

Hybrid Twinning Program

-Appendix-

Shibaura Institute of Technology

2013/2014

**Fields and Supervisors to receive students for the
Hybrid Twinning Program**

Shibaura Institute of Technology

2013/2014

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Electric and Electronic Engineering

-Electric and Electronic Engineering-

MUGURUMA, Hitoshi

Field of Interest: Nanobiotechnology, Bioelectronics,
Title of Courses: Advanced Research Program on Functional Devices Technology
Bioelectronics
Topics for Thesis: Biochip, Bio Fuel Cells,

Publications and International Conference Papers:

1. T. Hoshino, H. Muguruma, Selective Detection of NADH with Neutral Red Functionalized Carbon Nanotube/Plasma-polymerized Film Composite Electrode, *Electrochemistry*, **2012**, *80*, 85-87.
2. T. Hoshino, S. Sekiguchi, H. Muguruma, "Amperometric biosensor based on multilayer containing carbon nanotube, plasma-polymerized film, electron transfer mediator phenothiazine, and glucose dehydrogenase," *Bioelectrochemistry*, **2012**, *84*, 1-5.
3. H. Muguruma, T. Hoshino, Y. Matsui, "Enzyme biosensor based on plasma-polymerized film covered carbon nanotube layer grown directly on a flat substrate," *ACS Applied Materials and Interfaces*, **2011**, *3*, 2445-2450.
4. T. Hoshino, H. Muguruma, "Amperometric biosensor based on carbon nanotube functionalized by redox plasma-polymerized film," *Japanese Journal of Applied Physics*, **2011**, *50*, 085202-1-4.
5. H. Muguruma, H. Takahashi, "Protein patterning on functionalized surface prepared by selective plasma polymerization," *Surface Coatings and Technology*, **2010**, *205*, 2490-2494.
6. H. Muguruma, "Plasma-polymerized films for biochip design," *Plasma Processes and Polymers*, **2010**, *7*, 151-162.
7. H. Takahashi, N. Murata, H. Muguruma, "Plasma polymerization for protein patterning: reversible formation with fullerene modification," *IEICE Transaction on Electronics*, **2010**, *E93-C*, 211-213.
8. H. Muguruma, "Biofuel cell based on a complex between glucose oxidase and a plasma-polymerized film containing a redox site," *IEICE Transaction on Electronics*, **2008**, *E91-C*, 1811-1815.

Other Features:

- Committee member of Biomedical and Organic Electronics in IEICE
URL: <http://www.sic.shibaura-it.ac.jp/~muguruma/>

- Electric and Electronic Engineering -

NISHIKAWA, Hiroyuki

Field of Interest: Electrical, Electronic, and Optical Materials and Devices, Quantum Beam Applications, Micromachining, MEMS, Micro-fluidic Devices

Title of Courses: Advanced Research Program on Environmental Energy Engineering
Advanced Materials for Energy and Related Areas

Topics for Thesis: Optical Devices and Micro-fluidic Devices Fabricated by Proton Beam Writing, Fabrication of 3D-Microstructures Using Proton Beam Writing, Dielectrophoretic Devices for Filtering of Microbes

Publications and International Conference Papers:

1. K. Takano et al., "Microprocessing of Arched Bridge Structures with Epoxy Resin by Proton Beam Writing", *Journal of Photopolymer Science and Technology*, **25**, 1, pp.43 - 46 (2012).
2. K. Takano et al., "Fabrication of Concave and Convex Structure Array Consisted of Epoxy Long-Nanowires by Light and Heavy Ion Beams Lithography", *Transactions of Materials Research Society of Japan*, **37**, 2, pp. 237 - 240 (2012).
3. Y. Maeyoshi et al., "Fabrication of Poly(9,9-dioctylfluorene)-Based Nano- and Microstructures by Proton Beam Writing", *Jpn. J. Appl. Phys.*, **51**, pp.045201/1-045201/4 (2012)
4. H. Hayashi, Y. Takeno, H. Nishikawa, "Microelectronic devices on polyimide substrate processed by Proton Beam", 13th International Conference on Nuclear Microprobe Technology & Applications (ICNMTA), O-39, p.50 (2012)
5. H. Nishikawa, S. Makita, Y. Harashima, "Micromachining of Polytetrafluoroethylene by Direct Etching Using Proton Beam Writing", 13th ICNMTA, O-42, p.53 (2012)
6. K. Saito, H. Nishikawa, H. Hayashi, "Flexible optical components of silicone fabricated by proton beam writing", 13th ICNMTA, P-67, p.140 (2012)
7. Y. Tanabe et al., "Electroforming of Ni mold for imprint lithography using high-aspect-ratio PMMA microstructures fabricated by proton beam writing", *Microelectronic Engineering*, Volume 88, Issue 8, pp.2145-2148 (2011)
8. R. Tsuchiya and H. Nishikawa, "Fabrication of silica-based three-dimensional structures by changing fluence using proton beam writing", *Transactions of the*

- Materials Research Society of Japan, Volume 36, Number 3, pp.325-328 (2011)
9. T. Kamiya et al., “Microbeam complex at TIARA: Technologies to meet a wide range of applications”, Nuclear Instruments and Methods in Physics Research B 269 pp.2184–2188 (2011)
 10. Y. Shiine et al., “Soft-lithographic methods for the fabrication of dielectrophoretic devices using molds by proton beam writing”, Microelectronic Engineering, Volume 87, Issues 5-8, pp. 835-838 (2010)
 11. Y. Seki et al., “Electroplating using high-aspect-ratio microstructures fabricated by proton beam writing”, Microelectronic Engineering, Vol.86, Issues 4-6, pp. 945-948 (2009)
 12. Y. Furuta et al., “Fabrication and evaluation of 3D-electric micro filters using proton beam writing”, Microelectronic Engineering, Vol. 86, Issues 4-6, pp.1396-1400 (2009)
 13. H. Nishikawa et al., “Micro-patterning of Siloxane Films by Proton Beam Writing”, Journal of Photopolymer Science and Technology, Vol.22, pp.239-243 (2009)
 14. Y. Furuta et al., “Applications of microstructures fabricated by proton beam writing to electric-micro filters”, Nuclear Instruments and Methods in Physics Research B 267, pp.2285–2288 (2009)
 15. T. Kamiya et al., “Fabrication of nanowires by varying energy microbeam lithography using heavy ions at the TIARA”, Nuclear Instruments and Methods in Physics Research B 267, pp.2317–2320 (2009)
 16. T. Kamiya et al., “Development of micromachining technology in ion microbeam system at TIARA, JAEA”, Applied Radiation and Isotopes, 67, No.3, pp.481-491 (March, 2009)
 17. N. Uchiya et al., Y. Furuta, H. Nishikawa, T. Watanabe, J. Haga, T. Satoh, M. Oikawa, Y. Ishii, T. Kamiya, “Ni electroplating on a resist micro-machined by proton beam writing,” Microsystem Technologies, 14, Numbers 9-11, pp.1537-1540 (Oct., 2008)
 18. Y. Furuta et al., Fabrication of three-dimensional structures of resist by proton beam writing, Journal of Vacuum Science & Technology B: Microelectronics and Nanometer Structures, Volume 25, Issue 6, pp. 2171-2174 (November, 2007)

Other Features:

Member of Institute of Electrical Engineers of Japan, Member of Japan Society of Applied Physics, Member of Japan Institute of Electronics Packaging,
Secretary of the Technical Committee on Electronic Materials, Institute of Electrical Engineers of Japan (IEEJ)

-Electric and Electronic Engineering-

MATSUMOTO, Satoshi

Field of Interest: New Carbon Materials, Supercapacitor, Terahertz Spectroscopy, Signal Processing, High-voltage Testing, Partial Discharge, High Voltage Engineering, High Power Apparatus Engineering

Title of Courses: Advanced Research Program on Environmental Energy Engineering
Power Apparatus Technology, Sustainable New Energy System

Topics for Thesis: New Carbon Materials, Terahertz Spectroscopy, Super capacitor
Electric double layer capacitor (EDLC), Partial discharge measurement, PD sensor using electro-magnetic wave method
Transient electromagnetic surge analysis, Lightning protection
Signal processing using wavelet analysis for partial discharge detection
Oscillating waveform analysis under lightning impulse test

Publications and International Conference Papers:

1. Zulkarnain A. Noorden, Sougoro Sugawara, Satoshi Matsumoto, "Electrical properties of Hydrocarbon-derived Electrolytes for Supercapacitor", IEEJ Transaction on Electrical and Electronic Engineering, Vol.7, Issue 6 (2012-12)
2. Satoshi Matsumoto, Tomoyuki Sato, Yoshiyasu Koga, Shigeru Yokoyama, "Surface V-t characteristics of 6.6-kV Solid-core Distribution Insulator and its Approximate Formula", IEEJ International Workshop on High Voltage Engineering, Paper No.HV-12-062 (2012-11)
3. Satoshi Matsumoto, Tomoyuki Sato, Hideki Honda, Shigeru Yokoyama, "Approximate Formula for Surface V-t Characteristics of 6.6-kV Distribution Insulator", International Conference on Lightning Protection, Vienna, Austria, No.31-125, pp.1-5 (2012-9)
4. Satoshi Matsumoto, Yoshikazu Shibuya, Ryuichi Ogura, "Signal Processing for Partial Discharge Pulse Detection using Wavelet Analysis", International Symposium on High Voltage Engineering, Hannover, Germany, D-62, pp.1-5 (2011)
5. Yoshikazu Shibuya, Satoshi Matsumoto, Tatsuya Konno, Kiyoshi Umezu, "Electromagnetic Waves from Partial Discharges in Windings and their Detection by Patch Antenna", IEEE Transactions on Dielectrics and Electrical Insulation, Vol.18, No.6, pp.2013-2023 (2011.12)
6. Ryuichi Ogura, Nobuaki Nishimura, Satoshi Matsumoto, Maya Mizuno, Kaori Fukunaga, " Transmittance Characteristics of Various Insulating Oils Evaluated by Terahertz Spectroscopy", International Symposium on High Voltage Engineering, Hannover, Germany, E-45, pp.1-5 (2011)

7. Nobuaki Nishimura, Ryuich Ogura, Satoshi Matsumoto, Maya Mizuno, Kaori Fukunaga, "Transmittance Spectra of Oxidized Insulation Oil using Terahertz Spectroscopy", 17th IEEE International Conference on Dielectric Liquids (ICDL2011), No.57, pp.1-4 (2011)
8. Y.Shibuya, S.Matsumoto, M.Tanaka, H.Muto, Y.Kaneda, "Electromagnetic Waves from Partial Discharges and their Detection using Patch Antenna", IEEE Transactions on Dielectrics and Electrical Insulation, Vol.17, No.3, pp.862-871 (2010)
9. S.Matsumoto, N.Nishimura, "Analysis of oscillating and non-oscillating impulse waveform for high voltage impulse test using roots of biquadratic equation", IEEJ Transaction on Electrical and Electronic Engineering, Vol.4, No.4, pp.553-560 (2009)
10. U.Khayam, S.Ohtsuka, S.Matsumoto, M.Hikita, "Partial Discharge and Cross Interference Phenomena in a Three-phase Construction", International Journal on Electrical Engineering and Informatics, Vol.1, No.1, pp.78-91 (2009)
11. S.Matsumoto, T.Kawamura, "High voltage testing on UHV equipment: Overshoot and base curve for oscillating lightning impulse", IEEJ Transaction on Electrical and Electronic Engineering, Vol.4, No.1, pp.97-101, (2008)
12. S.Matsumoto, "Analysis and evaluation of waveform parameters for oscillating impulse voltage", IEEJ Transaction on Electrical and Electronic Engineering, Vol.2, pp.651-656 (2007)
13. Umar Khayam, T. Ishitobi, S.Ohtsuka, S.Matsumoto, M.Hikita, "Effects of elliptical nature of rotating electric field on partial discharge pattern in a three-phase construction", IEEJ Transaction on Fundamental and Material Society, Vol.127, No.127, pp.524-530 (2007)
14. M.Hikita, S.Ohtsuka, S.Matsumoto,"Recent trend of the partial discharge measurement technique using UHF electromagnetic wave detection method" IEEJ Transaction on Electrical and Electronic Engineering, Vol.2, No.5, pp.504-509 (2007)
15. S.Ohtsuka, T.Teshima, Y.Hayashi, S.Matsumoto, M.Hikita, "Concept to be successfully accomplished for insulation diagnosis of gas-insulated power apparatus detected by partial discharge signals and relation between charge quantity of PD and induced-electromagnetic wave measured by UHF method", International Conference on Condition Monitoring and Diagnosis CMD2006, No.M1-798, pp.1-6 (2006)
16. S.Matsumoto, S.Ohtsuka, M.Hikita, "Probabilistic risk management and statistical decision-making method for the maintenance of aged electric power equipment", International Conference on Condition Monitoring and Diagnosis CMD2006, No.M4-586, pp.1-6 (2006)

Other Features:

Vice President of Power and Energy Society of the Institute of Electrical Engineers of Japan (IEEJ),
Senior member of IEEE and IEEJ, CIGRE member

-Electric and Electronic Engineering-

TAKAMI, Hiroshi

Field of Interest: Energy Conversion System, AC Motor Drives, Robust Control
Title of Courses: Advanced Research Program on Systems Control Engineering
Electric Machinery and Applications
Topics for Thesis: Optimal Control for Industrial Drives by Inverse LQ Design Method
Development of Inverse LQ Controller for Electrical Vehicle
Design of Robust Maglev System Based on Transfer Matrix Theory

Publications and International Conference Papers:

S. Aumted, S. Kanda, H. Takami, S. Tatsuno, " Optimal Voltage Control for Single-Phase Inverter with Resonant LC Filter via Type-2 ILQ Servo-Control by 2nd-Order Polynomial", Advanced Materials Research, Vols. 622-623 pp.1514-1518 (2012)

S. Aumted, S. Kanda, H. Takami, S. Tatsuno, " Optimal Voltage Control for Single-Phase Inverter with Resonant LC Filter via Type-2 ILQ Servo-Control by 2nd-Order Polynomial", the Proc. of the ICMCE 2012 (2012)

A. Tokunaga, H. Takami, M. Nakamura, T. Okamoto, "A Method of ILQ Optimal Speed Sensorless Control for Three-Phase Induction Motor", Proc. of IEEE IAS Annual Meeting Conference Record (2012)

Y. Amano, H. Takami, T. Fujii, "Design Method of ILQ Robust Current Control System for Synchronous Reluctance Electrical Motors", IEEJ Trans. On Electronics, Information and Systems, Vol.132, No.3, pp.401-408(2012)

Y. Nakamura, H. Takami, M. Nakamura, T. Okamoto, "A Method of ILQ Optimal Speed Sensorless Control for Three-Phase Induction Motor", Proc. of the 2011 Japan Industry Applications Society Conference, Vol.1 pp.429-432 (2011)

A. Tokunaga, H. Takami, M. Nakamura, T. Okamoto, "Evaluation of Robust Stability and Performance of 2-Inertia System based on Resonance Ratio Control via μ -Analysis", Proc. of the 2011 Japan Industry Applications Society Conference, Vol.2, pp.513-516 (2011)

T. Shiratori, H. Takami, " Verification of analysis of instantaneous forces by transfer-matrix theory for PM LSM", Proc. of the 2011 Japan Industry Applications Society Conference, Vo.3, pp.375-376 (2011)

S. Chiba, R. Tsunekawa, H. Takami, Y. Nakamura, "Manufacture and experiment of embedded General-Purpose Inverter with Piccolo F28069 control STICK", Proc. of 13th DSPS Educators Conference, pp.37-38 (2011)

K. Sato, K. Sugano, H. Takami, T. Fukada, R. Nishimurai, "The development of inverter for EV used Delfino", Proc. of 13th DSPS Educators Conference, pp.45-46(2011)

H. Takami, K. Logutarawong, S. Chiba, "Electric Energy Conversion Technique for Eco-Equipments via Embedded Technology," Proc. of TSME International Conference on Mechanical Engineering, ETM010, (2010)

H. Takami, "Integrated Hybrid Energy Conversion Technology", TSME International Conference on Mechanical Engineering, Key-note speech (Invited), 21 Oct.2010

H. Terauchi, H. Takami, Y. Nakamura, "Power LED Illumination Control via Intelligent Power Unit", Proc. of 12th DSPS Educators Conference, pp.89-90 (2010)

H. Takami, "Development of Near Future Linear System by High-Performance Embedded DSP Controller", Proc. of 12th DSPS Educators Conference, pp.31-34 (2010)

H. Takami, Kanokpanthorn L, S. Chiba, Y. Muramatsu, Nakamura, "Multi-Purpose Converter

for Eco-Equipments by Piccolo A”, Proc. of the 22nd Symposium on Electromagnetic and Dynamics (SEAD22), pp.130-133 (2010)

K. Shoji, H. Takami, M. Nakamura, “Two-Degrees-of-Freedom Optimal Speed-Control for Induction Motors via ILQ Design Method”, Proc. of the 2010 Japan Industry Applications Society Conference pp.477-480 (2010)

N. Kasa, H. Takami, Toru T., S. Hattori, S. Morimoto, Y. Yamamoto, "New Technology and Application Trend to New Field for Expansion of PM Motor Application — Drive and Control Technology —", Proc. of the 2009 Japan Industry Applications Society Conference pp.85-90. (2009)

K. Ohno, K. Kawakami, H. Takami, "Adjustable-Speed AC Drive Technologies for Ships", Proc. of the 2008 Japan Industry Applications Society Conference, Vol.1, pp. 21-26 (2008)

K. Ito, H. Takami, M. Nakamura, T. Okamoto, "A Robust Optimal Control of 3-phases Induction Motor by ILQ Design Method", Proc. of the 2008 Japan Industry Applications Society Conference, Vol.1, pp. 175-178 (2008)

N. Makuta, H. Takami, T. Yamamoto, T. Fukuda, "Generation Robust Control for Interior Permanent Magnet Synchronous Generator Using An ILQ Optimal Current-Control", Proc. of the 2008 Japan Industry Applications Society Conference, Vol.1, pp.471-474 (2008)

D. Furusawa, H. Takami, M. Nakamura, "An Investigation of Robustness of ILQ Optimal Current Control on Permanent Magnetic Synchronous Motor Control including Control Delay Time", Proc. of the 2008 Japan Industry Applications Society Conference, Vol.1, pp.475-476 (2008)

M. Okayasu, H. Takami, T. Fukada, "ILQ Optimal Bilateral Boost and Buck Chopper for Vehicles", Proc. of the 2008 Japan Industry Applications Society Conference, Vol.1, pp.541-542 (2008)

Y. Watanabe, H. Takami, T. Okamoto, "Anti-windup Control for Voltage Saturation in ILQ Current Control of IPMSM", Proc. of the 2008 Japan Industry Applications Society Conference, Vol.1, Y-37 (2008)

H. Takami and T. Tsujino, "Robust Stability and Performance Evaluation of an ILQ Optimal Current-Control System for Permanent Magnet Synchronous Motor via-Analysis, Robust Analysis Including State Feedback Control for Decoupling d- and q-axis Subsystems" Trans. Soc. Instr. Contr. Eng., vol. 42, no. 5, pp. 510-519 (2006)

H. Takami, M. Nakagawa: "Optimal Robust Current Control of Three Phase Induction Motor by ILQ Design Method", The 2006 International Conference on Electrical Machines and Systems (ICEMS 2006), DS2E1-07 (2006)

K. Yoshida, M. Suganuma, K. Oshima, H. Takami, T. Yoshida and T. Kawai: "Steering Control Traveling Experiment of Air-Suspended Hybrid Linear Motor Vehicle Passing Through Continuous LIM and LSM Sections", Proc. of the 2005 International Power Electronics Conference, pp.1520-1527(2005)

K. Yoshida, K. Oshima, M. Suganuma, T. Yoshida, H. Takami, T. Kawai: "Steering Guidance Control in SLIM Drives of Air-Suspended Hybrid LM Vehicle", Proc. Of the 5th International Symposium on Linear Drives for Industry Application LDIA2005, A26P1-1(2005)

H. Takami: Robust Current Control for Permanent Magnet Synchronous Motors by the Inverse LQ Method –An Evaluation of Control Performance Using Servo-Locks at Low Speed–, Journal of Power Electronics, Vol.4, No.4, pp.228-236 (2004)

K. Yoshida, H. Takami, and A. Fujii: "Smooth Section-Crossing of Controlled- Repulsive PM LSM Vehicle by DTC method based on New Concept of Fictitious Section", IEEE Trans. on Industrial Electronics, Vol.51, No.4, pp.821-826 (2004)

H. Takami, T. Tsujino and T. Fujii: "Robust Stability and Performance Evaluation of an ILQ Optimal Current-Control System for Permanent Magnet Synchronous Motor via-Analysis", Trans. Soc. Instr. Contr. Eng., Vol.39, No.9, pp. 718-725 (2003)

