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## Masahiro Toyoura

Associate Professor  
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## Experience

January 2017 — **Associate Professor, University of Yamanashi**  
Graduate School of Computer Science and Engineering / Center for Higher Education

April 2009 — December 2016 **Assistant Professor, University of Yamanashi**  
Graduate School of Computer Science and Engineering  
Collaborate with : Professor Xiaoyang Mao

April 2008 — March 2009 **Visiting Researcher, UC Santa Barbara**  
Research on human hand manipulation for 3D virtual objects with random pattern gloves  
Advisor: Professor Matthew Turk

April 2007 — March 2009 **JSPS Research Fellow (DC2, PD), Kyoto University**  
Research on human hand manipulation for 3D virtual objects with random pattern gloves  
Advisor: Professor Michihiko Minoh

April 2005 — March 2007 **Research Assistant, Kyoto University**  
The 21st Century Center of Excellence Program

## Education

1. Ph.D. in Informatics, Kyoto University, 2008.  
3D Shape Reconstruction from Multiple Silhouettes for Objects in Rigid Motion  
(Advisor: Professor Michihiko Minoh)
2. M.S. in Informatics, Kyoto University, 2005.  
Silhouette Refining for the Volume Intersection Method with Random Pattern  
Backgrounds  
(Advisor: Professor Michihiko Minoh)

3. B.S. in Engineering, Kyoto University, 2003.  
An Accurate Shape Reconstruction Method by Integrating Visual Hulls in Time Sequences  
(Advisor: Professor Michihiko Minoh)

## **Professional and Scholarly Affiliations**

### **Associate Editor**

IPSJ (2013-2016), IIEEJ (2014-)  
IPSJ Young Researchers' Special Issue (2017,2015,2014), IEICE-ED CW Special Issue  
(2015,2014), IIEEJ VC Special Issue (2015,2014)

### **Steering committee member**

CGI 2017 Publication Chair (2017)  
IEVC 2017 Technical Program Committee Vice-Chair and Public Relations Vice-Chair (2017)  
IPSJ GCAD (Organizer 2014-, Committee member 2011-2013), IPSJ Young Researcher  
Committee (2014-)  
VC/GCAD-WS Steering Committee Member (2018,2017,2016,2015,2014)  
NICOGRAPH International Publication and Finance Chair (2016)  
Cyberworlds Publication and Finance Chair (2013)  
NICOGRAPH Steering Committee Member (2013)  
ACM VRST PC Member (2018)  
Cyberworlds PC Member (2018,2017,2016,2015,2014,2013)

### **Reviewer**

TRJ(2018,2017), TVC(2018,2017), C&G(2017), IEEE Multimedia (2015,2014), IEEE  
TIP(2017,2015), IEEE TVCG(2014), Pattern Recognition Letters (2012,2010,2009), IPSJ  
CVA(2011)  
IEICE(2017,2015,2014,2012), IIEEJ(2018,2015,2014,2013,2012), IPSJ(2018,2015,2014,2012),  
ITE(2017,2015), VRSJ(2017,2015), JAMIT(2014), ArtSci(2015), ISCIE(2013), IEEJ(2010)  
CGI(2017), ISMAR(2017,2016,2015,2014,2013,2012), NICOGRAPH International(2015),  
VRCAI(2015,2014), PacificVis(2014), ICPR(2014), IEVC(2017,2014),  
Cyberworlds(2018,2017,2016,2015,2014,2013), 3DIM(2009), PSIVT(2009), FG(2008)  
NICOGRAPH(2015,2014,2013), VC/GCAD-WS(2017,2016,2015,2014,2013,2012,2011),  
MIRU(2009)

### **Member**

IEEE(2006-), ACM (2014-, SIGGRAPH 2008-)  
IEICE(2003-), VRSJ(2004-), IPSJ(2011-), ArtSci(2013-), IIEEJ(2014-), JSET(2018-), JSISE(2018-)

