Takashi Ijiri

Lecturer,
Media Sensing Lab., Ritsumeikan Univ.

Ph.D
Information Science and Technology

Contact information

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Education

4 / 2006 – 3 / 2009   Ph.D in Information Science and Technology, the University of Tokyo.

4 / 2004 – 3 / 2006   MS in Information Science and Technology, the University of Tokyo.

4 / 2000 – 3 / 2004   BS in Information Science, Tokyo Institute of Technology.

Research Interests

I am interested in computer graphics, image processing, and user interface in general, especially in interactive 3D modeling and interactive image segmentation. My current subject is easy-to-use interactive techniques for modeling 3D biological objects such as plants, cells, or organs.

Work Experience

4 / 2015 – present   Full time lecturer, Ritsumeikan University

4 / 2015 – present   Visiting Researcher, RIKEN

9 / 2016 – present   Visiting Researcher, National Cerebral and Cardiovascular Center.

9 / 2014 – 3 / 2016   Visiting Researcher, National Cerebral and Cardiovascular Center.

4 / 2013 – 3 / 2016   Visiting Associate Professor, Hokkaido University

4 / 2012 – 3 / 2015   Special Postdoctoral Researcher, RIKEN

4 / 2009 – 3 / 2012   Researcher, RIKEN

5 / 2007 – 8 / 2007   Student intern, Adobe Systems Incorporated

Programming Experiences

Computer languages: C/C++, OpenGL, Java, Java 3D, and Scheme.

Plat forms: Windows and Unix.

Language Skills

Japanese (native) and English (10 yeas of study).

Publications

Journals

M. Morita, T. Tawara, M. Nishimura, S. Yoshizawa, B. Chou, I. Kuroki, **T. Ijiri**, Y. Tsujimura, R. Himeno, and H. Yokota, **Communication Platform for Image Analysis and Sharing in Biology**. *International Journal of Networking and Computing*, 4(2), 369-391, 2014.

D. Ueno, K. Makiyama, H. Yamanaka, **T. Ijiri**, H. Yokota and Y. Kubota: Prediction of open urinary tract in laparoscopic partial nephrectomy by virtual resection plane visualization. *BMC Urology*, 14(47), 2014.

T. Ijiri, S. Yoshizawa, H. Yokota, T. Igarashi. **Flower Modeling via X-ray Computed Tomography**, ACM *Transactions on Graphics*, 33(4), 2014. (SIGGRAPH 2014).

T. Ijiri, S. Yoshizawa, Y. Sato, M. Ito, H. Yokota. **Bilateral Hermite Radial Basis Functions for Contour-based Volume Segmentation.** *Computer Graphics Forum*, 32(2), 123-132, 2013. (EUROGRAPHICS 2013)

T. Ijiri, T. T. Ashihara, N. Umetani, T. Igarashi, R. Haraguchi, H. Yokota, K. Nakazawa. **A Kinematic Approach for Efficient and Robust Simulation of the Cardiac Beating Motion.** *PLoS ONE* 7(5), 2012.

T. Ijiri, H. Yokota. **Contour-based Interface for Refining Volume Segmentation**. *Computer Graphics Forum*, 29(7), 2153-2160, 2010. (Pacific Graphics 2010).

T. Ijiri, K. Takayama, H. Yokota, T. Igarashi. **ProcDef: Local-to-global Deformation for Skeleton-free Character Animation**. *Computer Graphics Forum*, 28(7), 1821-1828, 2009. (Pacific Graphics 2009).

T. Ijiri, R. Měch, G. Miller, T. Igarashi. **An Example-based Procedural System for Element Arrangement**. *Computer Graphics Forum*, 27(2), 429-436, 2008. (EUROGRAPHICS 2008)

T. Ijiri, T. Ashihara, T. Yamaguchi, K. Takayama, T. Igarashi, T. Shimada, T. Namba, R. Haraguchi, K. Nakazawa. **A procedural method for modeling the Purkinje fibers of the heart**. *The Journal of Physiological Science*, 58(7), 481-486, 2008.