K. Yoshida, H. Takami, T. Yoshida, M. Suganuma and K. Ohshima, "A LIM/LSM Switching Strategy in Hybrid Linear Transport Maglev System," Proc. of 7th Int. Symposium on Magnetic Suspension Technology, pp.176-181 (2003)

K. Yoshida, T. Yoshida, H. Takami, M. Suganuma and K. Ohshima, "High Performance

Control of Air Suspended Hybrid Linear Motor Vehicle in SLIM Section," Proc. of 7th Int. Symposium on Magnetic Suspension Technology, pp.170-175 (2003)

K. Yoshida, H. Takami and Y. Ma, "Contactless Measuring System of Position and Speed in Maglev Control System," Proc. of 7th Int. Symposium on Magnetic Suspension Technology, pp.75-80 (2003)

H. Takami, "Design of an Optimal Servo-Controller for Current Control in a Permanent Magnet Synchronous Motor," IEE Proc. -Control Theory Appl., vol. 149, no. 6, pp. 564-572 (2002)

H. Takami, "An Optimal Current-Control of Permanent Magnet Synchronous Motor by ILQ Design Method," Trans. Soc. Instr. Contr. Eng., vol. 38, no. 8, pp. 718-725 (2002)

H. Takami: "Optimal Power Factor Control of Synchronous Motor with q-axis Field by ILQ Design Method," Trans. Soc. Instr. Contr. Eng., Vol.37, No.5, pp. 389-396 (2001)

-Electrical and Electronic Engineering-

UENO, Kazuyoshi

Field of Interest: Advanced metallization for integrated circuits, Reliability of interconnection, Nano materials and processes

Title of Courses: Advanced Research Program on Functional Devices Technology
Nanoelectronics Research

Topics for Thesis: Advanced materials and processes for metallization in nanoelectronics

Publications and International Conference Papers:

- 1) A. Mitsumori, S. Fujishima, and K. Ueno, "Barrier Integrity of Electroless Diffusion Barriers and Organosilane Monolayer against Copper Diffusion under Bias Temperature Stress," Jpn. J. Appl. Phys. 51 (2012) 05EB03-1-6.
- 2) L. Razak, T. Yamaguchi, S. Akahori, H. Hashimoto, and K. Ueno, "Current Induced Grain Growth of Electroplated Copper Film," Jpn. J. Appl. Phys. 51 (2012) 05EA04-1-6.
- 3) T. Tanaka, T. Sato, Y. Karasawa, and K. Ueno, "Chemical vapor deposition of nanocarbon on electroless NiB catalyst using ethanol precursor," Jpn. J. Appl. Phys. 50 (2011) 05EF02-1-5.
- 4) K. Ueno, "Material and process challenges for interconnects in nanoelectronics era," (Invited), Proc. 2010 Int.Symp. On VLSI Tech., Systems and Applications (IEEE, 2010) pp. 64-65.
- 5) K. Ueno, Y. Shimada, S. Yomogida, S. Akahori, T. Yamamoto, T. Yamaguchi, Y. Aoki, A. Matsuyama, T. Yata, and H. Hashimoto, "Grain growth enhancement of electroplated copper film by supercritical annealing", Jpn. J. Appl. Phys. 49 (2010) 05FA08-1-6.
- 6) Y. Kakuhara, S. Yokogawa, and K. Ueno, "Comparison of lifetime improvements in electromigration between Ti barrier metal and chemical vapor deposition Co capping", Jpn. J. Appl. Phys. 49 (2010) 04DB08-1-5.
- 7) Y. Kakuhara, S. Yokogawa, M. Hiroi, T. Takewaki, and K. Ueno, "Suppression of electromigration early failure of Cu/porous low-k interconnects using dummy metal", Jpn. J. Appl. Phys. 48 (2009) 096504-1-5.
- 8) Y. Shimada, S. Yomogida, S. Akahori, T. Yamamoto, T. Yamaguchi, Y. Aoki, A. Matsuyama, T. Yata, H. Hashimoto, and K. Ueno, "Enhanced grain growth of electroplated copper film by annealing in supercritical CO₂ with H₂", Proc. Advanced Metallization Conf. 2009, Asian session (Tokyo, 2009)
- 9) K. Ueno, K. Shimotani, Y. Shimada, S. Yomogida, T. Takeshita, and T. Yata, "Grain growth of electroplated copper film by alternative annealing method", Conf. Proc. AMC XXIV (MRS, 2009)pp. 283-287 .
- 10) Y. Kakuhara, N. Kawahara, K. Ueno, and N. Oda, "Electromigration lifetime enhancement of CoWP capped Cu interconnects by thermal treatment", Jpn. J. Appl. Phys. 47 (2008)pp. 4475-4479.
- 11) N. Oda, H. Imura, N. Kawahara, M. Tagami, H. Kunishima, S. Sone, S. Ohnishi, K. Yamada, Y. Kakuhara, M. Sekine, Y. Hayashi, and K. Ueno, "Chip-level performance maximization using ASIS(application-specific

interconnect structure) wiring design concept for 45nm CMOS generation”, IEICE Trans. Electronics, E90-C (2007) pp.848-855.

12) K. Ueno, A. Kameyama, A. Matsumoto, M. Iguchi, T. Takewaki, D. Oshida, H. Toyoshima, N. Kawahara, S. Asada, M. Suzuki, and N. Oda, ” Time-Dependent Dielectric Breakdown Characterization of 90- and 65-nm- Node Cu/SiOC Interconnects with Via Plugs”, Jpn. J. Appl. Phys , 46 (2007)pp.1444-1451.

13) N. Oda, S. Ito, T. Takewaki, K. Shiba, H. Kunishima, N. Hironaga, I. Honma, H. Nanba, S. Yokogawa, T. Goto, T. Usami, K. Ohto, A. Kubo, M. Suzuki, Y. Yamamoto, S. Watanabe, K. Yamada, M. Ikeda, K. Ueno, T. Horiuchi, “A Robust Embedded Ladder-oxide/Cu Multilevel Interconnect Technology for 0.13 um Complementary metal-oxide-semiconductor (CMOS) Generation”, Jpn. J. Appl. Phys, 46 (2007)pp.945-961.

14) Y. Kakuhara, N. Kawahara, K. Ueno, and N. Oda, “Key mechanisms for improved EM lifetime of CoWP capped Cu interconnects”, Extended Abstracts of 2006 International Conf. Solid State Devices and Materials (JSAP, 2006) pp. 144-145.

15) N. Kawahara, M. Tagami, B. Withers, Y. Kakuhara, H. Imura, K. Ohto, T.Taiji, K. Arita, T. Kurokawa, M. Nagase, T. Maruyama, N. Oda, Y. Hayashi, J. Jacobs, M. Sakurai, M. Sekine, and K. Ueno, “A novel CoWP cap integration for porous low-k/Cu interconnects with NH₃ plasma treatment and low-k top (LKT) dielectric structure”, Proc. 2006 International Interconnect Technology Conference (IEEE, 2006) pp. 152-154.

16) T. Usami, T. Ide, Y. Kakuhara, Y. Ajima, K. Ueno, T. Maruyama, Y. Yu, E. Apen, K. Chattopadhyay, B. van Schravendijk, N. Oda, and M. Sekine, “Highly reliable interface of self-aligned CuSiN process with low-k SiC barrier dielectric (k=3.5) for 65nm node and beyond”, Proc. 2006 International Interconnect Technology Conference (IEEE, 2006) pp. 125-127.

Other Features:

- Electroless plating barrier processes for copper metallization.
- Nanocarbon interconnect technologies
- Low resistance and high reliability copper interconnect technologies

-Electric and Electronic Engineering-

FUJITA, Goro

Field of Interest: Power System Planning, Control, Analysis, Modeling
Title of Courses: Advanced Research Program on Environmental Energy Engineering
Electric Power System Engineering
Topics for Thesis: Power Quality Control and Evaluation

Publications and International Conference Papers:

- [1] Nguyen Duc Tuyen, Goro Fujita, T.Funabashi, M.Nomura, 'Reliable Impedance Islanding Detection for Power Distribution Systems with High Motor Penetration', 2012 Asia-Pacific Power and Energy Engineering Conference (APPEEC 2012) (2012-3, Shanghai, China)
- [2] Nguyen Duc Tuyen, Goro Fujita, T.Funabashi, M.Nomura, 'Current-Controller at Transient-to-island Mode of Power Electronic Interface Dispersed Generation', 2012 International Conference on Electrical Engineering (ICEE 2012), (2012-7, Kanazawa, Japan)
- [3] Arwindra Rizqiawan, Goro Fujita, Toshihisa Funabashi, Masakatsu Nomura, 'Effects of Virtual Resistor in Power Electronic Converter on Subsynchronous Oscillation Damping', IEEJ Transactions on Electrical and Electronic Engineering, Vol.6 No.6 pp.540-546 (2011-11)
- [4] Nguyen Duc Tuyen, Goro Fujita, G.Yokoyama, R.Koyanagi, T.Funabashi, M.Nomura, 'Using Simulink Simulation to Evaluate Load Following Characteristics of SOFC Generator with Heat Exchanger Considering Heat Balance', IEEJ Transactions on Power and Energy, Sec.B, Vol.130, No.5, pp.501-509 (2010-5)
- [5] Nguyen Duc Tuyen, Goro Fujita, T.Funabashi, M.Nomura, 'Adaptive Notch Filter for Synchronization and Islanding Detection using Negative-sequence Impedance Measurement', IEEJ Transactions on Electrical and Electronic Engineering, Vol.7, No.3, pp.240-250 (2012-5)
- [6] Nguyen Duc Tuyen, Goro Fujita, T.Funabashi, M.Nomura, 'Subsequence Action to Eliminate Blackout after Detecting Islanding using Solid State Transfer Switch Implemented in PSCAD/EMTDC', Journal of International Council on Electrical Engineering (JICEE), ISSN : 2233-5951, Korea, Vol.2, No.1, pp.45-52 (2012-1)

Other Features:

- (1) The laboratory including about 17 students including 2 Postdoctoral fellow, 2 D.C. students, 4 M.C. students, forming Power system analysis group, Power storage group, Power quality group, and, Dispersed power source group. 4 students have graduated D.C., and about 10 graduated M.C.
- (2) Website: <http://www.sic.shibaura-it.ac.jp/%7Egfujita/>

-Electric and Electronic Engineering-

SAITOH, Atsushi

Field of Interest: Development of Chemical Sensor and its application
Title of Courses: Advanced Research on Telecommunication Function Control
Telecommunication System
Topics for Thesis: Odor recognition system and odor generator
SAW wireless and passive multi-sensing device
Sensing system for recognition of activities of resident in a room
Development of intelligent table for watching over elderly person

Publications and International Conference Papers:

- [1] A.Saitoh, "Fundamental Study on Odor generator based on SAW Streaming", Proc. of The 32nd Symposium on UltraSonic Electronics(USE2011) in press, (2011).
- [2] K.Hirasawa, S.Sawada, and A.Saitoh, "Recognition of daily activities based on processing information about air environmental changes in living space.", Proc. of The 7th International Conference on (URAI 2010), pp.325-329, (2010).
- [3] A.Saitoh and T.Nomura, "Study of Gas Adsorption Property Evaluation of Sensing Film for QCM Gas Sensor by Sensor Response Analysis", Asia-Pacific Conference of Transducer and Micro-Nano Technology 2004 Conference Proceedings, pp.1305-1308, (2004).
- [4] A.Saitoh, T.Miyamoto, M.Kobayashi, K.Ido, and T.Nomura, "Development of Sensing System for Monitoring of Indoor Environment and Classification of Daily Action", IEEE SECON 2004 (2004).
- [5] T.Nomura, A.Saitoh, and Y.Horikoshi, "Liquid sensor probe using reflecting SH-SAW delay line", Sensors and Actuators B (chemical), Vol.B91, pp.298-302, (2003).
- [6] T.Nomura, A.Saitoh, and T.Miyazaki, "Gas sensor using complete reflection at free edge of SH-SAW", Ferroelectrics, Vol.273, pp.113-118, (2002).
- [7] T.Nomura, A.Saitoh, and Y.Horikoshi, "Measurement of acoustic properties of liquid flow SH-SAW sensor system", Sensors and Actuators B (chemical), B76 pp.69-73, (2001).
- [8] S.Munoz, A.Saitoh, T.Moriizumi, "Odor Sensor Based on Mixed LB Films and Quartz Crystal Microbalance", Trans. IEE of Japan, Vol.119-E, No.6, pp.346 – 351, (1999).
- [9] Atsushi Saitoh, Toru Nomura, Severino Munoz and Toyosaka Moriizumi, "Quartz Crystal Microbalance Odor Sensor Coated with Mixed-Thiol-Compound Sensing Film", Jpn. J. Appl. Phys. Vol.37, pp.2849 - 2852, (1998).
- [10] T.Nomura, M.Takebayashi, A.Saitoh, "Chemical Sensor Based on Surface Acoustic Wave Resonator Using Langmuir-Blodgett Film", IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, Vol.45, No.5, pp.1261 – 1265, (1998).

-Electric and Electronic Engineering-

HASEGAWA, Tadahiro

Field of Interest: Micro Total Analysis Systems, Micro Mechatronics
Title of Courses: Advanced Research Program on Systems Control Engineering
Micro Mechatronics
Topics for Thesis: Micro fluidic chip, Micro chemical chip, Portable healthcare device
Micro fabrication

Publications and International Conference Papers:

- [1] Tadahiro HASEGAWA and Daiki YOKOTA, "Verification of fall detection sensor", Journal of Robotics and Mechatronics, (Vol.24 No.6, 2012 in press)
- [2] Phi Nguyen Truong, Ryo TESHIMA, Tadahiro HASEGAWA, and Hiroyuki NISHIKAWA, "Enhancing Proton Beam Writing System with Auto Scanning Software and Stage Movement", Journal of Microelectronics Engineering, DOI:10.1016/j.mee.2012.02.015 (2012)
- [3] Hidefumi KAWAMURA, Shohei IWATA, Shota SAHASHI, and Tadahiro HASEGAWA, " Visual attitude control using a virtual barycenter of a quadrangle that constructed from feature points for outdoor autonomous mobile robots ", 2012 International Symposium on Micro-NanoMechatronics and Human Science (MHS2012), (Accepted) (November 4-7, 2012)
- [4] Phi T. Nguyen, Nobukazu Kawakami, Tadahiro Hasegawa, and Hiroyuki Nishikawa, "Versatile Proton Beam Writing System with Stage Movement", The 6th IEEE international Conference on Nano/Molecular Medicine and Engineering (IEEE-NANOMED 2012), (Accepted) (November 4-7, 2012)

Other Features:

The lab researches and develops micro machines for medical use (μ -TAS : Micro Total Analysis Systems) using robotics and micro fabrication technologies. The lab focuses especially on healthcare devices such as a portable blood test kit enabling the checking of personal health anywhere, anytime. Research such as this will certainly contribute to the development of medical and bio areas from the engineering side.

-Electric and Electronic Engineering-

SHIMADA, Akira

Field of Interest: Motion control, robotics, and mechatronics
Title of Courses: Advanced Research Program on Systems Control Engineering
Robotics and Mechatronics
Topics for Thesis: 1. Studies on disturbance observer based non-linear control
2. High speed motion control on autonomous mobile robots
3. Sensor-less grasping control on multi-fingered robot hands
4. Motion control on disaster relief robots

Publications and International Conference Papers:

1. Akira Shimada, Danai Phaoharuhansa: An Adaptive Disturbance Observer Design on Motion Control Systems, Proc. of the 2012 Int conf. on Advanced Mechatronic Systems(ICAMechs2012), WedP04-02, p.320-322, Int.J.of Advanced Mechatronic Systems, IEEE Systems, Man, and Cybernetics Society, etc., 2012-9
2. Akira Shimada, Hayato Furukawa: An Approach to Wind Harness Control on Blimp Robots, SICE Annual Conference 2011, p.368-369, 2011-9
3. Akira Shimada, Kenichi Sonoda, and Shinsaku Unuma: An Approach to Sensor-less Grasping and Movement Control on Two-Fingered Robot Hands, SICE Annual Conference 2011, p.917-918, 2011-9
4. Danai Phaoharuhansa, Akira Shimada: An Approach to SysML and Simulink Based Motion Controller Design for Inverted Pendulum Robots, SICE Annual Conference 2011, p.2190-2191, 2011-9
5. Akira Shimada, Atsushi Maruta: A Controller Design on Tendon-Driven Mechanisms, SICE Annual Conference 2011, p.2684-2685, 2011-9
6. Akira Shimada, Hayato Furukawa, Yurtaka Uchimura: A Movement Control on Indoor Blimp Robots, SICE Annual Conference 2010, p.490-491, 2010-8
7. Akira Shimada, Atsushi Maruta, Yurtaka Uchimura: An Analysis on Two-Joint Tendon Driven Hybrid Control Systems, SICE Annual Conference 2010, p.529-530, 2010-8
8. Akira Shimada, Kenichi Sonoda, Yuta Shimizu, Hayato Furukawa, Atsushi Maruta : Recent Study on Observer Based Non-Linear Robot Motion Control, SEATUC 2010, R-10, p.392-395, 2010-3
9. Tadayuki Nakano, Akira Shimada, Syunnji Usui: An Approach to Robotization of

- Rokogi-Wasen, ICCAS-SICE Joint Conference 2009, 1A-08-1, p.112-117,2009-8
10. Chaisamorn Yongyai, Akira Shaimada, and Kenichi Sonoda : Tilting Control Based Motion Control on Inverted Pendulum Robots with Disturbance Observer, The 2009 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM2009) ,FA5, p.1545-1550, 2009-7

Other Features:

Motion control technology is a fundamental component on today's robotics and mechatronics. It is based on dynamical modeling and feedback control engineering, which covers wide range of applied electrical and mechanical technologies. The motion control was begun by general motor drive systems and it has been expanded to robot control, vehicle control, and some other non-linear system control. Non-linear mechanical systems which we study have some physical constraints, such as position, velocity, and acceleration constraints. They are called non-holonomic systems and it is not easy to design the suitable motion controllers. The control technique we present is based on observer techniques which are useful components in modern control engineering. Furthermore, we recently try to connect motion control technology with software engineering using some system modeling tool such as UML and SysML.

Prof.Shimada was born in Japan, in 1958. He received the Ph.D from Keio University, in 1996. He worked at Seiko Instruments as a robotics engineer. He had developed several kinds of industrial robot controllers, and presented disturbance observer based control techniques (1983-2001). Concurrently, he was a part time lecturer (1995-1999) and a guest professor at Chiba Univ. (2000-2001). He was an associate prof. at Polytechnic Univ. (2001-2009). Now, he is a full professor at SIT. The considerable experiences of enterprise engineer and university professor are his forte.