## Awards and Honors

1. **IPSJ Yamashita SIG Research Award**  
**M. Toyoura**, T. Igarashi, S. Saito, T. Terada, X. Mao (2016, February) Multicolor fabric pattern generation from photograph, *IPSJ GCAD*, Article 1.
2. **IPSJ SIG Research Award**  
**M. Toyoura**, T. Igarashi, M. Shoji, X. Mao (2014, June) Pattern optimization of inter and intra regions for Jacquard fabric generation, *Symposium on Visual Computing and Graphics/CAD*, Article 11.
3. **Best Paper Award**  
**M. Toyoura**, T. Igarashi, M. Shoji, X. Mao (2013, November) Jacquard fabric pattern generation with extended dithering, *NICOGRAPH*, pp.9-16.
4. **Best Poster Award (FORUM8 Co.,Ltd.)**  
A. Sugiura, **M. Toyoura**, X. Mao (2013, October) Clickable Virtual Button in Real Space, *Cyberworlds*, pp.384, Poster.
5. **Best Poster Award**  
T. Sawada, **M. Toyoura**, X. Mao (2012, March) Eye-tracking data for automatic film comic generation, *Forum on Art and Science*.
6. **Honorable Mention Poster Award**  
T. Abe, **M. Toyoura**, X. Mao (2012, March) Sample-based painterly image generation using GIST, *Forum on Art and Science*.
7. **Honorable Mention Award on Poster Session**  
N. Abe, **M. Toyoura**, X. Mao (2011, August) Style Transferring Using GIST, *International Symposium on Non-photorealistic Animation and Rendering (NPAR)*. (Invited to SIGGRAPH Poster Session)

## Journal Articles

1. A. Sugiura, T. Kitama, **M. Toyoura**, X. Mao (2018, June) The use of augmented reality technology in medical specimen museum tours, *Anatomical Sciences Education*. (Accepted)
2. I. Mochizuki, **M. Toyoura**, X. Mao (2018, June) Visual Saliency Prediction for Images with Leading Line Structure, *The Visual Computer (Proc. CGI)*, Vol. 34, No. 6-8, pp. 1031-1041.
3. C. Xu, S. Fushimi, **M. Toyoura**, J. Xu, X. Mao (2018, March) Synthesizing Imagined Faces Based on Relevance Feedback, *Transactions on Computational Science*, Vol. 32, pp. 90-105.
4. H. Li, **M. Toyoura**, X. Mao (2018, March) Caricature Synthesis with Feature Deviation Matching under Example-Based Framework, *The Visual Computer*, pp. 1-14.
5. **M. Toyoura**, T. Tanaka, A. Sugiura, X. Mao (2017, December) Improving Eye Tracking Accuracy by Head Motion History, *IIEEJ Transactions on Image Electronics and Visual Computing*, Vol. 5, No. 2, pp. 92-98.
6. **M. Toyoura**, N. Abe, X. Mao (2017, November) Scene-Aware Style Transferring Using GIST, *Transactions on Computational Science*, Vol. 30, pp. 29-49.