K. Takayama, T. Ashihara, **T. Ijiri**, T. Igarashi, R. Haraguchi, K. Nakazawa, **A Sketch-Based Interface for Modeling Myocardial Fiber Orientation that Considers the Layered Structure of the Ventricles**. *The Journal of Physiological Sciences*, 58(7), 487-492, 2008.

K. Takayama, M. Okabe, **T. Ijiri**, T. Igarashi. **Lapped solid textures: filling a model with anisotropic textures**. *ACM Transactions on Graphics*, 27(3), 2008. (ACM SIGGRAPH 2008)

T. Ijiri, S. Owada, T. Igarashi. **Seamless Integration of Initial Sketching and Subsequent Detail Editing in Flower Modeling**. *Computer Graphics Forum*, 25(3), 617-624, 2006. (EUROGRAPHICD 2006)

T. Ijiri, S. Owada, M. Okabe, T. Igarashi, **Floral diagrams and inflorescences: Interactive flower**

modeling using botanical structural constraints. *ACM Transactions on Graphics*, 24(3), 720-726, 2005. (ACM SIGGRAPH 2005)

Refereed full papers (more than 3 pages)

H. Kataoka, **T. Ijiri**; J. White; A. Hirabayashi, **Acoustic Probing to Estimate Freshness of Tomato**, *Asia-Pacific Signal and Information Processing Association (APSIPA) 2016*, Jeju Korea, 13-16 Dec 2016.

R. Kawami; A. Hirabayashi; N. Tanaka; M. Shibata; **T. Ijiri**, **2-Dimensional High-Quality Reconstruction of Compressive Measurements of Phased Array Weather Radar**, *Asia-Pacific Signal and Information Processing Association (APSIPA) 2016*, Jeju Korea, 13-16 Dec 2016.

M. Shibata, N. Inamuro, **T. Ijiri**, and A. Hirabayashi, **High accuracy reconstruction algorithm for CS-MRI using SDMM**, *Asia-Pacific Signal and Information Processing Association (APSIPA) 2016*, Jeju Korea, 13-16 Dec 2016.

A, Hirabayashi, N. Nogami, **T. Ijiri**, L. Condat, **Sequential image completion for high-speed large-pixel number sensing**, *EUSIPCO 2016*, Posters, Budapest, Hungary, 29 Aug - 2 Sep 2016.

T. Kojima, **T. Ijiri**, H. Kataoka, J. White, A. Hirabayashi. **CogKnife: Food Recognition From Their Cutting Sounds**, *Proc. CEA2016: 8th Workshop on Multimedia for Cooking and Eating Activities (ICME 2016)*, Seattle WA, 15 Jul, 2016.

K. Nakashima, Y. Koyama, T. Igarashi, **T. Ijiri**, S. Inada, K. Nakazawa., **Interactive Deformation of Structurally Complex Heart Models Constructed from Medical Images**, *Eurographics 2016*, Short Papers, Lisbon, Portugal, 09-13 May, 2016.

M. Morita, T. Tawara, M. Nishimura, S. Yoshizawa, B. Chou, I. Kuroki, **T. Ijiri**, Y. Tsujimura, R. Himeno, and H. Yokota. **Biomedical Image Communication Platform**, In *Proc. of International Symposium on Computing and Networking*, 281-287, Matsuyama, Japan, 2013.

T. Ijiri, M. Yokoo, S. Kawabata, T. Igarashi. **Surface-based Growth Simulation for Opening Flowers**. In *Proc. Graphics Interface 2008*, 227-234. 2008. Michael A. J. Sweeney Award (best student paper award).

T. Ijiri, S. Owada, T. Igarashi. **Sketch L-System: Global Control of Tree Modeling Using Free-form Stroke**. In *Proc of the 6th International Symposium of SmartGraphics*, 138-146, 2006.

Other presentations

S. Pirk, B. Benes, O. Deussen, R. Mech, B. Chen. and **T. Ijiri**.: **Modeling Plant Life in Computer Graphics**, *SIGGRAPH 2016 courses*, Anaheim, USA, 24-28 July, 2016. (Refereed tutorial)

Y. Dobashi, **T. Ijiri**, H. Todo, K. Iwasaki, M. Okabe, S. Nishimura., **Measuring Microstructures Using Confocal Laser-Scanning Microscopy for Estimating Surface Roughness**. *SIGGRAPH 2016 Posters*, Anaheim, USA, 24-28 July, 2016.