- Electric and Electronic Engineering-

AKATSU, Kan

Field of Interest: Power Electronics, Energy conversion, Electric Machines, Advanced Control

Title of Courses: Advanced Research Program on Systems Control Engineering
Electric Machinery and Applications

Topics for Thesis: ✓ PM machine design for Electric Vehicle
✓ High efficiency motor control for general application
✓ High frequency Converter / Inverter
✓ Next generation rare earth free motors
✓ High frequency non-contact DC-DC converter e.t.c

Publications and International Conference Papers:

Shown only papers in FY2012 (more paper will be submitted),

- Masataka Miyamasu and Kan Akatsu, "Efficiency Comparison between Brushless DC Motor and Brushless AC Motor Considering Driving Method and Machine Design", *IEEJ Journal* Vol. 2 / No. 1 / Sec. D (English) (in press)
- Hiromu Arihara and Kan Akatsu, "Basic Properties of an Axial-Type Switched Reluctance Motor", *IEEE Trans. on IA* (in press)
- Noriya Nakao and Kan Akatsu, "Torque Ripple Control for Synchronous Motors Using Instantaneous Torque Estimation", *IEEE Industry Applications Magazine* (in press)
- Katsumi Yamazaki, Takashi Fukuoka, Kan Akatsu, Noriya Nakao, Alex Ruderman, "Investigation of Locked Rotor Test for Estimation of Magnet PWM Carrier Eddy Current Loss in Synchronous Machines", *IEEE Trans. on Magnetics* (in press)
- Takuya Yabe and Kan Akatsu, "Efficiency Improvement of Regenerative Energy for an EV", EVS26 (26th International Electric Vehicle Symposium Guide) , May 6-9, 2012, Los Angeles
- Hiroki Hijikata and Kan Akatsu, "Design and Online Winding Reconfigurations Method of MATRIX Motor", IPEMC (International Power Electronics and motion Control Conference) 2012, June 2-5, 2012, Harbin, China
- Takanori Nagai, Gaku Ando and Kan Akatsu, "Consideration of CSI Drive for SRM Compared with VSI Drive", IPEMC (International Power Electronics and motion Control Conference) 2012, June 2-5, 2012, Harbin, China
- Tomohiro Takahashi and Kan Akatsu, "A Drive System of PM Motor Using Energy Harvesting", IPEMC (International Power Electronics and motion Control Conference) 2012, June 2-5, 2012, Harbin, China
- Eri Zeze and Kan Akatsu, "Research on Vibration Analysis and Noise-Reduction Technique of PM Motor", ICEM (International Conference on Electrical Machines Assosiation) 2012, September 2-5, 2012, Marseille, France

- Hiroki Hijikata and Kan Akatsu, “Design and Online Winding Reconfigurations Method of MATRIX Motor”, IEEE ECCE (Energy Conversion Congress & Exposition) 2012, September 15-20, 2012, Raleigh NC
- Noriya Nakao and Kan Akatsu, “Torque Control of a Switched Reluctance Motor by using Torque Estimation and Excitation Angle Control”, IEEE ECCE (Energy Conversion Congress & Exposition) 2012, September 15-20, 2012, Raleigh NC
- Takachi Kato, Natee Limsuwan, ChenYen Yu, Kan Akatsu, and Robert D.Lorenz, “Rare Earth Reduction using a Novel Variable Magnet-motive Force, Flux Intensified IPM Machine”, IEEE ECCE (Energy Conversion Congress & Exposition) 2012, September 15-20, 2012, Raleigh NC
- Natee Limsuwan, Takachi Kato, Kan Akatsu, and Robert D.Lorenz, “Design and Evaluation of a Variable-Flux Flux-Intensifying Interior Permanent Magnet Machine”, IEEE ECCE (Energy Conversion Congress & Exposition) 2012, September 15-20, 2012, Raleigh NC

Other Features:

Recent global warming is a critical issue in the world. It is required to reduce CO₂ by developing higher efficiency power electronics equipments.

My laboratory especially focuses on the motor and the inverter called power electronics in the various field such as home appliance, railway system, industry equipments and electric / hybrid electric vehicles. The technique of the power electronics must help you in your carrier because almost every energy conversion must use the power electronics technique; machine design, converter / inverter design and control design.

We currently have many original motors including rare-earth less motors which are driven by original made inverters and controllers. Especially high frequency is a key issue in this field since the wide band gap power devices have been developed. You can design a motor and an inverter as you like by using Finite Element Analysis, circuit simulator, and some software.

Now I have 21 students, 3 Ph.D candidates, 11 master course students and 7 bachelors including 1 lady from Malaysia. We usually submit our papers to the international conferences sponsored by IEEE, IEEJ and so on. All master course students submit at least one paper to the international conference. Our field is in the IEEE IAS, IEEE PE and IEEJ Japan and sometimes we go to the EPE conference. I am an associate editor in IEEE IA.

Owing to a lot of student efforts, I have 10 joint researches with companies, 2 national research projects and some individual projects. I hope you will get a lot of experiences and techniques in my laboratory.

-Electric and Electronic Engineering-

CHEN, Xinkai

Field of Interest: Control Systems Engineering, Robotics, Mechatronics
Title of Courses: Advanced Research Program on Systems Control Engineering
Research on Control Systems
Topics for Thesis: Adaptive Control for Piezo-Actuated Nano-Stage
Advanced Control for Robot Arm Driven by Artificial Muscles
Robust Control for Magnetostrictive Actuator
High Precision Control for XY-Table
Intelligent Visual Feedback Control for Helicopter
Robust Control Theory for Systems with Hysteresis
Path Planning for Mobile Robots

Publications and International Conference Papers (Recent Three Years):

1. X. Chen and T. Ozaki, "Adaptive control for plants in the presence of actuator and sensor uncertain hysteresis," *IEEE Transactions on Automatic Control*, vol. 56, no. 1, pp. 171-177, 2011.
2. X. Chen, T. Hisayama, and C.-Y. Su, "Adaptive control for uncertain continuous-time systems using implicit inversion of Prandtl-Ishlinskii hysteresis representation," *IEEE Transactions on Automatic Control*, vol. 55, no. 10, pp. 2357-2363, 2010.
3. X. Chen, T. Hisayama, and C.-Y. Su, "Pseudo-inverse-based adaptive control for uncertain discrete time systems preceded by hysteresis and disturbances," *Automatica*, vol. 45, no. 2, pp. 469-476, 2009.
4. X. Chen and T. Hisayama, "Adaptive sliding mode position control for piezo-actuated stage," *IEEE Transactions on Industrial Electronics*, vol. 55, no.11, pp. 3927-3934, 2008.
5. X. Chen and G. Zhai, "Stochastic model and synchronization analysis for large-scale oscillator networks and their applications," *Journal of Systems and Control Engineering*, vol. 222, no. 7, pp. 711-720, 2008.
6. X. Chen, "Identification for a signal composed of multiple sinusoids," *IET Control Theory & Applications*, vol. 2, no. 10, pp. 875-883, 2008.
7. X. Chen, C.-Y. Su, and T. Fukuda, "Adaptive control for the systems preceded by hysteresis," *IEEE Trans. on Automatic Control*, vol. 53, no. 4, pp. 1019-1025, 2008.
8. X. Chen and N. Nagaya, "Adaptive control for piezo-actuated stage based on continuous-time approach," *IEEE Int. Conf. on Mechatronics and Automation*, August 5-8, 2012, Chengdu, China.
9. X. Chen, "Adaptive Control for Uncertain Systems in the Presence of Actuator and Sensor Hysteresis Represented by Prandtl-Ishlinskii Model," *Int. Conference on Advanced Mechatronic Systems*, September 18-21, 2012, Tokyo, Japan.
10. X. Chen, "Advanced High Precision Control for XY-table," *5th Int. Conference on Intelligent Robotics and Applications*, October 3-5, 2012, Montreal, Canada.
11. X. Chen, Y. Feng and C.-Y. Su, "Adaptive control for continuous-time systems in the presence of actuator and sensor hysteresis," *Proc. 50th IEEE Conference on Decision and Control (CDC 2011)*, December 12-15, 2011.

12. X. Chen, C.-Y. Su and T. Fukuda, "Advanced adaptive control for piezo-actuated nano-positioner," *Proc. 37th Annual Conference of the IEEE Industrial Electronics Society (IECON 2011)*, November 7-10, 2011.
13. X. Chen, Y. Feng and C.-Y. Su, "Advanced control for the XY-table driven by piezo-actuators," *Proc. 18th IFAC World Congress (IFAC 2011)* (Milan, Italy), August 28 - September 2, 2011.
14. X. Chen, "High precision adaptive control for XY-table driven by piezo-actuator," *Proc. 2011 International Conference on Advanced Mechatronic Systems (ICAMechS 2011)*, August 11-13, 2011.
15. X. Chen and M. Hattori, "Adaptive control for piezo-actuated XY-table," *Proc. 2011 IEEE International Conference on Mechatronics and Automation (IEEE ICMA 2011)*, August 7-10, 2011.
16. X. Chen, "High precision control for nano-positioner actuated by smart materials," *Proc. 2011 Chinese Control Conference (CCC 2011)*, July 22-24, 2011.
17. X. Chen and T. Ozaki, "High precision adaptive control for piezo-actuated stage," *Proc. 2010 IEEE International Conference on Robotics and Biomimetics (ROBIO2010)*, December 14-18, 2010.
18. X. Chen and C.-Y. Su, "Advanced control for nano-positioner driven by piezo actuator," *Proc. 6th International Conference on Computer Engineering & Systems (ICCES'10)*, #114, November 30-December 1, 2010.
19. X. Chen, "Adaptive control for systems preceded by hysteresis represented by Preisach model," *Proc. 10th IFAC Workshop on Adaptation and Learning in Control and Signal Processing (ALCOSP 2010)*, #Th2A-03, August 26-28, 2010.
20. X. Chen and T. Ozaki, "Adaptive control for plants in the presence of actuator and sensor hysteresis nonlinearities," *IEEE Conference on Decision and Control (IEEE CDC)*, #1413, December 16-18, 2009.
21. X. Chen and T. Ozaki, "Control for systems in the presence of actuator and sensor hysteresis," *Proc. IEEE Africon*, #146, September 23-25, 2009.
22. X. Chen, "Stereo vision based motion parameter estimation," *Proc. 2009 Int. Conference on Intelligent Computing (ICIC 2009)*, September 16-19, 2009.
23. X. Chen, "High precision control for piezo-actuated positioners," *Proc. IEEE Int. Conference on Mechatronics and Automation (IEEE ICMA)*, August 9-12, 2009.
24. X. Chen, "Adaptive control for piezo-actuated nano-positioner," *Proc. IFAC 15th Symposium on System Identification (IFAC SYSID)*, July 6-8, 2009.
25. X. Chen, T. Hisayama, and C.-Y. Su, "Adaptive control for continuous-time systems preceded by hysteresis," *Proc. 47th IEEE Conference on Decision and Control (IEEE CDC)*, December 9-11, 2008.
26. X. Chen, "Recursive motion recovery based on dynamic vision," *Proc. 17th IFAC World Congress (IFAC2008)*, July 6-11, 2008.

Other Features: The research in this laboratory covers a wide-range of topics related to systems and controls, intelligent systems, robotics and mechatronics. The overall goal of our research is to provide a systematic methodology to design the controllers that will cause the systems to behave in the desired manner, or to give a systematic solution/analysis for the considered systems.

Dr. Chen has published many papers at the prestigious journals in Systems and Control (such as IEEE Transactions on Automatic Control, Automatica, IEEE Transactions on Industrial Electronics, etc). He has been served as Program Chair, Program Co-Chair, and Program Committee Members for many well-known international conferences, and editors for several leading journals in Systems and Control (such as IEEE Transactions on Automatic Control).

Information Science and Engineering

-Information Science and Engineering-

OHKURA, Michiko

Field of Interest: Interactive Systems, Virtual environment,
Usability of Information Systems, Emotional (Kansei) engineering,
Medication Interface to Prevent Medical Accident

Title of Courses: Advanced Research Program on Systems Control Engineering
Information System Engineering

Topics for Thesis: Evaluation of emotional aspects of Interactive Systems,
Collaborative Virtual Environment for Distance Education,
Interactive system for visually impaired,
Interactive system for rehabilitation,
Medication Interface to Prevent Medical Accident

Main Publications and International Conference Papers from 2010:

1. T. Shimada, S. Ikeda and M. Ohkura, 2012, Design of User Manuals for Elderly People, Proc. of 10th Asia Pacific Conference on Computer Human Interaction (APCHI 2012)
2. S. Tivatansakul, S. Tanupaprungsun, K. Areekijserree, T. Achalakul and M. Ohkura, 2012, The Intelligent Space for the Elderly, Proc. of APCHI2012.
3. S. Tivatansakul, S. Tanupaprungsun, K. Areekijserree, T. Achalakul, K. Hirasawa, S. Sawada, A. Saitoh and M. Ohkura, 2012, The intelligent space for the elderly - Implementation of fall detection algorithm -, Proc. of 51st Annual Conference on the Society of Instrument and Control Engineers of Japan (SICE2012).
4. M. Ohkura, K. Uchiumi, Y. Saito, K. Hasegawa, 2012, Proposal of the indexes for driver distraction using biological signals, Proc. International Design Engineering Technical Conferences & Computers and Information in Engineering Conference 2012, DETC2012-70595.
5. S. Charoenpit, and M. Ohkura, 2012, The Kansei research on the price labels of shoes, Proc. 4th International Conference on Applied Human Factors and Ergonomics (AHFE2012), pp.6851-6859.
6. N. Takahashi T. Shogen, Y. Ikegami, and M. Ohkura, 2012, A game system for visually impaired utilizing Kinect, Proc. AHFE2012, pp.6260-6265.
7. T. Komatsu, and Michiko Ohkura, 2012, Assessment of material perception of black lacquer, Proc. AHFE2012, pp.4527-4536.
8. M. Ohkura, T. Komatsu, S. Tivatansakul, S. Settapat and S. Charoenpit, 2012, Comparison of evaluation of kawaii ribbons between gender and generation, Proc. AHFE2012, pp.4478-4487.
9. T. Shimada and M. Ohkura, 2012, Survey report of recent researches on usability evaluation for elderly people in Japan, Proc. AHFE2012, pp.2151-2160.
10. S. Tivatansakul, S. Tanupaprungsun, K. Areekijserree, T. Achalakul, K. Hirasawa, Sh. Sawada, A. Saitoh and M. Ohkura, 2012, The intelligent space for the elderly - including activity detection -, Proc. AHFE2012, pp.921-930.
11. S. Tivatansakul, S. Tanupaprungsun, K. Areekijserree, T. Achalakul and M.

- Ohkura, 2012, Intelligent Space Design for the elderly, Proc. the 6th International Symposium, South East Asian Technical University Consortium (SEATUC2012).
12. M. Ohkura, T. Komatsu, S. Settapat, and A. Charoenpit, 2012, Questionnaire survey on kawaii ribbons with different colors and patterns, Proc. SEATUC2012.
 13. S. Settapat, H. Maeda, and M. Ohkura, 2011, Study of 2D Information Visualization Design in Virtual Space for Distance Learning, Transactions of Japan Society of Kansei Engineering, vol.10, no.3, pp.333-340.
https://www.jstage.jst.go.jp/article/jjske/10/3/10_3_333/_pdf
 14. M. Ohkura, M. Konuma, Y. Kogure, S. Tanaka, H. Ei, A. Sakai, T. Ishidou, and Y. Watanabe, 2011, Restoration Support System for a Historic Textile Market Using Virtual Environment, Human-Computer Interaction, Part IV, HCII2011, pp.413-422.
 15. T. Komatsu and M. Ohkura, 2011, Study on Evaluation of Kawaii Colors Using Visual Analog Scale, Human-Computer Interaction, Part I, HCII2011, pp.103-108.
 16. S. Settapat, T. Achalakul, and M. Ohkura, 2011, The Usability Evaluation of Web-Based 3D Medical Image Visualization, Human-Computer Interaction, Part II, HCII2011, pp.507-516.
 17. Y. Ikegami, K. Ito, H. Ishii, and M. Ohkura, 2011, Development of a Tracking Sound Game for Exercise Support of Visually Impaired, Human-Computer Interaction, Part II, HCII2011, pp.31-35.
 18. H. Yoshimi, H. Muraoka, A. Izumiya, M. Kimura, M. Ohkura, and F. Tsuchiya, 2011, Construction and Analysis of Database on Outer Cases of Medicines, Human-Computer Interaction, Part IV, HCII2011, pp.226-231.
 19. S. Settapat, T. Achalakul and M. Ohkura, 2011, Web-based 3D Medical Image Visualization Framework for Biomedical Engineering Education, Computer Applications in Engineering Education.
 20. M. Ohkura, S. Goto, A. Higo, and T. Aoto, 2011, Relation between Kawaii Feeling and Biological Signals, Transactions of Japan Society of Kansei Engineering, vol.10, no.2, pp.109-114.
https://www.jstage.jst.go.jp/article/jjske/10/2/10_2_109/_pdf
 21. S. Settapat, P. Intapong, T. Achalakul, and M. Ohkura, 2011, Modular Web Collaborative System for Distance Learning, Proceedings of the 5th South East Asian Technical University Consortium (SEATUC) Symposium, pp.72-75.
 22. S. Murai, and M. Ohkura, 2011, Interactive system to assist rehabilitation in children –Step motion and sitting posture–, Proceedings of the 5th SEATUC Symposium, pp.68-71.
 23. M. Ohkura, M. Konuma, Y. Kogure, H. Ei, A. Sakai, S. Tanaka, T. Ishidou, and Y. Watanabe, 2011, Restoration support system for a historic textile market using virtual environment -Comparison between generations-, Proceedings of the 5th SEATUC Symposium, pp.58-61.
 24. S. Settapat, V. Archirapatkave, T. Achalakul, and M. Ohkura, 2011, A Web-Based 3D Visualization to Promote Distance Learning, Proceedings of the 5th SEATUC Symposium, pp.7-14.
 25. S. Settapat, T. Achalakul and M. Ohkura, 2010, Web-based 3D Visualization and Interaction of Medical Data using Web3D, Proceedings of SICE Annual Conference 2010, 2986/2991, SB06.02.
 26. M. Ohkura, and T. Aoto, 2010, Systematic Study of Kawaii Products: Relation between Kawaii Feelings and Attributes of Industrial Products, Proceedings of the ASME 2010 International Design Engineering Technical Conference & Computers and Information in Engineering Conference, DETC2010-28182.
 27. M. Ohkura, S. Goto, A.Higo, and T. Aoto, 2010, Relation between Kawaii Feeling

- and Biological Signals, Proceedings of the 3rd International Conference of Applied Human Factors and Ergonomics 2010 (AHFE2010).
28. A. Izumiya, Y. Ootsuki, M. Kimura, M. Ohkura, T. Takaike, and F.Tsuchiya, 2010, Analysis of Questionnaire on Appearance Similarity of PTP Sheets, Proceedings of AHFE2010.
 29. S. Murai, K. Umehara, H. Hariyama, and M. Ohkura, 2010, Interactive System to Assist Rehabilitation of Children: Development of a System Employing New Rehabilitation Movement, Proceedings of AHFE 2010.
 30. S. Settapat, V. Archirapatkave, T. Achalakul and M. Ohkura, 2010, A Framework of Web3D Based Medical Data Reconstruction and Visualization, Proceedings of 12th International Conference on E-Health Networking, Application and Services (IEEE HealthCom'10), pp.43-47.
 31. S. Settapat, V. Archirapatkave, T. Achalakul and M. Ohkura, 2010, Web-based 3D Visualization Framework for Medical Data, Proceedings of the International Conference on 3D Systems and Applications (3DSA2010), pp.302-305.
 32. M. Ohkura, M. Hamano, H. Watanabe, and T. Aoto, 2010, Measurement of “wakuwaku” feeling generated by interactive systems using biological signals, The Proceedings of the Kansei Engineering and Emotion Research International Conference 2010 (KEER2010) pp.2293-2301.
 33. M. Ohkura, S. Goto, S. Murai and T. Aoto, 2010, Systematic Study on Kawaii Products: Kawaii Shapes and Colors, Proceedings of the 4th South East Asian Technical University Consortium (SEATUC) Symposium, pp.301-304.