7. T. Igarashi, **M. Toyoura**, X. Mao (2017, September) Dithering method for reproducing smoothly changing tones and fine details of natural images on woven fabric, *Textile Research Journal*, Article. 0040517517732087. (First online)
8. H. Li, **M. Toyoura**, K. Shimizu, W. Yang, X. Mao (2016, October) Retrieval of Clothing Images based on Relevance Feedback with Focus on Collar Designs, *The Visual Computer*, Vol. 32, No. 10, pp. 1351-1363.
9. W. Yang, **M. Toyoura**, J. Xu, F. Ohnuma, X. Mao (2016, March) Example-Based Caricature Generation with Exaggeration Control, *The Visual Computer*, Vol. 32, No. 3, pp. 383-392.
10. J. Xu, X. Mao, X. Jin, A. Jaffer, S. Lu, L. Li, **M. Toyoura** (2015, December) Hidden Message in a Deformation-based Texture, *The Visual Computer*, Vol. 31, No. 12, pp. 1653-1669.
11. T. Sawada, Y. Goto, **M. Toyoura**, X. Mao, J. Gyoba (2015, June) Saliency Map for Images with Leading Lines, *IEICE-JA*, Vol. J98-A, No. 6, pp. 446-449. (In Japanese)
12. **M. Toyoura**, H. Aruga, M. Turk, X. Mao (2014, September) Mono-Spectrum Marker: An AR Marker Robust to Image Blur and Defocus, *The Visual Computer*, Vol. 30, No. 9, pp. 1035-1044.
13. A. Sugiura, **M. Toyoura**, X. Mao, S. Nishiguchi (2014, September) Vision-based Natural Click Interface for Augmented Reality, *IEICE-D*, Vol. J97-D, No. 9, pp. 1426-1436. (In Japanese)
14. **M. Toyoura**, T. Igarashi, M. Shoji, X. Mao (2014, September) Constrained Image Binarization for Jacquard Fabric Pattern Generation, *The Journal of the Society for Art and Science*, Vol. 13, No. 3, pp. 124-133. (In Japanese)
15. M. Hata, **M. Toyoura**, X. Mao (2014, July) LIC Pencil Drawing Filter for Video, *The Journal of the Institute of Image Electronics Engineers of Japan*, Vol. 43, No. 3, pp. 338-347. (In Japanese)
16. **M. Toyoura**, K. Kashiwagi, X. Mao (2013, December) Development of Mono-glass for Providing Enhanced Depth Information for People Losing Sight in One Eye, *Transactions of the Virtual Reality Society of Japan*, Vol. 18, No. 4, pp. 475-486. (In Japanese)
17. T. Sawada, **M. Toyoura**, X. Mao (2013, September) Automatic Film Comic Generation Using iMap, *The Journal of the Institute of Image Electronics Engineers of Japan*, Vol. 42, No. 5, pp. 671-680. (In Japanese)
18. H. Seki, M. Toyoura, X. Mao, K. Aita (2013, April) Cell Segmentation with Texture Information, *IEICE-JD*, Vol. J96-D, No. 4, pp. 909-912. (In Japanese)
19. A. Sugiura, **M. Toyoura**, X. Mao (2013, March) Forensic CG Video Generation with Augmented Reality Technology, *The Journal of the Society for Art and Science*, Vol. 12, No. 1, pp. 57-67.
20. K. Yamada, Y. Yamashita, T. Maruyama, **M. Toyoura**, X. Mao, S. Takatsu, C. Sugawara (2012, December) Be-code: Information Embedding for Logo Images and Evaluation of Its Design, *IEICE-JA*, Vol. J95-A, No. 12, pp. 799-812. (In Japanese)
21. W. Yang, **M. Toyoura**, X. Mao (2012, December) Example-Based Hairstyle Advisor, *The Journal of the Society for Art and Science*, Vol. 11, No. 4, pp. 195-204. (In Japanese)
22. T. Abe, **M. Toyoura**, X. Mao (2012, July) Sample-Based Painterly Image Generation Using GIST, *The Journal of the Institute of Image Electronics Engineers of Japan*, Vol. 41, No. 4, pp. 340-351. (In Japanese)

23. M. Hata, **M. Toyoura**, X. Mao (2012, July) Accentuated Pencil Drawing Generation Using Saliency Map and LIC, *IEICE-JA*, Vol. J95-A, No. 7, pp. 600-610. (In Japanese)
24. M. Hata, **M. Toyoura**, X. Mao (2012, June) Automatic generation of accentuated Pencil Drawing with Saliency Map and LIC, *The Visual Computer*, Vol. 28, No. 6-8, pp. 657-668.
25. M. Iiyama, N. Sakaguchi, **M. Toyoura**, T. Funatomi, K. Kakusho, M. Minoh (2010, August) Ensuring Consistency of Structural Patterns on Texture Mapping from Multi-Viewpoint Images, *IEICE-JD*, Vol. J93-D, No. 8, pp. 1439-1449. (In Japanese)
26. **M. Toyoura**, M. Iiyama, K. Kakusho, M. Minoh (2006, November) Silhouette Refining for the Volume Intersection Method with Random Pattern Backgrounds, *IEICE-JD*, Vol. J89-D, No. 11, pp. 2413-2424. (In Japanese)
27. **M. Toyoura**, M. Iiyama, K. Kakusho, M. (2005, August) An Accurate Shape Reconstruction Method by Integrating Visual Hulls in Time Sequences, *IEICE-JDII*, Vol. 88-D-II, No. 8, pp. 1549-1563. (In Japanese)