Y. Sato, K. Akita, **T. Ijiri**, Y. Tsukada, M. Ito, H. Yokota, N. Saito. **The diversity of pelvic floor by MRI image analysis and histologic reevaluation of its anatomy**. *Asian Association of Clinical Anatomists*, Busan, Korea, November 3-4, 2012.

T. Ijiri, T. Ashihara, N. Umetani, T. Igarashi, R. Haraguchi, H. Yokota, K. Nakazawa, **An Efficient, Robust Framework For Simulating the Beating Heart**, *23rd Conference of the Society for Medical Innovation and Technology*, Tel Aviv, Israel, September 2011.

Y. Sato, **T. Ijiri**, T. Kobayashi, H. Yokota, M. Ito, **Semi-automatic Segmentation Tool for Anal Sphincter Muscles**, 23rd Conference of the Society for Medical Innovation and Technology, Tel Aviv, Israel, Sep,

2011.

M. Okabe, K. Takayama, **T. Ijiri**, T. Igarashi, **Light shower: a poor man's light stage built with an off-the-shelf umbrella and projector**, *ACM SIGGRAPH 2007 sketches*, San Diego, CA, USA, Aug, 2007.

T. Ijiri, K. Takayama, T. Igarashi, T. Ashihara, T. Namba, T. Yamaguchi, T. Shimada, R. Haraguchi, K. Nakazawa, **The use of L-system for modeling Purkinje fibers**. *The 2nd MEI International Symposium: The Worldwide Challenge to Physiome and Systems Biology*, 07-09 Dec, 2007.

T. Ijiri, T. Igarashi, S. Takahashi, E. Shibayama. **Sketch interface for 3D modeling of flowers**, *SIGGRAPH 2004 Sketches and Applications*, Los Angeles, CA, USA, Aug, 2004.

(and others in Japanese)

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講師,
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立命館大学

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学歴

2006/4/1 – 2009/3/31　東京大学大学院 情報理工学系研究科 コンピュータ科学専攻 博士課程

2004/4/1 – 2006/3/31　東京大学大学院 情報理工学系研究科 コンピュータ科学専攻 修士課程

2000/4/1 – 2004/3/31　東京工業大学 理学部(1類) 情報科学科

1996/4/1 – 1999/3/31　神奈川県立 新城高等学校 普通科

学位

2009/3/23　　博士(情報理工学), 東京大学大学院 情報理工学系研究科コンピュータ科学専攻

2006/3/23　　修士(情報理工学), 東京大学大学院 情報理工学系研究科コンピュータ科学専攻

職歴

2015/4/1 – 現職　　講師, 立命館大学 情報理工学部 メディア情報学科

2013/4/1 – 現職　　客員准教授, 北海道大学大学院工学院 人間機械システムデザイン専攻

2014/9/1 – 現職　　客員研究員, 国立循環器病研究センター研究所 研究情報基盤管理室

2015/4/1 – 現職　　客員研究員, 国立研究開発法人 理化学研究所・画像情報処理研究チーム

2013/4/1 – 2015/3/31　基礎科学特別研究員, (独)理化学研究所 光量子工学研究領域 エクストリームフォトニクス研究グループ, 画像情報処理研究チーム

2012/4/1 – 2013/3/31　基礎科学特別研究員, (独)理化学研究所, 基幹研究所, 先端技術基盤部門, 生物情報基盤構築チーム

2011/4/1 – 2012/3/31　研究員, (独)理化学研究所, VCADシステム研究プログラム, 生物基盤構築
チーム

2007/5 – 2007/8　　　Student intern, Adobe Systems Incorporated

Programming Experiences

Computer languages: C/C++, OpenGL, Java, Java 3D, and Scheme.

Plat forms: Windows and Unix.

Language Skills

Japanese (native) and English (10 yeas of study).