Other Features:

Served as one of the scientific advisory boards of the 1st International Conference on Affective and Pleasurable Design (2012)

Served as one of the scientific advisory boards of the 2nd International Conference on Human Factors and Ergonomics in Healthcare (2012), and the 1st International Conference on Human Factors and Ergonomics in Healthcare (2010)

Served as an organizer of 15th International Conference on Human-Computer Interaction (HCI International 2013), 14th International Conference on Human-Computer Interaction (HCI International 2011), 13th International Conference on Human-Computer Interaction (HCI International 2009), 12th International Conference on Human-Computer Interaction (HCI International 2007), and 11th International Conference on Human-Computer Interaction (HCI International 2005)

-Information Science and Engineering-

MIYOSHI, Takumi

Field of Interest: Internet Technology, Multimedia Communication,
Peer-to-Peer Communication, Grid Computing,
Mobile Ad Hoc / Sensor Network, E-Learning

Title of Courses: Advanced Research on Telecommunication Function Control
Information Networking Systems

Topics for Thesis: Traffic Analysis on Video/Audio Streaming Services
Traffic Localization on P2P Video Streaming
Image Processing and Routing on Ad Hoc / Sensor Network

Publications in recent 4 years (English reviewed papers only):

1. P. Nguyen Huu, V. Tran-Quang, and T. Miyoshi, "Video Compression Schemes Using Edge Feature on Wireless Video Sensor Networks," *Journal of Electrical and Computer Engineering*, Hindawi, Article in press.
2. T. Miyoshi, Y. Shinozaki, and O. Fourmaux, "A P2P Traffic Localization Method with Additional Delay Insertion," *4th International Conference on Intelligent Networking and Collaborative Systems (INCoS2012)*, Bucharest, Romania, pp.148-154, September 2012.
3. R. Yamamoto, T. Miyoshi, and Y. Tanaka, "Neighbour Traffic-Aware Load Balancing Method in Ad Hoc Networks," *4th International Conference on Intelligent Networking and Collaborative Systems (INCoS2012)*, Bucharest, Romania, pp.193-197, September 2012.
4. P. Nguyen Huu, V. Tran-Quang, and T. Miyoshi, "2Distributed Image Encoding Scheme Using LDPC Codes over GF(q) on Wireless Sensor Networks," *4th International Conference on Intelligent Networking and Collaborative Systems (INCoS2012)*, Bucharest, Romania, pp.198-205, September 2012.
5. P. Nguyen Huu, V. Tran-Quang, and T. Miyoshi, "Multi-hop Reed-Solomon Encoding Scheme for Image Transmission on Wireless Sensor Networks," *4th International Conference on Communications and Electronics (ICCE2012)*, Hue, Vietnam, pp. 74-79, August 2012.
6. T. Yamazaki, M. Eguchi, T. Miyoshi, and K. Yamori, "A Service Quality Coordination Model Bridging QoS and QoE," *IEEE/ACM 20th International Workshop on Quality of Service (IWQoS2012)*, June 2012.
7. M. Wang, O. Fourmaux, Y. Nakamura, and T. Miyoshi, "Network Impact of P2P-TV Zapping," *World Telecommunications Congress (WTC2012)*, Miyazaki, Japan, March 2012.
8. P. Nguyen Huu, V. Tran-Quang, and T. Miyoshi, "Low-Complexity Distributed Encoding Scheme for Low-Density Parity-Check Codes in Wireless Sensor Networks," *World Telecommunications Congress (WTC2012)*, Miyazaki, Japan, March 2012.
9. V. Tran-Quang, P. Nguyen Huu, and T. Miyoshi, "A Transmission Range

- Optimization Algorithm to Avoid Energy Holes in Wireless Sensor Networks”, *IEICE Transactions on Communications*, Vol. E94-B, No. 11, pp. 3026-3036, November 2011.
10. P. Nguyen Huu, V. Tran-Quang, and T. Miyoshi, "Low-Complexity Motion Estimation Algorithm Using Edge Feature for Video Compression on Wireless Video Sensor Networks," *13th Asia-Pacific Network Operations and Management Symposium (APNOMS2011)*, Taipei, Taiwan, September 2011. **(The Best Student Grant Award)**
 11. R. Yamamoto, T. Miyoshi, and Y. Tanaka, "A Load Balancing Method with Adaptive Transmission Rate Control in Ad Hoc Networks," *13th Asia-Pacific Network Operations and Management Symposium (APNOMS2011)*, Taipei, Taiwan, September 2011.
 12. V. Tran-Quang, P. Nguyen Huu, and T. Miyoshi, "A Collaborative Target Tracking Algorithm Considering Energy Constraint in WSNs," *19th International Conference on Software, Telecommunications and Computer Networks (SoftCOM2011)*, Hvar, Croatia, September 2011.
 13. P. Nguyen Huu, V. Tran-Quang, and T. Miyoshi, "Efficient Motion Estimation Algorithm Using Edge Feature and Arithmetic Coding for Video Compression on WWSNs," *19th International Conference on Software, Telecommunications and Computer Networks (SoftCOM2011)*, Hvar, Croatia, September 2011. **(The Best Conference Paper Award)**
 14. T. Miyoshi and K. Sekiya, "Efficient Transfer Method for On-demand Video Delivery Based on Streaming Packet Analysis," *1st ACIS/JNU International Conference on Computers, Networks, Systems, and Industrial Engineering (CNSI 2011)*, Jeju, Korea, pp. 141-146, May 2011.
 15. P. Nguyen Huu, V. Tran-Quang, and T. Miyoshi, "Low-Complexity and Energy-Efficient Algorithms on Image Compression for Wireless Sensor Networks", *IEICE Transactions on Communications*, Vol. E93-B, No. 12, pp. 3438-3447, December 2010.
 16. P. Nguyen Huu, V. Tran-Quang, and T. Miyoshi, "Energy Threshold Adaptation Algorithms on Image Compression to Prolong WSN Lifetime," *7th International Symposium on Wireless Communication Systems (ISWCS 2010)*, York, UK, pp. 834-838, September 2010.
 17. H. Kitada, T. Miyoshi, A. Shiozu, M. Tsujino, M. Iwashita, and H. Yoshino, "General Flow Characteristics of P2P Streaming Considering Impact to Network Load," *Computer and Information Science 2010, Studies in Computational Intelligence*, Springer, Vol. 317, pp. 73-83, August 2010.
 18. H. Kitada, T. Miyoshi, A. Shiozu, M. Tsujino, M. Iwashita, and H. Yoshino, "General Flow Characteristics of P2P Streaming Considering Impact to Network Load," *9th IEEE/ACIS International Conference on Computer and Information Science (ICIS 2010)*, Yamagata, Japan, pp.73-83, August 2010. **(Selected as the Best Paper and will be published from Springer)**
 19. V. Tran-Quang, P. Nguyen Huu, and T. Miyoshi, "Adaptive Transmission Range Assignment Algorithm for In-routing Image Compression on Wireless Sensor Networks," *3rd International Conference on Communications and Electronics (ICCE 2010)*, Nha Trang, Vietnam, pp. 18-23, August 2010.
 20. P. Nguyen Huu, V. Tran-Quang, and T. Miyoshi, "Image Compression Algorithm Considering Energy Balance on Wireless Sensor Networks," *8th IEEE International Conference on Industrial Informatics (INDIN 2010)*, Osaka, Japan, pp. 1005-1010, July 2010.
 21. V. Tran-Quang and T. Miyoshi, "A Transmission Range Adjustment Algorithm to Avoid Energy Holes in Wireless Sensor Networks," *8th Asia-Pacific Symposium on*

- Information and Telecommunication Technologies (APSITT 2010)*, Kuching, Malaysia, Paper No. A-5-4, June 2010.
22. H. Kitada, T. Miyoshi, T. Kurosawa, M. Tsujino, M. Iwashita, and H. Yoshino, "Hierarchical Traffic Analysis and Modeling for P2P Streaming," *21st International Teletraffic Congress Specialist Seminar (ITC-SS21)*, Miyazaki, Japan, pp.42-47 March 2010.
 23. T. Miyoshi and K. Sekiya, "On the Packet Similarity of Real-time Streaming Services," *International Conference on Intelligent Networking and Collaborative Systems (INCoS 2009)*, Barcelona, Spain, pp. 265-266, November 2009.
 24. V. Tran Quang and T. Miyoshi, "A Novel Gossip-based Sensing Coverage Algorithm for Dense Wireless Sensor Networks," *Elsevier Computer Networks*, Vol. 53, Issue 13, pp. 2275-2287, August 2009.
 25. R. Yamamoto and T. Miyoshi, "Distributed Retransmission Method Using Neighbor Terminals for Ad Hoc Networks," *14th Asia-Pacific Conference on Communications (APCC2008)*, Tokyo, Japan, October 2008.
 26. V. Tran Quang and T. Miyoshi, "Adaptive Routing Protocol with Energy Efficiency and Event Clustering for Wireless Sensor Networks," *IEICE Transactions on Communications*, Vol. E91-B, No. 9, pp. 2795-2805, September 2008.
 27. V. Tran Quang and T. Miyoshi, "Energy Balance on Adaptive Routing Protocol Considering the Sensing Coverage Problem for Wireless Sensor Networks," *2nd International Conference on Communications and Electronics (HUT-ICCE 2008)*, Hoi An, Vietnam, pp. 86-91, June 2008. **(IEEE Section Prize Student Paper Award, IEEE Vietnam Section)**
 28. V. Tran Quang and T. Miyoshi, "An Algorithm for Sensing Coverage Problem in Wireless Sensor Networks," *2008 IEEE Sarnoff Symposium*, Princeton, NJ, USA, Paper No. S3.5, April 2008.

Other Features:

Two doctoral students of Hybrid Twinning Program have successfully got their Ph.D. degrees in September 2009 and 2012, after their three-year study. Another doctoral student has joined from Hanoi Institute of Science and Technology, Vietnam, since November 2012. He is currently studying traffic control mechanism on peer-to-peer (P2P) video streaming services. A master-course student has also joined from Hanoi since November 2012. Her research topic is related to the quality of experience (QoE) of users on video streaming services.

In 2012, I have five Japanese master-course students. For undergraduate research, seven Japanese students are studying in my laboratory. Their researches include: traffic analysis and modeling on P2P video streaming, traffic control on P2P video streaming, network design and routing strategy on wireless ad-hoc network, and QoE evaluation on mobile network and applications.

I was a visiting scholar in Laboratoire d'Informatique de Paris 6 (LIP6), UPMC Sorbonne Universités, Paris, France. I have started some collaborative study with professors in LIP6 and in HUST on P2P, overlay, and wireless sensor networks research field. I also have many national research collaborations with Tokyo Metropolitan University, Waseda University, Sophia University, Asahi University, and NTT Communications Corp. I strongly expect that high motivated students would have interest in these topics.

-Information Science and Engineering-

AIBA, Akira

- Field of Interest: Multi-Agent System, Logic Programming, Constraint Logic Programming, Functional Programming, Social Application of Information Technology, Mathematical Theory of Computation
- Title of Courses: Advanced Research on Telecommunication Function Control
Studies on Problem Solving Systems
- Topics for Thesis: Pedestrian Navigation System using Extended Reality,
Cooperative Scheduling By n-ary negotiation in Distributed Constraint Solving,
Robustness of Multi-agent System in Dynamic Environment

Publications and International Conference Papers:

1. Akira Aiba, Shinichi Sato, and Shigeto Aramaki,, “Construction of Robot Structure Design Support System by Constraint Logic Programming”, Journal of Robotics and Mechatronics, Vol.8, No.5, pp.481-490, Jan, 1996.
2. Akira Aiba, Kazumasa Yokota, and Hiroshi Tsuda, “Heterogeneous Distributed Cooperative Problem Solving System HELIOS and Its Cooperation Mechanism”, International Journal of Cooperative Information Systems, Vol.4, No.4, Jan. 1995.
3. Hiroyuki Sawada; Satoshi Terasaki; and Akira Aiba, “Parallel Computation of Grobner Bases on Distributed Memory Machines”, Journal of Symbolic Computation, Vol.18, No.3, Sep. 1994.
4. Shunichi Uchida; Akira Aiba; Kazuaki Rokusawa; Takashi Chikayama; and Ryuzo Hasegawa, "The parallel logic programming system in the FGCS Project and its future directions", Parallel Computing, 25, pp.1601-1633, 1999.
5. Akira Aiba; and Ryuzo Hasegawa, “Constraint Logic Programming System : CAL, GDCC and Their Constraint Solvers”, Proc.for International Conference on Fifth Generation Computer Systems 1992, Jun. 1992.

Other Features:

Recent Research Topics

1. Research on information infrastructure system for wheel-chair users
2. Recognition of historical hand written Japanese character HIRAGANA

- Information Science and Engineering -

USAMI, Kimiyoshi

Field of Interest: Computer Architecture, LSI design
Title of Courses: Advanced Research Program on Systems Control Engineering
Computer Architecture and LSI Design
Topics for Thesis: Energy efficient computer architecture and LSI chips

Publications and International Conference Papers:

1. R. Mitsuhashi, M. Kudo, K. Usami, "Leakage Energy Reduction of Sub-Threshold Circuits by Body Bias Control for Power Switch" , The 27th International Technical Conference on Circuits/Systems, Computers and Communications (ITC-CSCC'12), Sapporo, Japan, July 15-18, 2012,
2. S. Takeda, S. Miwa, K. Usami, H. Nakamura, "Stepwise Sleep Depth Control for Run-Time Leakage Power Saving", Proc. GLSVLSI'12, pp.233-238, May. 2012.
3. S. Takeda, S. Miwa, K. Usami, H. Nakamura, Efficient Leakage Power Saving by Sleep Depth Controlling for Multi-mode Power Gating, Proc. of ISQED2012, pp.627-634, March, 2012.
4. S. Takeda, K. Kim, H. Nakamura, K. Usami, "Sleep Transistor Sizing Method using Accurate Delay Estimation considering Input Vector Pattern and Non-Linear Current Model", IEICE Transaction on Fundamentals of Electronics, Communications and Computer Sciences Vol.E94-A, No.12, pp. 2499-2509, Dec. 2011.
5. H. Matsutani, M. Koibuchi, D. Ikebuchi, K. Usami, H. Nakamura, H. Amano, "Performance, area Power Evaluation of Ultrafine-Grained Run-Time Power Gating Routers for CMPs," IEEE Trans. on Computer-Aided Design of Integrated Circuits Systems, Vol.30, No.4, pp.520-534, 2011.
6. N. Ozaki, Y. Yasuda, Y. Saito, D. Ikebuchi, M. Kimura, H. Amano, H. Nakamura, K. Usami, M. Namiki, M. Kondo, "Cool Mega Arrays: Ultralow-Power Reconfigurable Accelerator Chips," IEEE Micro, Vol.31, No.6 6-18, 2011.
7. K. Usami, Y. Goto, K. Matsunaga, S. Koyama, D. Ikebuchi, H. Amano, H. Nakamura, "On-chip Detection Methodology for Break-Even Time of Power Gated Function Units," IEEE/ACM International Symposium on Low Power Electronics and Design (ISLPED'11), pp.241-246, Fukuoka, Japan, August 2011.

8. Z. Lei, D. Ikebuchi, K. Usami, M. Namiki, M. Kondo, H. Nakamura, H. Amano, "Design and Implementation of Fine-grained Power Gating on Processor Functional Units," *IP SJ Trans. on System LSI Design Methodology*, Vol.4, No.0, pp.182-192, 2011.
9. T. Yamamoto, K. Hironaka, Y. Hayakawa, M. Kimura, H. Amano, K. Usami, "Dynamic VDD Switching Technique and Mapping Optimization in Dynamically Reconfigurable Processor for Efficient Energy Reduction," *The 7th International Symposium on Applied Reconfigurable Computing (ARC'11)*, pp. 230-241, Belfast, United Kingdom, March 2011.
10. T. Ishizaki, K. Usami, "Circuit Structure of Level Shifter for Sub-threshold Operation," *25th International Technical Conference on Circuits/Systems, Computers and Communications (ITC-CSCC'10)*, Paper numb. 0285, Pattaya, Thailand, July, 2010.
11. K. Usami, T. Hashida, S. Koyama, T. Yamamoto, D. Ikebuchi, H. Amano, M. Namiki, M. Kondo, H. Nakamura, "Adaptive Power Gating for Function Units in a Microprocessor," *IEEE International Symposium on Quality Electronic Design (ISQED'10)*, pp. 29-37, San Jose, California, U.S.A, March 2010.

Other Features:

- Department head of Electrical Engineering and Computer Science in Graduate School of Science and Engineering since 2012.
- Chair of IEICE Technical Group on VLSI Design Technologies (VLD) May 2011-May 2012.
- Collaborative research with Keio Univ., Kyoto Univ., Univ. of Electro-Communications and Japanese companies under the Japanese national project (LEAP) since 2011 on ultra low-power microprocessor design technology.
- Collaborative research with Univ. Tokyo, Keio Univ., Tokyo Univ. of Agriculture and Technology and Univ. of Electro-Communications under the Japanese national project (CREST) from 2006 to 2011 on low-power/high-performance system LSI.
- Technical Program Committee member for IEEE International Conference on Computer Design (ICCD) from 2000 to 2004, 2008 and 2009. Technical Program Committee member for IEEE and ACM Asia and South Pacific Design Automation Conference (ASP-DAC) 2010, 2011 and 2012.
- Member of IEEE, ACM and IEICE.

URL: <http://www.usamilab.ise.shibaura-it.ac.jp/>

-Information Science and Engineering-

KAMIOKA, Eiji

Field of Interest: Ubiquitous Computing, Context-Aware Computing,
Mobile Computing, Mobile Multimedia Applications

Title of Courses: Advanced Research on Telecommunication Function Control
Research in acoustic communication and information systems

Topics for Thesis: Personal Communications in Ubiquitous Environment
Context-aware Applications for Ubiquitous Computing
Quality of Mobile Multimedia Communications

Publications and International Conference Papers:

1. Quang Tran Minh, Muhammad Ariff Baharudin, and Eiji Kamioka, "Synergistic Approaches to Mobile Intelligent Transportation Systems Considering Low Penetration Rate", *Pervasive and Mobile Computing*, Elsevier, (accepted).
2. Yuki Yamashita, Takuya Imawaka, and Eiji Kamioka, "Detection of Unpleasant Auditory Perception with Biological Information", *Proceedings of the 18th Asia-Pacific Conference on Communications (APCC2012)*, 15-17 October, Jeju Island, Korea (accepted).
3. Quang Tran Minh, Muhammad Ariff Baharudin, and Eiji Kamioka, "Context-Aware Mobile Intelligent Transportation Systems ", *Proceedings of IEEE 76th Vehicular Technology Conference (VTC2012-Fall)*, September 3-6, Quebec, Canada, 2012, CD-ROM.
4. Quang Tran Minh, Muhammad Ariff Baharudin, and Eiji Kamioka, "Mobile Phone Based Walker Recognition and Vehicle Classification", *Proceedings of the 9th IEEE Vehicular Technology Society Asia Pacific Wireless Communications Symposium (VTS APWCS2012)*, Kyoto, Japan, August 23-24, 2012, CD-ROM.
5. Muhammad Ariff Baharudin, Quang Tran Minh and Eiji Kamioka, " Velocity Classification Model Based on Artificial Neural Network for the Velocity-Centric Ant Colony Optimization-Inspired SCTP Handover System", *Proceedings of the 6th International Conference on Mobile Computing and Ubiquitous Networking (ICMU2012)*, Okinawa, Japan, May 23-25, 2012, pp.62-68.
6. Quang Tran Minh, Muhammad Ariff Baharudin and Eiji Kamioka, "Uncertain Penetration Rate Issues in Mobile Intelligent Transportation Systems ", *Proceedings of the 6th International Conference on Mobile Computing and Ubiquitous Networking (ICMU2012)*, Okinawa, Japan, May 23-25, 2012, pp.48-55.
7. Muhammad Ariff Baharudin, Quang Tran Minh and Eiji Kamioka, "Evaluation of the SCTP Optimal Path Selection with Ant Colony Optimization Probabilistic Equation Implementation", *Proceedings of IEEE 75th Vehicular Technology Conference (VTC2012-Spring)*, May 6-9, Yokohama, Japan, 2012, CD-ROM.
8. Quang Tran Minh, Muhammad Ariff Baharudin and Eiji Kamioka, "Uncertain Low Penetration Rate – A Practical Issue in Mobile Intelligent Transportation

- Systems", Proceedings of the 26th IEEE International Conference on Advanced Information Networking and Applications (AINA2012), Fukuoka, Japan, March 26-29, 2012, pp.237-244.
9. Muhammad Ariff Baharudin, Quang Tran Minh and Eiji Kamioka, "Evaluations of Ant Colony Optimization Inspired SCTP Optimal Path Selection using E-Model", Proceedings of the 26th IEEE International Conference on Advanced Information Networking and Applications (AINA2012), Fukuoka, Japan, March 26-29, 2012, pp.487-494.
 10. Quang Tran Minh and Eiji Kamioka, "Adaptive Approaches in Mobile Phone Based Traffic State Estimation with Low Penetration Rate", Journal of Information Processing, Vol.20, No.1, 2012, pp.297-307.
 11. Quang Tran Minh and Eiji Kamioka, "Traffic State Estimation with Mobile Phones Based on The "3R" Philosophy", IEICE Transactions on Communications, Vol. E94-B, No.12, 2011, pp.3447-3458.
 12. Quang Tran Minh and Eiji Kamioka, "Assuring Accuracy on Low Penetration Rate Mobile Phone-Based Traffic State Estimation System", Proceedings of IEEE 74th Vehicular Technology Conference (VTC2011-Fall), Sep. 5-8, San Francisco, USA, 2011, CD-ROM.
 13. Quang Tran Minh and Eiji Kamioka, "Error-Tolerance in Quantifying Traffic States Using Mobile Phones", Proceedings of the 10th International Symposium on Autonomous Decentralized Systems (ISADS2011), Kobe, Japan, June 29-30, 2011, 559-563.
 14. Eiji Kamioka, Tatsuya Kasahara, and Takahiro Sawatari, "Possibility of Brainwave-based Context Aware Systems", Proceedings of the 5th South East Asia Technical University Consortium Symposium (SEATUC2011), Hanoi, Vietnam, February 24-25, 2011, pp.44-45.
 15. Nurzal Effiyana binti Ghazali and Eiji Kamioka, "Influence of the Scanning Time to Total Handover Interruption Time in Mobile WiMAX", Proceedings of the 5th South East Asia Technical University Consortium Symposium (SEATUC2011), Hanoi, Vietnam, February 24-25, 2011, pp.64-67.
 16. Quang Tran Minh, and Eiji Kamioka, "Pinpoint: An Efficient Approach to Traffic State Estimation System Using Mobile Probes", Proceedings of the 6th International Conference on Wireless Communications, Networking and Mobile Computing (WiCOM2010), Sep. 23-25, Chengdu, China, 2010, CD-ROM.
 17. Quang Tran Minh and Eiji Kamioka, "Granular Quantifying Traffic State Using Mobile Probes", Proceedings of IEEE 72nd Vehicle Technology Conference (VTC2010-Fall), Sep. 6-9, Ottawa, Canada, 2010, CD-ROM.
 18. Eiji Kamioka, "User-Centric Network Application with User's Intuitive Operations", Proceedings of the 4th South East Asia Technical University Consortium Symposium (SEATUC2010), Tokyo, Japan, February 25-26, 2010, pp.297-300.
 19. Kentaro Tsuji and Eiji Kamioka, "Estimation of User's Position and Behavior Based on Measurements of Sensor Information", Proceedings of the 9th International Symposium on Autonomous Decentralized Systems (ISADS2009), Athens, Greece, March 23-25, 2009, pp.345-350.
 20. Md. Nurul Huda, Faizana Yasmeen, Eiji Kamioka, and Shigeki Yamada, "Optimal Path Selection in MANET considering Network Stability and Power Cost", ANSI Information Technology Journal, Vol.6, Issue 7, 2007, pp.1021-1028.
 21. Eiji Kamioka and Shigeki Yamada, "A Media Handover System with an IrDA Pointer", Proceedings of the 11th International Conference on Internet and Multimedia Systems and Applications (IMSA2007), Honolulu, Hawaii, USA, August 20-22, 2007, pp.62-67.
 22. Mingmei Li, Eiji kamioka, and Shigeki Yamada, "Pricing to Stimulate Node