### International Conference (Refereed)

1. C. Xu, S. Fushimi, **M. Toyoura**, J. Xu, H. Li, X. Mao (2017, September) Synthesis of Facial Images Based on Relevance Feedback, *Cyberworlds*, pp. 1-4.
2. T. Sawada, **M. Toyoura**, X. Mao (2017, June) Auto-Framing Based on User Camera Movement, *Computer Graphics International*, pp. 1-6 (Article 18).
3. J. Mano, **M. Toyoura**, X. Mao, H. Shojo, N. Adachi, I. Fujishiro (2017, March) Human-Body Modeling and Specified Position Estimation for Forensic Autopsy Data Visualization, *International Workshop on Image Electronics and Visual Computing*, pp. 1-5 (Article 3B-5).
4. **M. Toyoura**, T. Tanaka, A. Sugiura, X. Mao (2017, March) Eye Tracking by Head Motion History, *International Workshop on Image Electronics and Visual Computing*, pp. 1-5 (Article 4B-3).
5. **M. Toyoura**, M. Sakaguchi, X. Mao, M. Hanawa, M. Murakami (2016, October) Visualizing the Lesson Process in Active Learning Classes, *IEEE Frontiers in Education Conference (FIE)*, pp. 1-8.
6. **M. Toyoura**, N. Abe, X. Mao (2016, September) Painterly Image Generation Using Scene-Aware Style Transferring, *Cyberworlds*, pp. 73-80.
7. T. Igarashi, **M. Toyoura**, X. Mao (2016, July) Optimizing Dither Mask for Rendering Smooth Tone on Fabric, *NICOGRAPH International*, pp. 75-82.
8. H. Li, W. Yang, H. Sun, **M. Toyoura**, X. Mao (2016, June) Example-based Caricature Synthesis via Feature Deviation Matching, *Computer Graphics International*, pp. 81-84 (Article S8).
9. K. Shimizu, W. Yang, **M. Toyoura**, X. Mao (2015, October) Relevance Feedback Based Retrieval of Cloth Image With Focus on Collar Design, *Cyberworlds*, pp. 137-144.
10. J. Mano, **M. Toyoura**, X. Mao (2015, June) Reconstruction of human body model from incomplete feature points, *NICOGRAPH International*. (Poster)
11. H. Seki, **M. Toyoura**, X. Mao (2015, June) Direction and Scale Preserving Image Analogies, *Computer Graphics International (CGI)*, .
12. J. Xu, W. Yang, X. Mao, **M. Toyoura**, X. Jin (2014, October) A Study on Perceived Similarity between Photograph and Shape Exaggerated Caricature, *Cyberworlds*, pp. 213-220.

13. S. Fushimi, K. Shimizu, **M. Toyoura**, M. Hattori, X. Mao (2014, October) Semiautomatic Synthesis of Face in Mind, *Image Electronics and Visual Computing Workshop*, 4B-1.
14. W. Yang, K. Tajima, J. Xu, **M. Toyoura**, X. Mao (2014, October) Example-Based Automatic Caricature Generation, *Cyberworlds*, pp. 237-244.
15. Shin-i. Kondo, **M. Toyoura**, X. Mao (2014, August) Sketch based skirt image retrieval, *Symposium on Sketch-Based Interfaces and Modeling*, pp. 11-16.
16. Shin-i. Kondo, **M. Toyoura**, X. Mao (2014, May) Skirt Image Retrieval based on Sketch, *NICOGRAPH International*, pp. 115-118.
17. A. Sugiura, **M. Toyoura**, X. Mao (2014, May) A Natural Click Interface for AR Systems with a Single Camera, *Graphics Interface*, pp. 67-75.
18. J. Xu, X. Mao, X. Jin, A. Jaffer, S. Lu, L. Li, **M. Toyoura** (2013, November) Stego-Marbling-Texture, *International Conference on Graphics Computer-Aided Design and Computer Graphics (CAD/Graphics)*, pp. 236-243.
19. **M. Toyoura**, H. Aruga, M. Turk, X. Mao (2013, October) Detecting Markers in Blurred and Defocused Images, *Cyberworlds*, pp. 183-190.
20. **M. Toyoura**, S. Nishiguchi, X. Mao, M. Murakami (2013, October) ActVis: Activity Visualization in Videos, *Cyberworlds*, pp. 222-225.
21. T. Sawada, **M. Toyoura**, X. Mao (2013, January) Film Comic Generation with Eye Tracking, *International Conference on MultiMedia Modeling (MMM, Lecture Notes in Computer Science)*, Vol. 7732/2013, pp. 467-478.
22. **M. Toyoura**, K. Kashiwagi, A. Sugiura, X. Mao (2012, December) Mono-glass for Providing Distance Information for People Losing Sight in One Eye, *ACM SIGGRAPH International Conference on Virtual-Reality Continuum and its Applications in Industry (VRCAI)*, pp. 39-42.
23. K. Yamada, Y. Yamashita, **M. Toyoura**, X. Mao, S. Takatsu, C. Sugawara (2012, December) Be-code: Information Embedding for Logo Images, *International Conference on Advances in Mobile Computing & Multimedia (MoMM)*, pp. 302-305.
24. A. Sugiura, **M. Toyoura**, X. Mao (2012, June) Forensic CG Video Generation with Augmented Reality Technology, *NICOGRAPH International*, pp. 94-101 (Article 17).
25. **M. Toyoura**, T. Sawada, M. Kunihiro, X. Mao (2012, March) Using Eye-Tracking Data for Automatic Film Comic Creation, *Eye Tracking Research & Applications*, pp. 373-376.
26. W. Yang, **M. Toyoura**, X. Mao (2012, January) Hairstyle Suggestion Using Statistical Learning, *International Conference on MultiMedia Modeling (MMM, LNCS Advances in Multimedia Modeling)*, Vol. 7131/2012, pp. 277-287.
27. **M. Toyoura**, M. Kunihiro, X. Mao (2012, January) Film Comic Reflecting Camera-Works, *International Conference on MultiMedia Modeling (MMM, LNCS Advances in Multimedia Modeling)*, Vol. 7131/2012, pp. 406-417.
28. W. Yang, **M. Toyoura**, X. Mao (2011, August) Example-Based Hairstyle Advisor, *International Symposium on Computational Aesthetics (CAe)*, (Poster).
29. N. Abe, **M. Toyoura**, X. Mao (2011, August) Style Transferring Using GIST, *International Symposium on Non-photorealistic Animation and Rendering (NPAR)*. (Poster)
30. W. Yang, **M. Toyoura**, X. Mao (2011, June) Example-Based Hairstyle Adviser, *NICOGRAPH International*, pp. 1-4.

