (Eurographics 2003), Vol. 22, No. 3, pp. 601-609, 2003.

K. Iwasaki, Y. Dobashi, T. Nishita, *An Efficient Method for Rendering Underwater Optical Effects using Graphics hardware*, Computer Graphics Forum, Vol. 21, No. 4, pp. 701-711, 2002.

Journal Articles (TVC,WSCG)

S. Sato, Y. Dobashi, Y. Yue, **K. Iwasaki**, T. Nishita, *Incompressibility-Preserving Deformation for Fluid Flows Using Vector Potentials*, The Visual Computer (Proc. of CGI 2015), Vol. 31, No. 6-8, pp. 959-965, 2015.

H. Yoshida, K. Nabata, **K. Iwasaki**, Y. Dobashi, T. Nishita, *Adaptive Importance Caching for Many-light Rendering*, Journal of WSCG, Vol. 23, No. 1, pp. 65-72, 2015.

K. Iwasaki, Y. Dobashi, F. Yoshimoto, T. Nishita, *GPU-based Rendering of Point-Sampled Water Surfaces*, The Visual Computer, Vol. 24, No. 2, pp. 77-86, 2008.

N. Max, G. Schussman, R. Miyazaki, **K. Iwasaki**, T. Nishita, *Diffusion and Multiple Anisotropic Scattering for Global Illumination in Clouds*, Journal of WSCG, Vol. 12, No. 2, pp. 277-284, 2004.

Proceedings (HPG, EGSR, PG, EG short paper, SIGGRAPH ASIA Technical Brief/Sketch)

Y. Dobashi, Y. Shibukawa, M. Tada, S. Sato, **K. Iwasaki**, T. Yamamoto, *An Interactive Editing System for Visual Appearances of Fire and Explosions*, EUROGRAPHICS 2015 short paper, pp. 49-52, 2015.

S. Sato, Y. Dobashi, **K. Iwasaki**, H. Ochiai, T. Yamamoto, T. Nishita, *Deformation of 2D Flow Fields Using Stream Functions*, SIGGRAPH ASIA Technical Brief 2014, Article No. 4, 2014.

S. Sato, Y. Dobashi, T. Yamamoto, **K. Iwasaki**, H. Ochiai, *Generating Flow Fields Variations by Modulating Amplitude and Resizing Simulation Space*, SIGGRAPH ASIA 2013 Technical Briefs, 2013.

K. Nabata, **K. Iwasaki**, Y. Dobashi, T. Nishita, *Efficient Divide-And-Conquer Ray Tracing using Ray Sampling*, High Performance Graphics 2013, pp. 129-135, 2013.

T. Nishino, **K. Iwasaki**, Y. Dobashi, T. Nishita, *Visual Simulation of Freezing Ice with Air Bubbles*, SIGGRAPH ASIA 2012, Technical Brief Article No. 1, 2012.

W. Furuya, **K. Iwasaki**, Y. Dobashi, T. Nishita, *An Efficient Calculation Method of Spherical Signed Distance Functions for Real-time Rendering*, SIGGRAPH ASIA 2011 Technical Sketches, 2011.

Y. Yue, **K. Iwasaki**, Y. Dobashi, T. Nishita, *Global Illumination for Interactive Lighting Design using Light Paths Precomputation and Hierarchical Histogram Estimation*, Proc. of Pacific Graphics 2007, pp.87-96, 2007.

Y. Yue, **K. Iwasaki**, Y. Dobashi, T. Nishita, *Global Illumination using Precomputed Light Paths for Interactive Light Condition Manipulation*, SIGGRAPH2007 sketch, 2007.

K. Iwasaki, Y. Dobashi, F. Yoshimoto, T. Nishita, *Precomputed Radiance Transfer for Dynamic Scenes Taking into Account Light Interreflection*, Proc. of Eurographics Symposium on Rendering 2007, pp.35-44, 2007.

K. Iwasaki, Y. Dobashi, N. Tamura, H. Johan, F. Yoshimoto, T. Nishita, *Precomputed Radiance Transfer for Dynamic Scenes with Diffuse Interreflection*, SIGGRAPH2006 sketch, 2006.

Computer Skills

C++, C, OpenGL, CUDA, GLSL, Matlab, Java

Teaching

Algorithm Seminar II, 2004-present, a seminar about Numerical Analysis using MATLAB

Visual Information Seminar, 2007-present, a seminar about Computer Graphics using OpenGL

Advanced Visual Computing, 2007-present, a lecture about Computer Graphics, especially rendering

Funding (PI)

April 2016 - March 2019, Challenging Exploratory Research, *Cloud Modeling from Photographs*, JPY 2.6M

April 2013 - March 2015, Grant-in-Aid for Scientific Research on Innovative Areas, *Appearance Editing and Parameters for Multi-scale Materials*, JPY 10.0M

April 2012 - March 2015, Grant-in-Aid for Encouragement of Young Scientists (B), *Real-time Rendering of Dynamic Scenes with All-frequency Lighting and BRDF*, JPY 4.2M

April 2009 - March 2011, Grant-in-Aid for Encouragement of Young Scientists (B), *Efficient and realistic rendering of dynamic scenes with dynamic BRDFs*, JPY 3.5M

April 2007 - March 2009, Grant-in-Aid for Encouragement of Young Scientists (B) *Fast, Realistic Rendering of Dynamic Scenes with Global Illumination*, JPY 3.0M

April 2005 - March 2007, Grant-in-Aid for Encouragement of Young Scientists (B) *Real-time Rendering of Transparent Objects considering Optical Property and Illumination*, JPY 3.0M

Academic Activities

Program Committee

Pacific Graphics 2016

Reviewer

SIGGRAPH, SIGGRAPH ASIA, Eurographics, Pacific Graphics, TVCG, IEEE CG&A, TVC, GI