- Cooperation in Wireless Ad Hoc Networks", IEICE Transactions on Communications, Vol. E90-B, No.7, 2007, pp.1640-1650.
23. Md. Nurul Huda, Eiji Kamioka, and Shigeki Yamada, "Design, Analysis, and Evaluation of Mobile Agent based Privacy Protection Scheme for Multi-party Computation Problem", IPSJ Transactions, Vol.48, No.6, 2007, pp.2085-2096.
 24. Ved P. Kafle, Sangheon Park, Yanghee Choi, Eiji Kamioka, and Shigeki Yamada, "IIPP: Integrated IP Paging with Power Save Mechanism", Wiley Wireless Communications and Mobile Computing (WCMC), Vol.7, Issue 5, June, 2007, pp.553-568.
 25. Md. Nurul Huda, Eiji Kamioka, and Shigeki Yamada, "An Efficient and Privacy-aware Meeting Scheduling Scheme using Common Computational Space", IEICE Transactions on Information and Systems, Vol. E90-D, No.3, 2007, pp.656-667.
 26. Ved P. Kafle, Eiji Kamioka and Shigeki Yamada, "CoMoRoHo: Cooperative mobile router-based handover scheme for long vehicular networks", IEICE Transactions on Communications, Vol. E89-B, No.10, 2006, pp.2774-2785.
 27. Ved P. Kafle, Eiji Kamioka, and Shigeki Yamada, "MoRaRo: Mobile router-assisted route optimization for network mobility (NEMO) support", IEICE Transactions on Information and Systems, Vol. E89-D, No.1, 2006, pp.158-170.
 28. Ved P. Kafle, Eiji Kamioka and Shigeki Yamada, "A Scheme for Graceful Vertical Handover in Heterogeneous Overlay Networks", Proceedings of the 2nd IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob2006), Montreal, Canada, June 19-21, 2006, pp.343-348.
 29. Eiji Kamioka, Shigeki Yamada, Shigeru Morifuku, Makoto Gozu, Shigeo Takifuji, and Makoto Okita, "A User-driven Device Handover System in PAN Environments", Proceedings of the 7th IEEE International Conference on Mobile Data Management 2006 (MDM2006), Nara, Japan, May 10-12, 2006, pp.56-61.
 30. Ved P. Kafle, Eiji Kamioka, and Shigeki Yamada, "Maximizing user satisfaction based on mobility on heterogeneous mobile multimedia communication networks", IEICE Transactions on Communications, Vol. E88-B, No.7, 2005, pp.2709-2717.
 31. Shigeki Yamada and Eiji Kamioka, "Access Control for Security and Privacy in Ubiquitous Computing Environments", IEICE Transactions on Communications, Vol.E88-B, No.3, 2005, pp.846-856.
 32. Ved P. Kafle, Eiji Kamioka, and Shigeki Yamada, "User-centric performance and cost analysis for selecting access networks in heterogeneous overlay systems", Proceedings of the 8th IFIP/IEEE International Conference on Management of Multimedia Networks and Services 2005 (MMNS 2005), LNCS 3754, Barcelona, Spain, October 24-26, 2005, pp.277-288.
 33. Ved P. Kafle, Eiji Kamioka, and Shigeki Yamada, "Mobile IPv6-type route optimization scheme for network mobility (NEMO) support", Proceedings of the 10th IFIP International Conference on Personal Wireless Communications 2005 (PWC 2005), Colmar, France, August 25-27, 2005, pp.381-388.
 34. Mingmei Li, Eiji Kamioka, Shigeki Yamada and Yang Cui, "Efficient Node Forwarding Strategies via Non-cooperative Game for Wireless Ad Hoc Networks", Proceedings of the 3rd International Conference on Computer Networks and Mobile Computing 2005 (ICCNMC2005), LNCS 3619, Zhangjiajie, China, August 2-4, 2005, pp.334-343.
 35. Huda Md. Nurul, Shigeki Yamada and Eiji Kamioka, "Routing Cost vs. Network Stability in MANET", Proceedings of the 4th International Conference on Networking 2005 (ICN2005), LNCS 3421, Reunion Island, France, April 17-21, 2005, pp.218-225.

36. Huda Md. Nurul, M. Julius Hossain, Shigeki Yamada, Eiji Kamioka, and Ok-Sam Chae, "Cost-effective Lifetime prediction based Routing Protocol for MANET", Proceedings of the International Conference on Information Networking 2005 (ICOIN2005), LNCS 3391, Jeju, Korea, January 31-February 2, 2005, pp.170-177.
37. Eiji Kamioka, Shigeki Yamada and Takako Sanda, "Proposal for Context-Aware Information Delivery and Personal Communication Network Architectures with Preliminary Evaluations of Their Performance", IEICE Transactions on Communications, Vol.E87-B, No.9, 2004, pp.2672-2681.
38. Eiji Kamioka and Shigeki Yamada, "Environment-Adaptive Personal Communications Realizing Ubiquitous Computing Networks", WILEY, Electronics and Communications in Japan, Part I: Communications, Vol.87, No.1, 2004, pp.34-47.
39. Eiji Kamioka and Shigeki Yamada, "Context-Aware Service System Architectures and Their Performance Evaluations in terms of Response Time", Proceedings of the International Conference on Communications, Internet and Information Technology (CIIT2004), 22-24 November, St. Thomas, Virgin Islands, USA, 2004, pp.387-394.
40. Eiji Kamioka, Shigeki Yamada and Takako Sanda, "Network-Centric Architecture for Context-Aware Information Delivery Services in 3G Mobile Networks", Proceedings of the 7th Asia-Pacific Network Operations and Management Symposium (APNOMS2003), 1-3 October, Fukuoka, Japan, 2003, pp.464-475.
41. Eiji Kamioka, Shigeki Yamada and Takako Sanda, "A Context-Aware Information Delivery System Architecture using UMTS Network", Proceedings of the International Conference on Communication Systems and Networks (CSN2003), 8-10 September, Benalmadena, Spain, 2003, pp.131-137.

Other Features:

- Served as the chair of Technical Committee on Mobile Multimedia Communications, IEICE, May 2009 - May 2011. Currently, one of the advisory board members of Technical Committee on Mobile Multimedia Communications.
- Served as the publication chair of 7th IEEE International Conference on Mobile Data Management (MDM2006).
- Served as a technical program co-chair of 3rd IPSJ International Conference on Mobile Computing and Ubiquitous Networking (ICMU2006).

English Website:

<http://www.kamioka.ce.shibaura-it.ac.jp/index-e.html>

-Information Science and Engineering-

GYODA, Koichi

Field of Interest: Wireless Communications network, Disaster communications
Title of Courses: Advanced Research on Telecommunication Function Control
Wireless Communication Systems Engineering
Topics for Thesis: Research on Ad Hoc Network Performance for Disaster Communication Models
Research on Communication Performance for Search Robot Rescue System by use of Hybrid ad hoc Network

Publications and International Conference Papers:

1. K. Shimoda and K. Gyoda, "Analysis of Ad Hoc Network Performance for Disaster Communication Models", Proc. of the 10th International Symposium on Autonomous Decentralized Systems (ISADS2011), pp. 483-488, Jun. 2011.
2. K. Fueki and K. Gyoda, "Evaluation of the Communication Performance for Search Robot Rescue System by use of Hybrid ad hoc Network", Proc. of the 26th International Technical Conference on Circuits/Systems, Computers and Communications, Jun. 2011.
3. W. Al-Mandhari, K. Gyoda and N. Nakajima, "Ad-hoc on Demand Distance Vector (AODV) Performance Enhancement with Active Route Time-Out parameter", WSEAS TRANSACTIONS on COMMUNICATIONS, Vol.7, No.9, pp.912-921, Sep. 2008.
4. K. Gyoda, N. H. Nguyen, K. Okada and O. Takizawa, "Analysis of Ad Hoc Network Performance in Emergency Communication Models", Proc. of the 22nd International Conference on Advanced Information Networking and Applications- Workshops (WAINA-IWDENS2008), pp.1083-1088, Mar. 2008.
5. W. Al-Mandhari, K. Gyoda and N. Nakajima, "Performance Evaluation of Active Route Time-Out parameter in Ad-hoc On Demand Distance Vector (AODV)", Proc. of the 6th WSEAS Int. Conf. on APPLIED ELECTROMAGNETIC, WIRELESS and OPTICAL COMMUNICATIONS (ELECTROSCIENCE' 08), pp. 47-51, Jul. 2008.
6. K. Gyoda, Y. Hada and O. Takizawa, "Performance Analysis of the Network Models for the Search Robot Rescue System in the Closed Spaces", Proc. of the IEEE International Workshop on Safety, Security and Rescue Robotics (SSRR2007), pp.1-6, Sep. 2007.
7. K. Gyoda, Y. Hada and O. Takizawa, "Performance analysis of the network model

- and scenarios for the search robot rescue system”, Proc. of the 2007 SICE Annual Conference, pp.2677-2681, Sep. 2007.
8. H. N. Nguyen, K. Gyoda, K. Okada and O. Takizawa, “On the Performance of a hybrid Wireless Network for Emergency Communications in Disaster Areas”, Proc. of the Third International Conference on Networking and Services (ICNS2007) , Jun. 2007.
 9. H. N. Nguyen and K. Gyoda, “Secure Communication Provision in Mobile Communication Systems for Emergency and Disaster Management”, The 9th International Symposium on Wireless Personal Multimedia Communications (WPMC2006) , Sep. 2006.
 10. K. Gyoda, “States and Trends of Technologies in the Ad Hoc Networks Applicable to Emergency Communications”, JOURNAL OF THE NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, Vol.52, Nos.1/2, pp.225-234, Oct. 2005.
 11. A. Akiyama, K. Gyoda, T. Ohira and M. Ando, “Numerical Simulations on Beam and/or Null Forming Performance of ESPAR Antennas”, Electronics and Communications in Japan, Vol.86, No.12, pp.2234-2244, Dec. 2003.
 12. Y. OJIRO, H. KAWAKAMI, K. GYODA and Takashi OHIRA, “Improvement of elevation directivity for ESPAR antennas with finite ground plane”, 2001 IEEE Antennas and Propagation Society International Symposium, Vol.4, pp.17-21, Jul. 2001.
 13. K. HASUIKE, S. Bandyopadhyay, S. Horisawa, S. TAWARA, K. GYODA and T. OHIRA, “ WACNet: Ad-Hoc Network with Adaptive Antennas”, International Symposium on Signals, Systems and Electronics (ISSSE’01), pp.271-274, Jul. 2001.
 14. K. GYODA, Y. KADO, Y. OHNO, K. HASUIKE and T. OHIRA, "WACNet- Wireless ad-hoc community network", 2001 IEEE International Symposium on Circuits and Systems (ISCAS2001) , Vol.4, pp.862-865, May 2001.

Other Features:

Website: http://www.glab.ce.shibaura-it.ac.jp/WCNLAB_EN/

-Information Science and Engineering-

INOUE, Masahiro

Field of Interest: Ubiquitous Network, M2M(Machine to Machine Communication)
Home Network, Networked Embedded System, Systems Engineering
Project Management, Engineering Education

Title of Courses: Advanced Research on Telecommunication Function Control
Information Networking Systems

Topics for Thesis: Architecture of Consumer and Home Network
Disaster Information System, Home Energy Management System,
Sensor Network , M2M System
Embedded Systems Engineering, Model Based Systems Engineering,
Project Management Education

Publications and International Conference Papers:

1. Tatsuya Nozawa, Katsuya Suzuki, Masahiro Inoue, Development of the Home Network Device Incorporating Distributed Autonomous Control, IEEE Global Conference on Consumer Electronics, GCCE2012, Proceedings, pp.342-343, Oct. 2, 2012.
2. Akihiro Arai, Yuji Takeda, Masashi Nakamura, Takashi Yamaguchi, Masahiro Inoue, Network Power Saving by Group Control Method with Sensing Data Characteristic, IEEE Global Conference on Consumer Electronics, GCCE2012, Proceedings, pp.617-618, Oct. 2, 2012.
3. Shuhei Kusano, Masahiro Inoue, Consumer Network System for Evacuation Guidance after Natural Disasters, IEEE International Symposium on Consumer Electronics, ISCE2012, Proceedings, June 5, 2012.
4. Katsuya Suzuki, Masahiro Inoue, Home Network System with Cloud Computing and Distributed Autonomous Control, IEEE International Symposium on Consumer Electronics, ISCE2012, Proceedings, June 4, 2012.
5. Masahiro Inoue, Outcome Design and Assessment for Interdisciplinary Education, Proceedings of International Conference on Engineering Education, ICEE-2011, Aug. 26, 2011.
6. Hiroki Miyata, Masahiro Inoue, Consumer Electronics Recall Support System by Search of Product User and Improvement of Recall Notice, IEEE International Symposium on Consumer Electronics, ISCE2011, Proceedings, pp.462-463, Singapore, June 16, 2011, DOI:10.1109/ISCE.2011.5973871.

7. Tomohiro Suzuki, Masahiro Inoue, Lifestyle Improvement Support System Using Context, IEEE International Symposium on Consumer Electronics, ISCE2011, Proceedings, Singapore, June 15, 2011.
8. Kousuke Takata, Masahiro Inoue, Market Data Gathering System by Using Shoppers` Confused Behavior, IEEE International Symposium on Consumer Electronics, ISCE2011, Proceedings, Singapore, June 16, 2011.
9. Tatsuya Nozawa, Masahiro Inoue, Smart Outlet for Realizing Secure and Green Living, IEEE International Symposium on Consumer Electronics, ISCE2011, Proceedings, pp.432-437, Singapore, June 15, 2011. DOI:10.1109/ISCE.2011.5973864.
10. Akihiro Arai, Yuji Takeda, Masashi Nakamura, Takashi Yamaguchi, Masahiro Inoue, Network Power Saving with Sensing Data Characteristic, IEEE International Symposium on Consumer Electronics, ISCE2011, Proceedings, pp.166-170, Singapore, June 14, 2011, DOI:10.1109/ISCE.2011.5973806.
11. Katsuya Suzuki, Masahiro Inoue, Home Network with Cloud Computing for Home Management, IEEE Symposium on Consumer Electronics, ISCE2011, Digest of Technical Papers, pp.421-425, Singapore, June 15, 2011. DOI:10.1109/ISCE.2011.5973862.
12. Kazuya Arakawa, Masahiro Inoue, Conflict resolving system among integrated services in home network system, IEEE International Conference on Consumer Electronics, ICCE2011, Digest of Technical Papers, pp.579-580, Las Vegas, January 11, 2011, DOI:10.1109/ICCE.2011.5722748.
13. Masahiro Inoue, Kazuo Shimizu, Takashi Owada, Project Management Education for Secondary School by Coordinated Efforts of Industries, Junior High School and University, Proc. of 5th International Project Management Conference, ProMAC2010, pp. 826-837, 2010.
14. Ryuichi Shouji, Takekazu Taniwaki, Masahiro Inoue, Evaluation of SysML by embedded system development project, Proc. of 4th Asia-Pacific Conference on Systems Engineering, APCOSE 2010, Keelung, Taiwan, pp271, October 4-6, 2010.
15. Takekazu Taniwaki, Ryuichi Shouji, Masahiro Inoue, Model-based systems engineering guide book for embedded systems education, Proc. of 4th Asia-Pacific Conference on Systems Engineering, APCOSE 2010, Keelung, Taiwan, pp294, October 4-6, 2010.

16. Hokuto Nawasaki, Hiroyuki Oono, Masahiro Inoue, Home Network System Supporting Consumer Electronics Recall, *IEEE Trans. on Consumer Electronics*, Vol. 55, No. 4, pp.1907-1913, Nov. 2009. DOI:10.1109/TCE.2009.5373749.
17. Teruaki Ito, Masahiro Inoue, Networked Embedded System Architecture for Controlling, *Proc. of 19th Annual INCOSE International Symposium, INCOSE2009*, P206, Singapore, July 2009.
18. Daisuke Honda, Kyosuke Harayama, Masahiro Inoue, PLC Home Network System for Earthquake Disaster Prevention, *Proc. of 3rd Asia-Pacific Conference on Systems Engineering, APCOSE2009*, AP 06-1, Singapore, July 2009.
19. Masahiro Inoue, Cooperative Education of Systems Engineering and Embedded System, *Proc. of 19th Annual INCOSE International Symposium, INCOSE2009*, P276, Singapore, July 2009.
20. Hokuto Nawasaki, Hiroyuki Oono, and Masahiro Inoue, Home Network System Supporting Consumer Electronics Recall, *IEEE International Conference on Consumer Electronics (ICCE2009)*, Digest of Technical Papers, pp.1-2, Las Vegas, January 12-14, 2009, DOI:10.1109/ICCE.2009.5012277.
21. Akihito Suzuki, Kenta Senda, and Masahiro Inoue, Study on the coexistence of two types of PLCs in HF Band , *IEEE International Conference on Consumer Electronics (ICCE2009)*, Digest of Technical Papers, pp.1-2, Las Vegas, January 12-14, 2009. DOI:10.1109/ICCE.2009.5012276
22. M.Inoue and H.Hasegawa, Evolutional Project-Based Learning of Systems Engineering and Project Management, *Proc. of 4th International Project Management Conference, ProMAC2008*, pp. 519-525, Sep. 2008.
23. M. Inoue, T. Higuma, Y. Ito, N. Kushiro, and H. Kubota, Network Architecture for Home Energy Management System, *IEEE Trans. on Consumer Electronics*, Vol. 49, No. 3, pp. 606-613, Aug. 2003.
24. N. Kushiro, S. Suzuki, M. Nakata, H. Takahara, and M. Inoue, Integrated Gateway Controller for Home Energy Management System, *IEEE Trans. on Consumer Electronics*, Vol. 49, No. 3, pp. 629-636, Aug. 2003.
25. M. Inoue, Rational Use of Energy by Modern Control Techniques, *Proceedings Professional Congress Energy, World Engineer's Convention 2000 (Hanover, Germany, June 2000)*, Report No. 1523, pp. 133-148, VDI, Dusseldorf 2000.

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Other Features:

Dr. Masahiro Inoue is a professor of College of Systems Engineering and Science, Shibaura Institute of Technology. His field of research includes embedded system, ubiquitous network, M2M(Machine to Machine), systems engineering, and project management. He received his B.S. and M.S degree in Applied Physics from Waseda University and Ph. D degree in Computer Science from Shizuoka University. He was engaged in research and development at Mitsubishi Electric Corporation. During 1990-1991, He was a visiting research scientist at the University of Michigan. In 2005, He became a professor of Shibaura Institute of Technology. He is a Professional Engineer in Japan (PEJp) and a Project Management Professional (PMP).