31. **M. Toyoura**, T. Shono, X. Mao (2010, November) BioMetal Glove, *ACM Symposium on Virtual Reality Software and Technology (VRST)*, pp. 135-138.
32. **M. Toyoura**, M. Iiyama, T. Funatomi, K. Kakusho, M. Minoh (2008, December) 3D Shape Reconstruction from Incomplete Silhouettes in Multiple Frames, *International Conference on Pattern Recognition (ICPR)*, TuBCT8. 4.
33. **M. Toyoura**, M. Iiyama, K. Kakusho, M. Minoh (2007, August) Silhouette Extraction with Random Pattern Backgrounds for the Volume Intersection Method, *International Conference on 3-D Digital Imaging and Modeling (3DIM)*, pp. 225-232.
34. **M. Toyoura** (2007, July) 3D Shape Reconstruction with Deliberate Textures, *Association of Pacific Rim Universities Doctoral Students Conference (APRU DSC)*.
35. **M. Toyoura**, M. Iiyama, K. Kakusho, M. Minoh (2006, July) Extraction of Outcrop Points from Visual Hulls for Motion Estimation, *IEEE International Conference on Multimedia & Expo (ICME)*, pp. 217-220.

## Patents

1. X. Mao, Z. Zhu, **M. Toyoura**, K. Kashiwagi (2018, February) Image processing method, image processing program, and display device, Japanese patent application No. 2018-025389.
2. K. Kashiwagi, X. Mao, **M. Toyoura**, K. Akazawa (2017, June) Ophthalmic examination device and ophthalmic examination method, Japanese patent application No. 2017-118382.
3. **M. Toyoura**, T. Terada, T. Sato, X. Mao (2017, May) Pressure position sensor, pressed position detection method, pressed position detection device and encoded fabric, Japanese patent application No. 2017-104533.
4. **M. Toyoura**, T. Igarashi, X. Mao (2016, January) Method, device, and program for generating multicolor weave pattern of jacquard fabric, JP-A No. 2017-133136, Japanese patent application No. 2016-015779.
5. **M. Toyoura**, T. Igarashi, M. Shoji, X. Mao, R. Akimoto (2014, May) Method, device, and program for generating jacquard fabric patterns, JP-Patent No. 6152520, JP-A No. 2015-212440, Japanese patent application No. 2014-094992.
6. **M. Toyoura**, A. Sugiura, X. Mao (2013, August) Virtual object click device, method and program, Japanese patent application No. 2013-179269.
7. **M. Toyoura**, X. Mao, S. Nishiguchi, M. Murakami (2013, August) Visualization device, method and program for in-image activity visualization, Japanese patent application No. 2013-173053, JP-A No. 2015-041945.
8. **M. Toyoura**, K. Kashiwagi (2011, August) Stereoscopic effect presentation device and method, blur image generation processing device, method, and program, JP-Patent No. 5891554, Japanese patent application No. 2011-185700, JP-A No. 2013-047875.
9. X. Mao, K. Yamada, Y. Yamashita, **M. Toyoura**, C. Sugawara, S. Takatsu (2011, August) Information embedding device, information restoring device, information embedding method, information restoring method, information embedding program and information restoring program, JP application No. 2011-179854, JP-A No. 2013-042465.

10. **M. Toyoura**, H. Aruga, X. Mao (2011, July) Mono-spectrum marker and its detection method and device, JP-Patent No. 5961938, JP-A No. 2013-024586, Japanese patent application No. 2011-156599.
11. **M. Toyoura**, M. Iiyama, T. Funatomi, K. Kakusho, M. Minoh (2005, January) Silhouette extraction device, method, 3D shape reconstruction device and method, Japanese patent application No. 2005-201292, JP-A No. 2007-017364.

## Research Grants

### Principle Investigator

1. JSPS Grant-in-Aid for Young Scientists (A) 2016-2019  
Image processing for conductive fabric  
JPY 18,200,000
2. JSPS Grant-in-Aid for Challenging Exploratory Research 2016-2018  
Lesson scoreboard – Real-time analysis and visualization of a lesson contribute to class improvement by participants  
JPY 2,700,000
3. MIC SCOPE 2015  
Development of textile digital fabrication supporting characteristics of locality and personality via design agent network  
JPY 2,620,000
4. Artificial Intelligence Research Promotion Foundation 2013-2015  
Answering questions with videos and slides on MOOCs  
JPY 500,000
5. JSPS Grant-in-Aid for Young Scientists (B) 2013-2015  
Monoglass for providing enhanced distance information for people losing sight in one eye with an eye tracking wearable display  
JPY 3,100,000
6. Nakajima Foundation Grant for Young Japanese Researcher 2011  
Safe acquisition of strategies of an automatic moving robot through remote manipulation  
JPY 2,000,000
7. Tateishi Foundation 2010  
Research and development of a spectrum marker for object detection  
JPY 1,780,000
8. JSPS Research Fellowship for Young Scientists 2008-2009  
Direct virtual object manipulation with random pattern gloves  
JPY 1,800,000

### Co-Investigator

9. JSPS Grant-in-Aid for Scientific Research (A) 2017-2020  
Enhancement of integrated environment for computational forensics data analysis and



visualization

(Principal Investigator: Issei Fujishiro)

10. JSPS Grant-in-Aid for Scientific Research (A) 2017-2021  
Computational ophthalmology: User adaptive enhancement for visual deficiency with AR  
(Principal Investigator: Xiaoyang Mao)
11. JSPS Grant-in-Aid for Challenging Exploratory Research 2016-2018  
Construction of time-variant saliency maps considering leading lines  
(Principal Investigator: Xiaoyang Mao)
12. JSPS Grant-in-Aid for Scientific Research (A) 2014-2016  
Development of an integrated environment for forensic visual analytics  
(Principal Investigator: Issei Fujishiro)
13. JSPS Grant-in-Aid for Scientific Research (B) 2014-2017  
Implementation of learning support system for reflecting lesson processes by acquiring  
and visualizing participating status  
(Principal Investigator: Masayuki Murakami)
14. JSPS Grant-in-Aid for Challenging Exploratory Research 2014-2015  
Auto-framing: composition optimization combing subjective and objective measures  
(Principal Investigator: Xiaoyang Mao)
15. JSPS Grant-in-Aid for Scientific Research (B) 2013-2016  
Computational approach to fashion fitting based on subjective measure and statistical  
learning  
(Principal Investigator: Xiaoyang Mao)
16. JSPS Grant-in-Aid for Scientific Research (B) 2011-2013  
Development and practice of acquisition and visualization system of behavior of lecturers  
and students in lecture room videos  
(Principal Investigator: Masayuki Murakami)
17. JSPS Grant-in-Aid for Scientific Research (B) 2013-2016  
Affective rendering - Toward the realization of affect adapted image synthesis  
(Principal Investigator: Xiaoyang Mao)