-Information Science and Engineering -

KIMURA, Masaomi

Field of Interest: Data engineering, fundamental studies and applications of databases, data mining and text mining techniques, Topic Maps, Complex networks, analyses of data related to medical safety

Title of Courses: Advanced Research Program on Systems Control Engineering
Data Engineering

Topics for Thesis: Development of novel data/text mining techniques
Development of novel databases (e.g. Topic Maps database)
Application of data/text mining techniques to data in medical area
Fundamental studies and applications of complex networks

Publications and International Conference Papers:

1. Ryosuke Ota , Masaomi Kimura: Proposal of a Topic Map Database indexing method, Proceedings of IEEE International Conference on Systems, Man, and Cybernetics 2012, Seoul, 2012.
2. Atsushi Ogata , Masaomi Kimura: Optimization Technique of Queries with Plural Predicates for a Topic Map Database, Proceedings of IEEE International Conference on Systems, Man, and Cybernetics 2012, Seoul, 2012.
3. Yota Kogure, Isao Sasano, Masaomi Kimura: "Topic Maps Query Language supporting Composite and Recursive Queries", proceedings of 12th Interlational Symposium on Adcanced Intelligent Systems (ISIS2011), CDROM, (2011).
4. Keita Nabeta, Hirotsugu Ishida, Masaomi Kimura, Michiko Ohkura, Fumito Tsuchiya: "Automatic Generation of Learning Resources from Drug Information Database" proceedings of 12th Interlational Symposium on Adcanced Intelligent Systems (ISIS2011), CDROM, (2011).
5. Masaomi Kimura, Yutaroh Furukawa, Akira Kojo, Hirotsugu Ishida, Keita Nabeta, Michiko Ohkura, Fumito Tsuchiya: "Appearance Similarity Index for Medicinal Ampoule Labels", proceedings of HCII2011, pp.588-597 (2011)
6. Keita Nabeta, Akira Hatano, Hirotsugu Ishida, Masaomi Kimura, Michiko Ohkura, Fumito Tsuchiya: "The Similarity Index of Character Shape of Medicine Names Based on Character Shape Similarity (ID)", proceedings of HCII2011, pp.628-636 (2011)
7. Hirotsugu Ishida, Keita Nabeta, Masaomi Kimura, Michiko Ohkura, Fumito Tsuchiya, "Therapeutic Category Improvement Method Based on the Words Appearing in Effect-Efficacy Description", proceedings of HCII2011, pp.174-181 (2011)
8. Ryo Okuya, Hirotsugu Ishida, Keita Nabeta, Masaomi Kimura, Michiko Ohkura,

- Fumito Tsuchiya: "A Proposal of Contraindication Database for Medicines", proceedings of HCII2011 pp.210-218 (2011)
9. Hironori Yoshimi, Hiroki Muraoka, Akira Izumiya, Masaomi Kimura, Michiko Ohkura, Fumito Tsuchiya: "Construction and Analysis of Database on Outer Cases of Medicines", proceedings of HCII2011, pp.226-231 (2011)
 10. Keita Nabeta, Hirotsugu Ishida, Masaomi Kimura, Michiko Ohkura, Fumito Tsuchiya: "A Proposed Method for Generating Question Tests based on Prescription Drug Name Similarity", proceedings of CSEDU2011, pp.449-452 (2011)
 11. Keita Nabeta, Takahiro Imai, Masaomi Kimura, Michiko Ohkura, Fumito Tsuchiya: "The similarity index of medicine names to prevent confusion", Ergonomics for All: Celebrating PPCOE's 20 years of Excellence, pp.129-134 (2010)
 12. Yuki Kuribara, Masaomi Kimura: "Inquiry Optimization Technique for a Topic Map Database", Proceedings of TMRA 2010 Information wants to be a Topic Map, (2010)
 13. Keita Nabeta, Yuuki Kuribara, Masaomi Kimura, Takashi Kojima, Takashi Yamazaki: "External Schema for Topic Map Database", Proceedings of TMRA 2010 Information wants to be a Topic Map, (2010)
 14. Masaomi Kimura, Hiroyuki Furukawa, Hitoshi Tsukamoto, Michiko Ohkura, Fumito Tsuchiya: "Analysis on Questionnaires about Safety to Use Transdermal Patches", International Journal of Ergonomics, Vol.1, No.1, pp.1-11 (2010)
 15. Masaomi Kimura, Hiroyuki Furukawa, Hitoshi Tsukamoto, Michiko Ohkura, Fumito Tsuchiya: "Analysis on Questionnaires about Safety to Use Transdermal Patches", International Journal of Ergonomics, Vol.1, No.1, pp.1-11 (2010)
 16. Masaomi Kimura, Hiroyuki Furukawa, Hitoshi Tsukamoto, Michiko Ohkura, Fumito Tsuchiya: "Analysis of Questionnaire Data Concerning Bar Codes Printed on Ampoule Labels", Drug Information Journal, Vol.44 pp.693-701 (2010)
 17. Masaomi Kimura: "The Method to Analyze Freely Described Data from Questionnaires", JACIII 13(3), pp.268-274 (2009)

Other Features:

In 2012, we have 8 master course students, 8 undergraduate students in our laboratory. We believe that enhancement of communication between members is a key to promote the studies that make data useful for human life. We look forward to inviting you as a new member of our laboratory.

-Information Science and Engineering-

NIITSU, Yoshihiro

Field of Interest: Context-aware Technology, Ubiquitous Networking,
Mobile Ad-hoc Networks, Sensor Networks,
Network Service Systems for Supporting Elderly or Handicapped Persons

Title of Courses: Advanced Research on Telecommunication Function Control
Information Networking Systems

Topics for Thesis: Context-aware Applications for Ubiquitous Networking
Network Configuration and Routing on Mobile Ad-hoc
Networks / Sensor Networks
Intelligent Sensing and Context Presumption for Network
Applications
Service Control Mechanism on NGN and Web Service
Cooperation

Publications and International Conference Papers:

1. Yoshihiro Niitsu, Saki Itoh, Shinya Kitahara, Hiroya Minami and Michio Shimomura, "Walking Support by Dangerous Obstacles Notification Using an Electronic White Cane", APCC2012, October 2012.
2. Eisuke Morita and Yoshihiro Niitsu, "User-oriented Curriculum Creation Method Using Learning Support Information", 6th South East Asian Technical University Consortium (SEATUC) Symposium, March 2012.
3. Itaru Sekita and Yoshihiro Niitsu, "Control Method for Movable Nodes for Sensor Networks", the 5th South East Asia Technical University Consortium Symposium (SEATUC2011), Hanoi, Vietnam, pp.50-53, February 2011.
4. Itaru Sekita and Yoshihiro Niitsu, "A Study on Control Method of Movable Nodes for Sensor Networks", International Conference in Intelligence of Networks (ICIN2010), Berlin Germany, S6b-1 pp.1-6, October 2010.
5. Rihito Yaegashi, Genya Onuma, Ryoza Sasaki, Yasuaki Kunihiro, Takumi Miyoshi and Yoshihiro Niitsu, "How to make distance learning for non-native students more effective by annexing captions to lectures", Journal of Multimedia Education Research, Vol.7, No.1, pp.O1-O10, October 2010 in Japanese.
6. Takeshi Nakatsuru, Hiroshi Sakai, Kouji Murakami, Yoshiko Sueda and Yoshihiro Niitsu, "Context-aware Word-of-mouth Information Sharing", International Conference in Intelligence of Networks (ICIN2004), Bordeaux, France, October 2004, pp.80-84.

7. Yoshiko Sueda, Jun Miyake, Jun'ichi Sasaki and Yoshihiro Niitsu, " API Control Flow-Based Next Generation Service Creation Environment", IEICE Transactions on Communications, Vol. E87-B, No.7, 2004, pp.1918-1925.
8. Mitsuhiro Okamoto and Yoshihiro Niitsu, "Service Specification Description Scheme for Advanced IN", Vol. J86-B, No.3, 2003, pp.344-352 in Japanese.
9. Jun Miyake, Yoshiko Sueda, Takuji Kishida and Yoshihiro Niitsu, " Development Support System for Service Management Software of Advanced IN", ICACT 2002, Korea, February 2001, pp.150-154.
10. Takuji Kishida, Yoshiko Sueda, Jun Miyake and Yoshihiro Niitsu, " The Analysis and Improvement on Developing Process of Service Management Programs for Advanced Intelligent Network", APSITT2001, November 2001, pp.244-248.
11. Hiroaki Obata and Yoshihiro Niitsu, " Flexible Approach to Service Creation Environment for Frequent IN Protocol Modifications", Intelligent Network 2001(IN2001), Boston, USA, May 2001, pp.14-19.
12. Yoshiko Sueda, Takuji Kishida, Jun Miyake and Yoshihiro Niitsu, " Management Logic Programs Applying WWW and Java/CORBA Technologies to SMS", International Conference in Intelligence of Networks (ICIN2000), Bordeaux, France, January 2000, pp.380-385.

Other Features:

- Fellow of the Institute of Electronics, Information and Communication Engineers(IEICE)
- Senior Member of IEEE
- Currently serving as a Technical Program Committee Member of ICIN

-Information Science and Engineering-

MORINO, Hiroaki

Field of Interest: Mobile Information Networking,
Timely Information Providing System using Wireless Networks,
Peer-to-peer Communication,
Participatory Sensing using Wireless Networks and Sensors

Title of Courses: Advanced Research on Telecommunication Functional Control
Telecommunication Networks

Topics for Thesis: Contents-Aware Bandwidth Sharing in Mobile Networks
Topology Design and Routing Control for P2P Networks
Human Motion Detection Using Wireless LANs and Sensors

Publications and International Conference Papers:

- [1] Hiroaki Morino, Masugi Inoue and Tohru Sanefuji, "Distance-and-Rate Dependent RTS/CTS Reservation in Wireless LAN for Enhancing Spatial Reuse," Proc. of the Fourth Workshop on Ad-Hoc Sensor and P2P(AHSP2011) in conjunction with the 10th International Symposium on Autonomous Decentralized Systems (ISADS 2011) pp.489-494, Jun 2011.
- [2] Masugi Inoue, Masaaki Ohnishi, Hiroaki Morino, Tohru Sanefuji, "Fast Recovery from Link Failures and Blackout of A Managed Wireless Mesh for NerveNet," Proc. of IEEE Global Telecommunication Conference (GLOBECOM 2011) (Poster) Dec 2010.
- [3] Masugi Inoue, Masaaki Ohnishi, Hiroaki Morino, Tohru Sanefuji, "Fast Route Switching of A Managed Wireless Mesh for Regional Network Infrastructure," Proc. of Annual IEEE International Conference on Personal, Indoor and Mobile Radio Communications (PIMRC 2010) pp. 2073-2078, Sept. 2010..
- [4] Masugi Inoue , Masaaki Ohnishi , Hiroaki Morino, Tohru Sanefuji, "Sensor-Terminal-Network Cooperative Architecture for Context-Aware Services" Proc. of IEEE Wireless Communication and Networking Conference (WCNC 2010) , Apr 2010.
- [5] Satoshi Aoki, Hiroaki Morino, "Estimation of human activity area in the indoor environment using receive signal strength variation of IEEE 802.15.4 nodes," Proc . of the 4th Symposium of South East Asia Technical University Consortium (SEATUC), pp.253-256, Feb 2010.
- [6] Hiroyuki Kawamura, Hiroaki Morino, Masugi Inoue and Tohru Sanefuji, "Analysis of channel use efficiency in Wireless mesh networks by adaptively

- controlling radio range and transmission rate," Proc . of the 4th Symposium of South East Asia Technical University Consortium (SEATUC), pp.257-260, Feb 2010.
- [7] Shin Hasegawa, Hiroaki Morino, Ayako Iwata and Kenichi Miyoshi, "Performance evaluation of adaptive relaying scheme of FEC error packets in cooperative relaying," Proc . of the 4th Symposium of South East Asia Technical University Consortium(SEATUC), pp.261-264, Feb 2010.
- [8] Hung Yu Shih, Hiroaki Morino, "Call admission control for wireless access network exploiting adaptive multiple routing and load balancing," Proc . of the 4th Symposium of South East Asia Technical University Consortium. (SEATUC), pp.265-268, Feb 2010.
- [9] Masugi Inoue, Masaaki Ohnishi, Hiroaki Morino and Tohru Sanefuji, "A Future Access Network Architecture for Providing Personalized Context-Aware Services with Sensors," Proc. of AccessNets2009, Nov 2009.
- [10] Masugi Inoue, Masaaki Ohnishi, Hiroaki Morino and Tohru Sanefuji, "A Novel Managed Wireless Mesh Architecture for Community Service Platform," Proc. of IEEE Wireless Communication and Networking Conference (WCNC 2009), Apr 2009.
- [11] Hiroaki Morino, Hiroyuki Kawamura, Masugi Inoue and Tohru Sanefuji, "Load balanced multipath routing for wireless mesh networks : A step-by-step rate control approach," Proc. of the Third Workshop on Ad-Hoc Sensor and P2P(AHSP2009) in conjunction with the 9th International Symposium on Autonomous Decentralized Systems (ISADS 2009) , pp.281-286, Mar 2009.
- [12] Masugi Inoue, Ved Kafle, Hiroaki Morino and Tohru Sanefuji, "Sensor Application Platform On A Novel Managed Wireless Mesh," Proc of the Second Workshop on Wireless Mesh and Sensor Networks in conjunction with IEEE Global Telecommunication Conference (GLOBECOM 2008) Nov. 2008.
- [13] Masugi Inoue, Kiyohide Nakauchi, Ved Kafle, Hiroaki Morino and Tohru Sanefuji, "Wireless Logical Mesh Paths," Proc. of International Symposium on Wireless Personal Multimedia Communications (WPMC2008) Sep 2008.
- [14] Hironori Sugino and Hiroaki Morino, "A study on reliable peer-to-peer streaming tree construction using records of peer's duration," The Second International Conference on Communications and Electronics (HUT-ICCE 2008) Jun 2008. (Poster)
- [15] Shinsuke Terada, Takumi Miyoshi Hiroaki Morino Masakatsu Ogawa and Kaoru Sezaki, "Ad hoc routing protocol with flooding control using unidirectional links,"

- Proc. of the 18th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (IEEE PIMRC 2007) pp.1-5, Sep 2007.
- [16] Hiroaki Morino, Takumi Miyoshi and Masakatsu Ogawa,
“Unidirectional ad hoc routing with area-controlled flooding using neighbor node information,” Proc. of the Second Workshop on Ad-Hoc Sensor and P2P(AHSP2007) in conjunction with the 8th International Symposium on Autonomous Decentralized Systems (ISADS 2007) pp. 519-525 , Mar 2007.
- [17] Hoang Nam Nguyen and Hiroaki Morino,
“A key management scheme for ad hoc mobile networks based on threshold cryptography for providing fast a authentication and low signaling load,”
Lecture Notes on Computer Science 3823, Embedded and Ubiquitous Computing – EUC 2005 Workshops pp.905-915, (Proc. of IFIP the first international workshop on security ubiquitous computing systems (SECUBIQ 2005)), Springer-Verlag, Dec 2005.
- [18] Hiroaki Morino, Takumi Miyoshi and Masakatsu Ogawa,
“Unidirectional ad hoc routing with efficient route reconstruction using the relay control of route requests,” Proc. of IEEE the 61st Semiannual Vehicular Technology Conference (IEEE VTC2005 spring) pp.2504-2508, May 2005.
- [19] Hiroaki Morino, Takumi Miyoshi and Masakatsu Ogawa,
“Ad hoc unidirectional routing protocol based on the relay control of route requests,” Proc. of the First Workshop on Ad-Hoc Sensor and P2P(AHSP2005) in conjunction with the 7th International Symposium on Autonomous Decentralized Systems (ISADS 2005) pp.675- 680, Apr 2005.
- [20] Hiroaki Morino, Tadao Saito and Mitsuo Nohara,
“Performance Evaluation of Base-station-assisted Link State Routing Method for Mobile Ad Hoc Networks,” Lecture Notes on Computer Science 2775 pp.492-497, (Proc. of IFIP TC6 8th International Conference on Personal Wireless Communications (PWC 2003)) , Springer-Verlag, Oct 2003.
- [21] Hiroaki Morino, Tadao Saito and Mitsuo Nohara,
“An Efficient Proactive Routing Method for Mobile Ad Hoc Networks Using Peer-to-Peer and Cellular Communication System,” Lecture Notes on Computer Science 1715 pp.29-36, (Proc. of IFIP TC6 7th International Conference on Personal Wireless Communications (PWC 2002)), Springer-Verlag, Oct 2002.
- [22] Hiroaki Morino, Nguyen Hoaison, Thai Thach Bao, Hitoshi Aida and Tadao Saito,
“A Scalable Multistage Packet Switch for Terabit IP Router based on Deflection Routing and Shortest Path Routing,” Proc. of IEEE Conference on Communications (ICC 2002), pp.2179-2185, Apr 2002.

- [23] Tamaree Nalin, Takashi Isobe, Hiroaki Morino, Hitoshi Aida and Tadao Saito, "A Scalable and High Capacity Router on Multi-Dimension Crossbar Switch Principle," Proc. of the 26th Annual IEEE Conference on Local Computer Networks (LCN 2001), pp.375-376, Nov 2001.
- [24] Ryokichi Onishi, Saneyasu Yamaguchi, Hiroaki Morino, Hitoshi Aida and Tadao Saito, "The Multi-agent System for Dynamic Network Routing," Proc. of the Fifth International Symposium on Autonomous Decentralized Systems (ISADS 2001), pp.375-382, Mar 2001.
- [25] Hiroaki Morino, Thai Thach Bao, Hitoshi Aida and Tadao Saito, "Performance evaluation of variable length packet switch based on deflection routing and input port distribution," Proc. of International Conference on Communication Technology (ICCT2000), pp.1050-1053, Aug 2000.
- [26] Thai Thach Bao, Hiroaki Morino, Hitoshi Aida and Tadao Saito, "Distributed input and deflection routing based packet switch using shuffle pattern network," Proc. of IFIP Networking 2000 Conference, pp.74-84, May 2000.
- [27] Hiroaki Morino, Hitoshi Aida and Tadao Saito, "A distributed routing algorithm in Clos network of variable bit rate TDM switch," Proc. of the Fifth IFIP Conference on Intelligent Networks (Smartnet '99), pp.177-190, Nov 1999.
- [28] Hiroaki Morino, Udomkiat Bunworasate, Hitoshi Aida and Tadao Saito, "Control for video traffic in variable bit rate TDM switch," Proc. of International Conference on Computer Communications (ICCC '99), pp.1-8, Apr 1999.
- [29] Hiroaki Morino, Yoshitake Ban, Hitoshi Aida and Tadao Saito, "Effective real-time video transmission system using fast bandwidth protocol over ATM networks," Proc. of IEEE Pacific Rim Conference on Communications, Computers and Signal Processing(PACRIM '97), pp.721-724, Aug 1997.

Other Features:

Examples of master thesis titles are as follows:

Remote Estimation of Crowdedness in Indoor Shops by Collecting Acceleration Sensor Data of Users' Mobile Phones

Topology-aware relay node selection in P2P multicast streaming considering Network Centrality

Fast route reconstruction using VLAN spanning trees for wireless mesh networks

English Web Site : www.morino.ce.shibaura-it.ac.jp/eng/index.html

- Information Science and Engineering -

MANO, Kazunori

- Field of Interest: (1) Speech, audio and language information processing
(2) Multimedia data compression, retrieval, and mining.
(3) Statistical signal processing.
- Title of Courses: Advanced Research on Telecommunication Function Control
(Doctor Course).
Advanced Communication Design (Master Course)
- Topics for Thesis: (1) Higher resolution speech coding and synthesis system by
using case-based large databases and statistical signal
processing approaches.
(2) Media conversion system from linguistic and emotional
information of speech to animated texts and images for effective
foreign language learning.
(3) Multimedia data compression, retrieval, and mining systems
for human communication services.

Publications and International Conference Papers:

- [1] A. Yoshida, H. Mizuno, and K. Mano, "Segment selection method based on tonal validity evaluation using machine learning for concatenative speech synthesis," Proc. IEEE ICASSP2008, pp.4617-4620, 2008.
- [2] M. Isogai, H. Mizuno, and K. Mano, "Recording script design for corpus-based TTS system based on coverage of various phonetic elements," Proc. IEEE ICASSP2005, pp.I-301 - I-304, 2005.
- [3] Y. Hiwasaki, K. Mano, K. Yasunaga, T. Morii, H. Ehara, and T. Kaneko, "Design of a robust LSP quantizer for a high-quality 4-kbit/s CELP speech coder," IEICE Trans. Inf. & Syst. Vol. ED87-D, No.6, pp.1496 - 1506, June, 2004.
- [4] H. Ehara, K. Yasunaga, K. Yoshida, Y. Hiwasaki, K. Mano, and T. Kaneko, "Noise Post-processing for Low Bit-rate CELP Coders," IEICE Trans. Inf. & Syst. Vol. ED87-D, No.6, pp.1507- 1516, June, 2004.
- [5] Y. Hiwasaki, K. Mano, and T. Kaneko, "An LPC vocoder based on phase-equalized pitch waveform," Speech Communication, Vol. 40, No.3, pp. 277-290, May 2003.
- [6] K. Mano, T. Moriya, S. Miki, H. Ohmuro, K. Ikeda, J. Ikeda, "Design of a pitch synchronous innovation CELP coder for mobile communications," IEEE Journal on Selected Areas on Communication, Vol. 13, No.1, pp.31-41, Jan. 1995.

Other Features:

- Member of IEEE, Senior Member of IEICE, Member of ASJ, and Member of IPSJ.
- 64 patents, some of which are incorporated in current mobile speech codec standards.
- URL: http://www.sic.shibaura-it.ac.jp/~mano/index_e.html

- Information Science and Engineering -

KAMEKO, Masaki

Field of Interest: **Algebraic Topology**
Title of Courses: **Advanced Research Program on Systems Control Engineering
Applied Mathematical Science/Exercise 1**
Topics for Thesis: **Hit problem, cohomology of classifying spaces**

Publications and International Conference Papers:

1. Masaki Kameko, Michisige Tezuka and Nobuaki Yagita , Coniveau spectral sequences of classifying spaces for exceptional and Spin groups. Math. Proc. Cambridge Philos. Soc. 152(02) 251-278.
2. Masaki Kameko, Chern classes and generators. Proc. Japan Acad. Ser. A Math. Sci. 88(1) 21-23.
3. Masaki Kameko and Nobuaki Yagita, Chern subrings. Proc. Amer. Math. Soc 138(1) 367-373.
4. Masaki Kameko and Nobuaki Yagita, The Brown-Peterson cohomology of the classifying spaces of the projective unitary groups $PU(p)$ and exceptional Lie groups. Trans. Amer. Math. Soc. 360 2265-2284.
5. Masaki Kameko and Mamoru Mimura, On the Rothenberg-Steenrod spectral sequence for the mod 2 cohomology of classifying spaces of spinor groups. Geometry & Topology Monographs 13 261-279.
6. Masaki Kameko and Mamoru Mimura, Mui invariants and Milnor operations. Geometry & Topology Monographs 11 107-140.
7. Masaki Kameko and Mamoru Mimura, On the Rothenberg-Steenrod spectral sequence for the mod 3 cohomology of the classifying space of the exceptional Lie group E_8 . Geometry & Topology Monographs 10 213-226.
8. Masaki Kameko, Generator of the cohomology of BV_3 . Journal of Mathematics of Kyoto University 38(3) 587-59.

↓

Other Features:

I am a mathematician. You may find my name in the Mathematics Genealogy Project
<http://genealogy.math.ndsu.nodak.edu/>

Applied Chemistry

-Applied Chemistry-

MASADOME, Takashi

Field of Interest: Analytical Chemistry, Environmental Analytical Chemistry
Title of Courses: Advanced Research Program on Eco-materials Engineering
Environmental Analytical Chemistry
Topics for Thesis: Sequential Injection Immunoassay for Environmental Pollutants, Determination of Environmental Pollutants Using Microfluidic Polymer Chip Integrated with an ISE Detector, Immunoassay for Environmental Pollutants based on a Surface Plasmon Resonance Sensor

Publications and International Conference Papers:

- 1) B. Tossanaitada, T. Masadome, T. Imato, "Sequential injection analysis of nitrate ion using a microfluidic polymer chip with an embedded ion-selective electrode", *Analytical Methods*, in press.
- 2) T. Masadome, T. Miyanishi, K. Watanabe, H. Ueda, T. Hattori, "Determination of polyhexamethylene biguanide hydrochloride using photometric colloidal titration with crystal violet as a color indicator", *Analytical Sciences*, **27**, 817-821 (2011).
- 3) T. Masadome, K. Nakamura, D. Iijima, O. Horiuchi, B. Tossanaitada, S. Wakida, T. Imato, "Microfluidic polymer chip with an embedded ion-selective electrode detector for nitrate-ion assay in environmental samples", *Analytical Sciences*, **26**, 417-423 (2010).
- 4) M. Tanaka, K. Sakamoto, H. Nakajima, N. Soh, K. Nakano, T. Masadome, T. Imato, "Flow immunoassay for nonionic surfactants based on surface plasmon resonance sensors", *Analytical Sciences*, **25**, 999-1005 (2009).
- 5) T. Masadome, M. Akatsu, "Optical sensor of anionic surfactants using solid-phase extraction with a lactone-form Rhodamine B membrane", *Analytical Sciences*, **24**, 809-812 (2008).
- 6) T. Masadome, Y. Yano, T. Imato, "Surface plasmon resonance immunosensor for anionic surfactants based on an indirect competitive immunoreaction", *Analytical Letters*, **41**, 640-648 (2008).
- 7) T. Masadome, Y. Yamagishi, M. Takano, T. Hattori, "Potentiometric titration of polyhexamethylene biguanide hydrochloride with potassium poly (vinyl sulfate) solution using a cationic surfactant-selective electrode", *Analytical Sciences*, **24**, 415-418 (2008).
- 8) R. Zhang, H. Nakajima, N. Soh, K. Nakano, T. Masadome, K. Nagata, K. Sakamoto, T. Imato, "Sequential injection chemiluminescence immunoassay for nonionic surfactants by using magnetic microbeads", *Analytica Chimica Acta*, **600**, 105-113 (2007).
- 9) T. Masadome, T. Takahashi, "Optical sensing membrane based on tetrabromophenolphthalein ethyl ester for the determination of cationic surfactants", *Analytical Letters*, **40**, 441-448 (2007).
- 10) T. Masadome, K. Yada, S. Wakida, "Microfluidic polymer chip integrated with an ISFET detector for cationic surfactant assay in dental rinses", *Analytical Sciences*, **22**, 1065-1069 (2006).
- 11) T. Masadome, Y. Yano, "Response of surface-plasmon resonance sensor based on gold

surfaces modified by self-assembled monolayer to nonionic surfactants", *Analytical Letters*, **39**, 2169 - 2177(2006).

12) R. Zhang, K. Hirakawa, D. Seto, N. Soh, K. Nakano, T. Masadome, K. Nagata, K. Sakamoto, T. Imato, "Sequential injection chemiluminescence immunoassay for anionic surfactants using magnetic microbeads immobilized with an antibody", *Talanta*, **68**, 231-238 (2005).

13) T. Masadome, S. Kugoh, M. Ishikawa, E. Kawano, S. Wakida, "Polymer chip incorporated with anionic surfactant-ISFET for micro flow analysis of anionic surfactants", *Sensors and Actuators B*, **108**, 888-892 (2005).

14) N. Soh, H. Nishiyama, Y. Asano, T. Imato, T. Masadome, Y. Kurokawa, "Chemiluminescence sequential injection immunoassay for vitellogenin using magnetic microbeads", *Talanta*, **64**, 1160-1168 (2004).

15) T. Masadome, J.G. Yang, T. Imato, "Effect of plasticizer on the performance of the surfactant-selective electrode based on a poly (vinyl chloride) membrane with no added ion-exchanger", *Microchimica Acta*, **144**, 217 - 220 (2004).

16) T. Masadome, "Determination of cationic surfactants by a photometric titration method with crystal violet as a color Indicator", *Analytical Letters*, **37**, 495-502(2004).

17) T. Masadome, M. Ishikawa, S. Wakida, "Fabrication and characterization of polymer-based microchip integrated with NH₄⁺-ISFET using a small diameter wire as a template of channel", *Analytical Letters*, **37**, 373-380 (2004).

18) T. Masadome, A. Ueda, M. Kawakami, "Gold electrode modified with a self-assembled monolayer of 11-amino-1-undecanethiol hydrochloride for the determination of anionic surfactants", *Analytical Letters*, **37**, 225-233 (2004).

19) T. Masadome, T. Imato, "Flow injection analysis of cationic and anionic polyelectrolytes using surfactant-selective electrode detector", *Journal of Flow Injection Analysis*, **20**, 211-214 (2003).

20) T. Masadome, T. Imato, "Flow injection analysis of surfactants using surfactant-selective electrode detector", *Journal of Flow Injection Analysis*, **20**, 207-210 (2003).

21) T. Masadome, Y. Hoshi, "Determination of anionic polyelectrolytes using a photometric titration with crystal violet as a color indicator", *Microchimica Acta*, **142**, 37-41 (2003).

22) N. Soh, T. Tokuda, T. Watanabe, K. Mishima, T. Imato, T. Masadome, Y. Asano, S. Okutani, O. Niwa, S. Brown, "A surface plasmon resonance immunosensor for detecting a dioxin precursor using a gold binding polypeptide", *Talanta*, **60**, 733-745 (2003).

23) T. Masadome, T. Imato, "Use of marker ion and cationic surfactant plastic membrane electrode for potentiometric titration of cationic polyelectrolytes", *Talanta*, **60**, 663-668 (2003).

24) T. Masadome, M. Kawaguchi, L. Kurniasari, "Photometric titration of anionic polyelectrolytes using the cationic dye as an Indicator", *Analytical Letters*, **36**, 619-625(2003).

25) T. Masadome, "Determination of cationic polyelectrolytes using a photometric titration with crystal violet as a color indicator", *Talanta*, **59**, 659-666 (2003).

26) N. Soh, H. Nishiyama, K. Mishima, T. Imato, T. Masadome, Y. Asano, Y. Kurokawa, H. Tabei, S. Okunishi, "Spectrophotometric determination of carp vitellogenin using a sequential injection analysis technique equipped with a jet ring cell", *Talanta*, **58**, 1123-1130 (2002).

27) T. Masadome, "Cationic surfactant-selective electrode based on a hydrophobic cation exchanger", *Microchimica Acta*, **140**, 227-231(2002).

28) T. Masadome, Y. Asano, T. Imato, S. Ohkubo, T. Tobita, H. Tabei, Y. Iwasaki, O. Niwa, Y. Fushinuki, "Preparation of refractive index matching polymer film alternative

to oil for use in a portable surface-plasmon resonance phenomenon-based chemical sensor method ", *Analytical and Bioanalytical Chemistry*, **373**, 222-226 (2002).

29) N. Kaneki, H. Tanaka, K. Shimada, Y. Asano, T. Masadome, H. Hachiya, H. Hara, "Measurement of aroma of soup using potentiometric gas sensor", *Sensors and Materials*, **14**, 109-118 (2002).

Other Features:

1) FIA Award for Young Researchers by Japanese Association for Flow Injection Analysis (FIA), "Development of FIA Method for the Determination of Surfactants and Polyelectrolyte Using High Performance Surfactant-Selective Electrode Detector" in 1998.

2) The Takeda Techno-Entrepreneurship Award 2001, "Development of Portable Immunosensor for Endocrine Disruptors Based on Surface Plasmon Resonance with Assistance of Sequential Injection Technique".

-Applied Chemistry-

YAMASHITA, Mitsuo

Field of Interest: Biological Chemistry, Microbiology, Gene Technology
Title of Courses: Advanced Research Program on Eco-materials Engineering
Life Science
Topics for Thesis: Lipoteichoic acids from *Lactobacillus plantarum* L137 elicit strong interleukin 12-inducing activities,
Allergen synthesis in microorganisms for prototype of the allergens detection chip,
Optimization of seleno-oxyanions reduction and recovery of elemental and gaseous selenium using selenate reducing bacterium, *Pseudomonas stutzeri* NT-I

Publications and International Conference Papers:

1. Kayo Ohkouchi, Seiji Kawamoto, Kenji Tatsugawa, Noboru Yoshikawa, Yuki Takaoka, Sayumi Miyauchi, Tsunehiro Aki, Mitsuo Yamashita, Yoshikatsu Murooka, and Kazuhisa Ono.: Prophylactic effect of lactobacillus oral vaccine expressing a Japanese cedar pollen allergen. *J. Biosci. Bioeng.*, 113(4), 536-541, (2012).
2. Satoshi Soda, Masami Kashiwa, Tsubasa Kagami, Masashi Kuroda, Mitsuo Yamashita, and Michihiko Ike.: Laboratory-Scale bioreactors for Soluble Selenium Removal from Selenium Refinery Wastewater Using Anaerobic Sludge. *Desalination* 279, 433-438 (2011).
3. Masashi Kuroda, Emi Notaguchi, Akiko Sato, Masaya Yoshioka, Ai Hasegawa, Tsubasa Kagami, Takanobu Narita, Mitsuo Yamashita, Kazunari Sei, Satoshi Soda, and Michihiko Ike.: Characterization of *Pseudomonas stutzeri* NT-I capable of removing soluble selenium from the aqueous phase under aerobic conditions. *J. Biosci. Bioeng.*, 112(3), 259-264 (2011).
4. Masashi Kuroda, Mitsuo Yamashita, Kanako Imao, Noriyuki Fujimoto, Hisayo Ono, Kouta Nagano, Emiko Miwa, Kazunari Sei, and Michihiko Ike.: Molecular Cloning and Characterization of the *srdBCA* Operon Encoding the Respiratory Selenate Reductase Complex from the Selenate-reducing Bacterium, *Bacillus selenatarsenatis* SF-1. *J. Bacteriol.*, 193(9), 2141-2148 (2011).
5. Pornpimon Kiatpapan, Manthana Phonghatsabun, Mitsuo Yamashita, Yoshikatsu Murooka, and Watanalai Panbangred.: Production of 5-Aminolevulinic Acid by *Propionibacterium acidipropionici* TISTR442. *J. Biosci. Bioeng.*, 111(4), 425-428, (2011).
6. Yoshitaka Hirose, Shinji Murosaki, Takashi Fujiki, Yoshihiro Yamamoto, Yasunobu Yoshikai, Mitsuo Yamashita.: Location of teichoic acids on the cell-surface affects to induce the interleukin-12 production in *Lactobacillus plantarum*. *Microbiol. Immunol.*, 54, 143-151, (2010).

7. Jong-Hyun Kim, Michihiro Sunako, Hisayo Ono, Yoshikatsu Murooka, Eiichiro Fukusaki, and Mitsuo Yamashita.: Characterization of C-terminal Truncated Form of Amylopullulanase from *Lactobacillus plantarum* L137. *J. Biosci. Bioeng.*, 107(2), 124-129 (2009).
8. Yoshikatsu Murooka, Kumiko Nanda and Mitsuo Yamashita.: Rice vinegar. pp. 221-232. In Paolo Giudici and Lisa Solieri (eds.), *Vinegars of the world*. Springer (2009).
9. Jong-Hyun Kim, Michihiro Sunako, Hisayo Ono, Yoshikatsu Murooka, Eiichiro Fukusaki, and Mitsuo Yamashita.: Characterization of Gene Encoding Amylopullulanase from Plant-Originated Lactic Acid Bacterium, *Lactobacillus plantarum* L137. *J. Biosci. Bioeng.*, 106(5), 449-459 (2008).
10. Yoshikatsu Murooka, and Mitsuo Yamashita.: Traditional healthful fermented products of Japan. *J. Ind. Microbiol. Biotechnol.*, 35(8), 791-798 (2008).
11. Akiko Ike, Rutchadaporn Sriprang, Hisayo Ono, Yoshikatsu Murooka, and Mitsuo Yamashita.: Promotion of metal accumulation in nodule on *Astragalus sinicus* by the expression of the iron-regulated transpoter gene in *Mesorhizobium huakuii* subsp. *rengei* B3. *J. Biosci. Bioeng.*, 105(6), 642-648 (2008).
12. Shigeki Yamamura, Mitsuo Yamashita, Noriyuki Fujimoto, Masashi Kuroda, Masami Kashiwa, Kazunari Sei, Masanori Fujita, and Michihiko Ike.: *Bacillus selenatarsenatis* sp. nov., a selenate- and arsenate-reducing bacterium isolated from an effluent drain of a glass-manufacturing plant. *Int. J. Syst. Evol. Microbiol.*, 57, 1060-1064 (2007).
13. Akiko Ike, Rutchadaporn Sriprang, Hisayo Ono, Yoshikatsu Murooka, and Mitsuo Yamashita.: Bioremediation of cadmium contaminated soil using symbiosis between leguminous plant and recombinant rhizobia with the *MTL4* and the *PCS* genes. *Chemosphere*, 66, 1670-1676 (2007).

Other Features:

Member of the Society for Biotechnology, Japan

Member of Japan Society for Bioscience, Biotechnology, and Agrochemistry

Member of the Japanese Biochemical Society

Member of Japanese Association for Food Immunology Society

-Applied Chemistry-

HAMASAKI, Keita

Field of Interest: Chemical biology
Title of Courses: Advanced Research Program on Bio-function Control
Study on chemical biology
Topics for Thesis: HIV-1 Tat fused fluorescent proteins, their synthesis and characterization as protein-probes for drug discovery.
Cyclodextrin-peptide hybrids, their synthesis and evaluation as dynamic nano-materials
Nucleobase tagged neamines as binding inhibitors for HIV-1 TAR-Tat

Publications and International Conference Papers:

1. Host-guest-bridge induces irreversible helix folding in a short peptide
Yuki Nakamura; Kazuya Nakazawa; Keita Hamasaki
Chemistry Letters, (2012), 41, 9, 908-909
2. A synthetic approach to aromatic aminoglycoside as a neamine mimic
Ryo Inoue; Sho Matsudqa; Yosiki Oda; irofumi Ooyama; Akihiro Yoshida; Keita Hamasaki; Takashi Yamanoi
Heterocycles (2010), 52, 2, 1335-1343
3. 6,7,8,10-Tetra-O-benzyl-1,2,3,4-tetradeoxy- α -D-glucopyranosyl 2,3,4,6-Tetra-O-benzyl- α -D-glucopyranoside
Takashi Yamanoi, Ryo Inoue, Yoshiki Oda, Keita Hamasaki
Molbank, (2010), 33-4
4. Formation of O-glycosidic linkages from 1-hydroxy sugars by bismuth(III) triflate-catalyzed dehydrative glycosidation
Takashi Yamanoi, Inoue, Matsuda Ryo, Sho Matsuda, Kazuya Iwao, Yoshiki Oda; Akihiro Yoshida, Keita Hamasaki
Heterocycles, (2009), 77(1), 445-460
5. Bismuth(III) triflate-catalyzed dehydrative glycosidation using 1-hydroxy sugars
Takashi Yamanoi, Ryo Inoue, Sho Matsuda, Keita Hamasaki
Letters in Organic Chemistry, (2008), 5(1), 30-33
6. Synthesis of trehalose mimics by bismuth(III) triflate or bis(trifluoromethane)sulfonimide-catalyzed 1-C-methyl-D-hexopyranosylation
Takashi Yamanoi, Ryo Inoue, Sho Matsuda, Kaname Katsuraya, Keita Hamasaki

Tetrahedron: Asymmetry, (2006), 17(20), 2914-2918.

7. Synthesis of aminoglycoside derivatives on a Cbz-type of heavy fluoros tag, Mamoru Mizuno, Hiroharu Matsumoto, Koutaro Goto, Keita Hamasaki, Tetrahedron Letters, 47, 8831-8835 (2006)
8. Neamine derivatives having a nucleobase with a lysine or an arginine as a linker, their synthesis and evaluation as potential inhibitors for HIV TAR-Tat Saki Yajima, Hirohito Shionoya, Tasashi Akagi, Keita Hamasaki *Bioorg. Med. Chem.*, 14, 2799-2809 (2006)

Proceedings

1. Nucleobase modified neamines, their synthesis and binding specificity for HIV TAR RNA Watanabe, Kenatarou; Katou, Toyofusa; Yasunori; Ikezawa; Yajima, Saki; Shionoya, Hirohito; Akagi, Takashi; Hamasaki, Keita *Nucleic Acids Symposium Series* (2007), (51), 209-210
2. Amino disaccharides having an α -(1 \rightarrow 4) or a β -(1 \rightarrow 4) linkage, their synthesis and evaluation as a potential inhibitor for HIV-1 TAR-tat Iguchi, Takashi; Ishikawa, Hirohumi; Matsumoto, Hiroharu; Mizuno, Mamoru; Goto, Kohtaro; Hamasaki, Keita *Nucleic Acids Symposium Series* (2005), (49), 169-170

Other Features:

HAVE A TICKET? Come on board to our ship, CHEMICAL BIOLOGY. Here we go to the voyage on the ocean of GENOME! Let's explore the RNA continent to find treasure of the HISTORY of LIFE!

Nowadays, all we know that human genome is constructed with 3×10^9 base pairs of DNA. Even though, only 2% of it is used as the information of protein of which construct our body. What is other 98% of genomic information? Is that junk? On the other hand, 70% of genome is transcribed toward RNA. Definitely, there is SOMETHING ABOUT RNA! We have been voyage the ocean of genome, focus on RNA and RNA binding protein, small molecules and looking for the rules for the recognition and correct folding of those biological molecules. CHEMICAL BIOLOGIST manages tool sets of organic, inorganic, analytical and physical chemistry, molecular biology as well. At the end of this voyage, you might have a broad knowledge and experimental skills for CHEMISTRY and BIOLOGY. All you need now is a ticket for CHEMICAL BIOLOGY. Just ride on our ship, start voyage to find amazing treasures on the RNA continent.

-Applied Chemistry-

NAKAMURA, Asao

Field of Interest: Supramolecular Chemistry, Organic Photochemistry, Photomedicine
Title of Courses: Advanced Research Program on Eco-materials Engineering
Supramolecular Chemistry
Topics for Thesis:

- Use of microreactor in organic photochemical reactions
- Development of fluorescent probes for medical uses
- Photodynamic therapy
- Photochemical control of the bio-inspired mineralization

Publications and International Conference Papers:

1. K. Imai, I. Nakanishi, K. Anzai, T. Ozawa, N. Miyata, S. Urano, H. Okuda, A. Nakamura, K. Fukuhara, "Synthesis and Enhanced Radical Scavenging Activity of Conformationally Constrained Epigallocatechin Analogue", *Chem. Lett.*, **2012**, *40*, 1417–1419.
2. A. Nakamura, H. Irie, S. Hara, M. Sugawara, S. Yamada, "Regiospecific [2 + 2] photocyclodimerization of *trans*-4-styrylpyridines templated by cucurbit[8]uril", *Photochem. Photobiol. Sci.*, **2011**, *10*, 1496–1500.
3. K. Fukuhara, A. Ohno, K. Imai, A. Nakamura et al., "Novel ninhydrin adduct of catechin with potent antioxidative activity", *Tetrahedron Lett.*, **2009**, *50*, 6989–6992.
4. K. Fukuhara, K. Imai, A. Nakamura et al., "Intramolecular base-accelerated radical-scavenging reaction of a planar catechin derivative bearing a lysine moiety", *Chem. Commun.*, **2009**, 6180–6182.
5. M. Nishijima, T. C. S. Pace, A. Nakamura, T. Mori, T. Wada, C. Bohne, Y. Inoue, "Supramolecular Photochirogenesis with Biomolecules. Mechanistic Studies on the Enantiodifferentiation for the Photocyclodimerization of 2-Anthracenecarboxylate Mediated by Bovine Serum Albumin", *J. Org. Chem.* **2007**, *72*, 2707–2715.
6. A. Nakamura and Y. Inoue, "Electrostatic Manipulation of Enantiodifferentiating Photocyclodimerization of 2-Anthracenecarboxylate within γ -Cyclodextrin Cavity through Chemical Modification. Inverted Product Distribution and Enhanced Enantioselectivity", *J. Am. Chem. Soc.* **2005**, *127*, 5338–5339.

Other Features:

Research collaboration is going on with National Institute of Health Sciences and National Institute of Radiological Sciences.

-Applied Chemistry-

NOMURA, Mikihiro

Field of Interest: Energy and Water treatment based on Chemical Engineering
Title of Courses: Advanced Research Program on Eco-materials Engineering
Energy Engineering
Topics for Thesis: Development silica RO membranes for water purification
Preparation of MOR zeolite membranes for improvement of
petrochemical complexes
High temperature H₂ separation through Pd membranes

Publications and International Conference Papers:

1. "Silicalite Membranes Modified by Counterdiffusion CVD Technique", M. Nomura, T. Yamaguchi and S. Nakao, *Ind. Eng. Chem. Res.*, **36** (10), 4217-4223 (1997)
2. "Ethanol/water transport through silicalite membranes", M. Nomura, T. Yamaguchi and S. Nakao, *J. Membr. Sci.*, **144**, 161-171 (1998)
3. "Transport phenomena through intercrystalline and intracrystalline pathways of silicalite zeolite membranes", M. Nomura, T. Yamaguchi and S. Nakao, *J. Membr. Sci.* **187**, 203-212 (2001)
4. "Selective ethanol extraction from fermentation broth using a silicalite membrane", M. Nomura, T. Bin and S. Nakao, *Sep. Purif. Tech.* **27**, 59-66 (2002)
5. "Improvement of thermal stability of porous titania films prepared by the electrostatic sol-spray deposition (ESSD) method," M. Nomura, B. Meester, J. Schoonman, F. Kapteijn, J. A. Moulijn, *Chem. Mater.* **15**(6), 1283-1288 (2003)
6. "Effects of process parameters of the IS process on total thermal efficiency to produce hydrogen from water," S. Kasahara, G.-J. Hwang, H. Nakajima, H.-S. Choi, K. Onuki, M. Nomura, *J. Chem. Eng. Jpn.*, **36**(7), 887-899(2003)
7. "Application of an electrochemical membrane reactor to the thermochemical water splitting IS process for hydrogen production", M. Nomura, S. Fujiwara, K. Ikenoya, S. Kasahara, H. Nakajima, S. Kubo, G.-J. Hwang, H.-S. Choi and K. Onuki, *J. Membr. Sci.*, **240**(1-2), 221-226 (2004)
8. "Development of an Electrochemical Cell for Efficient Hydrogen Production through the IS Process," M. Nomura, S. Fujiwara, H. Okuda, S. Kasahara, K. Ikenoya, S. Kubo, K. Onuki and S. Nakao, *AIChE J.* **50**(8), 1991-1998 (2004)
9. "Silica membrane reactor for the thermochemical Iodine-Sulfur process to produce hydrogen", M. Nomura, S. Kasahara and S. Nakao, *Ind. Eng. Chem. Res.*, **43**(18), 5874-5879 (2004)

10. "Preparation of a stable silica membrane using a counter diffusion chemical vapor deposition method", M. Nomura, K. Ono, S. Gopalakrishnan, T. Sugawara and S. Nakao, *J. Membr. Sci.*, **251**(1-2), 151-158 (2005)
11. "Optimization of the process parameters of an electrochemical cell in the IS process", M. Nomura, H. Okuda, S. Kasahara and S. Nakao, *Chem. Eng. Sci.*, **60**(24), 7160-7167 (2005)
12. "Evaluation of the IS process featuring membrane techniques by total thermal efficiency", M. Nomura, S. Kasahara, H. Okuda and S. Nakao, *Int. J. Hydrogen Energy*, **30**(13-14), 1465-1473 (2005)
13. "Steam stability of a silica membrane prepared by a counter diffusion chemical vapor deposition", M. Nomura, H. Aida, S. Gopalakrishnan, T. Sugawara, S. Nakao, S. Yamazaki, T. Inada, Y. Iwamoto, *Desalination*, **193**(1-3), 1-7 (2006)
14. "Preparation of a catalyst composite silica membrane reactor for steam reforming reactions using a counter diffusion CVD method", M. Nomura, H. Aida, K. Nakatani, S. Gopalakrishnan, T. Sugawara, S. Nakao, M. Seshimo, T. Ishikawa and M. Kawamura, *Ind. Eng. Chem. Res.*, **45**(11), 3950-3954 (2006)
15. "Flowsheet study of the thermochemical water-splitting IS process for effective hydrogen production", S. Kasahara, S. Kubo, R. Hino, K. Onuki, M. Nomura, and S. Nakao, *Int. J. Hydrogen Energy*, **32**, 489-496 (2007)
16. "Pore size control of a molecular sieve silica membrane prepared by a counter diffusion CVD method", M. Nomura, T. Nagayo, K. Monma, *J. Chem. Eng. Jpn.*, **40**(13), 1235-1241 (2007)
17. "Control of an intercrystalline pathway of a zeolite membrane for water purification", M. Nomura, H. Uchida, *Kagaku Kagaku Ronbunshu*, **35**(1), 122-126 (2009) (in Japanese)
18. "Preparation of silica hybrid membranes for high temperature gas separation", M. Nomura, K. Monma, Y. Negishi, E. Matsuyama, S. Kimura, *Desalination Water Treat. Sci. Eng.*, **17**, 288-293 (2010)
19. "High temperature C₃H₆/C₃H₈ separation through silica hybrid membranes", M. Nomura, K. Monma, S. Kimura, E. Matsuyama, R. Miyake, K. Utsumi, *Membrane*, **35**(5), 236-241 (2010) (in Japanese)
20. "Development of a co-deposition method of ceramic particles for hydrogen permselective thin Pd films ", M. Nomura, T. Ono, A. Yamamoto, T. Tsubono and K. Suzuki, *Trans. Mater. Res. Soc. Jpn.*, **36**(2), 213-216 (2011)

Other Features:

Bio-Science and Engineering

-Bio Science and Engineering-

KOMEDA, Takashi

Field of Interest: Biomedical Robotics, Rehabilitation engineering
Title of Courses: Advanced Research Program on Systems Control Engineering
Research on Bio Functional and Bio System
Topics for Thesis: Master-slave system for operation
Haptic device for rehabilitation use
Human robot interface

Publications and International Conference Papers:

1. Takashi Komeda, Yoshiyuki Takahashi, et. al. "Development of an Upper Limb Patient Simulator for Physical Therapy Exercise" Proceedings of International Conference on Rehabilitation Robotics, pp.1117-1120 (2011)
2. Motoki Takagi, Kie Iwata, Yoshiyuki Takahashi, Shin-ichiroh Yamamoto, Hiroyuki Koyama, Takashi Komeda, Development of A Grip Aid System using Air Cylinders, Proceedings of 2009 IEEE International Conference on Robotics and Automation, pp 2312-2317, ISBN: 978-1-4244-2789-5. ISSN: 1050-4729 (2009)
3. Masaru Ide, Takashi Komeda, Hiroyuki Koyama, Shin-ichirh Yamamoto, Makoto Mohri: Development of a master slave system for interventional radiology; CARS2008 Computer Assisted Radiology and Surgery (2008)
4. Tomohiro Fujisawa, Motoki Takagi, Yoshiyuki Takahashi, Kaoru Inoue, Takafumi Terada, Yukio Kawakami and Takashi Komeda: Basic Research on the Upper Limb Patient Simulator; Proceedings of the 2007 IEEE 10th ICORR, PP48~51(2007)
5. H.Lee, T.Komeda et. al. "Basic experiments of upper limb rehabilitation using haptic device system", Proceedings of the 2005 IEEE 9th International Conference on Rehabilitation Robotics, pp.444-447,(2005)
6. Y.Takahashi, T.Komeda et.al. "Development of the assistive mobile robot system:AMOS-to aid in the daily life of the physically handicapped", Advanced Robotics Vol.18, No.5, pp 473-496(2004)

Other features:

Research title for doctor course students

- Development of a patient simulator for upper limb to train the therapist
- Master slave system for assistive technology

-Bio-Science and Engineering-

YAMAMOTO, Shin-ichiroh

Field of Interest: Physiological Engineering, Rehabilitation Engineering
Title of Courses: Advanced Research Program on Systems Control Engineering
Research on welfare and rehabilitation support system
Topics for Thesis: Novel Development of Gait Training System for Spinal Cord
Injury and Stroke
Biomechanical Analysis of Posture Control for Standing and
Walking in Human

Publications and International Conference Papers:

1. S. Yamamoto, H. Tabei, M. Ishizawa: Influence of translation frequency on postural control strategy during passive postural movement. The Proceedings of 19th Congress of the International Society of Electrophysiology and Kinesiology (ISEK), pp471, 2012
2. H. Ihara, S. Yamamoto, N. Kawashima: Novel Approach For Understanding Postural Control Strategy Using Realtime Feedback Movable Force Plate. The Proceedings of 19th Congress of the International Society of Electrophysiology and Kinesiology (ISEK), pp496, 2012
3. T. Kitamura, T. Nakajima, S. Yamamoto, K. Nakazawa: Effect of sensory inputs on the motor evoked potentials in the wrist flexor muscle during the robotic passive stepping in humans. The proceedings of 34th Annual International Conference of the IEEE EMBS, pp3862-3865, 2012
4. M. Ishizawa, S. Yamamoto: Effect of inclined support surface on postural strategy during anterior-posterior platform translations. The proceedings of 34th Annual International Conference of the IEEE EMBS, pp4772-4775, 2012
5. H. Ogata, D.G. Sayenko, E. Yamamoto, T. Kitamura, S. Yamamoto, T. Miyoshi, K. Kamibayashi, K. Nakazawa: Effect of spinal cord injury and its lesion level on stretch reflex modulation by cold stimulation in humans. *Clinical Neurophysiology* 122, 163–170, 2011
6. S. Shimba, N. Kawashima, Y. Ohta, S. Yamamoto, K. Nakazawa: Enhanced stretch reflex excitability in the soleus muscle during passive standing posture in humans. *J. Electromyography and Kinesiology* 20, 3, 406-412, 2010
7. Y. Shibata, R. Aoyama, S. Imai, T. Miyoshi, S. Yamamoto, Development of body weight support tread-mill training system powered by pneumatic McKibben actuator, The 4th South East Asian Technical University Consortium (SEATUC) Symposium, ISSN 1882-5796, pp400-403, 2010
8. T. Miyoshi, T. Kihara, H. Koyama, S. Yamamoto, T. Komeda: Automatic detection method of muscle fiber movement as revealed by ultrasound images. *Med Eng Phys.* 31(5), 558-564, 2009
9. T. Kitamura, T. Nakajima, K. Kamibayashi, S-I. Yamamoto, M. Akai, K. Nakazawa: Effect of Passive Stepping on the H-reflex in the Wrist Flexor, World Congress 2009 of Medical Physics and Biomedical Engineering, Munich, Germany, 2009.9
10. Y. Shibata, M. Takagi, T. Miyoshi, S. Yamamoto: Development of the Gait Training System Controlled by Pressure Feed-back, World Congress 2009 of Medical Physics and Biomedical Engineering, Munich, Germany, 2009.9

11. Y. Agarie, T. Uchikawa, S. Yamamoto, T. Kubo: Comparison of 3-dimensional Force Affected by Ischial-Ramal Containment (IRC) Socket's each Wall in Different Socket Depths, Asian Prosthetic and Orthotic Scientific Meeting 2009 (APOS2009), Hong Kong, 2009.8
12. Y. Shibata, Y. Agarie, H. Ohtsuka, S. Yamamoto: Development of the Upper limb Orthosis to Apply Neuro-Rehabilitation for Brachial Plexus Paralysis, Asian Prosthetic and Orthotic Scientific Meeting 2009 (APOS2009), Hong Kong, 2009.8
13. S. Yamamoto, C. Shimizu, H. Yamamoto, N. Sasagawa, T. Miyoshi, H. Koyama, T. Komeda: Different Contraction Pattern of Lower Leg Muscle Fiber between Swaying and Tiptoe Standing in Human Upright Posture, The 4th European Congress for Medical and Biological Engineering (eMBEC), Antwerp, Belgium, 2008.11
14. N. Sasagawa, T. Miyoshi, S-I. Yamamoto: Changes of Muscle Fiber Length in Vivo during Walking as Revealed by Ultrasound Images, The 4th European Congress for Medical and Biological Engineering (eMBEC), Antwerp, Belgium, 2008.11
15. Y. Shibata, M. Takagi, T. Miyoshi, R. Aoyama, S. Yamamoto, Y. Kawakami: Development of Gait Training System Using Bi-articular Muscle Model, Toyama, Japan, 2008.9
16. S. Yamamoto, T. Miyoshi, T. Komeda, K. Hiramatsu, K. Nakazawa and M. Akai: Development of Pneumatic Gait Assist System, 2007 IEEE/ICME International conference on Complex Medical Engineering (CME2007), pp.1362-1365, 2007
17. T. Miyoshi, H. Yamamoto, S.I. Yamamoto, H. Koyama, T Komeda: Muscle Movements Depend On Position Of The Center-Of-Mass Relative To The Ankle Center Of Rotation In Humans, 2007 IEEE/ICME International conference on Complex Medical Engineering (CME2007), pp.1274-1277, 2007
18. T. Miyoshi, K. Hotta, S. Yamamoto, K. Nakazawa, M. Akai: Somatosensory gravitation inhibits soleus H-reflex gain in humans during walking . Exp. Brain Res., 169, 135-138, 2006.
19. S. Shimba, N. Kawashima , S. Yamamoto, K. Nakazawa: Facilitation of Stretch Reflex in Human Soleus Muscle during Passive Standing. The Proceedings of 16th Congress of the International Society of Electrophysiology and Kinesiology (ISEK), 2006
20. S. Yamamoto, H. Hiramatsu, T. Miyoshi, K. Hiramatsu, T. Komeda, K. Nakazawa, M. Akai: Development of Gait Assist System for Underwater Training. Proceedings of 3rd European Medical and Biological Engineering Conference (EMBEC), 2005
21. S. Yamamoto, H. Hiramatsu, T. Miyoshi, K. Hiramatsu, T. Komeda, K. Nakazawa, M. Akai: Development of Underwater Pneumatic Gait Orthosis. The Proceedings of 1st International Conference on Complex Medical Engineering (CME), 500-503, 2005
22. T. Kihara, H. Koyama, Y. Yanno, S. Yamamoto, T. Komeda: Modeling of Fascia and Muscle Fiber Structure on Ultrasound Images. The Proceedings of 1st International Conference on Complex Medical Engineering (CME), 963-968, 2005.
23. B. Najafi, T. Kato, Ph. Vuadens, S. Yamamoto, K. Aminian: A New Index for Assessing the Postural Control in Humans. Proceedings of 17th International Society for Postural and Gait Research (ISPG), 2005
24. T. Miyoshi, K. Hotta, S.I. Yamamoto, K. Nakazawa, M. Akai: Somatosensory graviception inhibits soleus H-reflex gain during walking in humans revealed by reduced gravity condition. Proceedings of 17th International Society for Postural and Gait Research (ISPG), Marseille, France, 2005
25. T. Miyoshi, T. Shirota, S. Yamamoto, K. Nakazawa, M. Akai: Effect of the walking speed to the lower limb joint angular displacements, joint moments and ground reaction forces during walking in water. Disability and Rehabilitation, 26, 724-732, 2004
26. N. Kawashima, K. Nakazawa, S. Yamamoto, D. Nozaki, M. Akai, H. Yano: Stretch reflex excitability of the anti-gravity ankle extensor muscle in elderly humans. Acta. Physiol. Scand.,180, 99-105, 2004

-Bio-Science and Engineering-

YOSHIMI, Yasuo

- Field of Interest: • Biomimetic Chemical Engineering for Clinical Use
 • Artificial Organs
 • Design of Molecularly Recognitive Polymers for Biosensors
- Title of Courses: Advanced Research Program on Bio-function Control
 Chemical Engineering
- Topics for Thesis: • Monitoring Drugs in Blood using Molecularly Imprinted Polymers
 • An Implantable Glucose Sensor for Diabetes Using Molecularly Imprinted Polymer
 • Development of Artificial Synapse using an Electrochemical Micropump
 • A Novel Separation Process using a Molecularly Imprinted Nanoparticles
 • A Voltage Imaging of Central Nervous System

Publications and International Conference Papers:

1. Y. Yoshimi, R. Arai, S. Nakayama: Influence of the solvent on nature of gate effect in molecularly imprinted membrane. *Analytica Chimica Acta*, 682, 20110–116, 2010
2. Y. Yoshimi, A. Narimatsu, K. Nakayama, S. Sekine, K. Hattori, K. Sakai: Development of an enzyme-free glucose sensor using the gate effect of a molecularly imprinted polymer. *J. Artificial Organs*, **12**, 264–270, 2009
3. Y. Yoshimi, R. Yoshiizumi, R. Arai, I. Nakao, S. Sekine: Chiral-discriminative gate effect in self-supporting phenylalanine-imprinted poly (methacrylic acid -*co*- 2-vinylpyridine -*co*- triethyleneglycol dimethacrylate) membrane, *J. Chem. Eng. Jpn.* , **42**, 600-606, 2009
4. S. Sekine, Y. Watanabe, Y. Yoshimi, K. Hattori and K. Sakai: Influence of solvents on chiral discriminative gate effect of molecularly imprinted poly(ethylene glycol dimethacrylate-*co*-methacrylic acid), *Sensors and Actuators B.*, **127**, 512-517, 2007
5. Y. Yoshimi, K. Shinoda, M. Mishima, K. Nakao and K. Munekane: Development of an Artificial Synapse Using an Electrochemical Micropump, *J. Artificial Organs*, **7**, 210–215, 2004
6. Y. Yoshimi, M. Kamada, Y. Ohkawara, K. Hattori and K. Sakai: Improvement of Hydrogen Peroxide Sensitivity of Electrochemiluminescent Method with Luminol by Polyion Adsorption onto the Electrode, *Electrochemistry*, **72**, 747-750, 2004

7. K. Hattori, M. Hiwatari, C. Iiyama, Y. Yoshimi, F. Kohori, K. Sakai and S. Piletsky: Gate Effect of Theophylline-Imprinted Polymers Grafted to The Cellulose by Living Polymerization, *J. Membr. Sci.*, **233**, 169-173, 2004
8. K. Hattori, Y. Yoshimi, T. Ito, K. Hirano, F. Kohori and K. Sakai: Effect of Electrostatic Interactions on Gate Effect in Molecularly Imprinted Polymers, *Electrochemistry*, **72**, 508-510, 2004
9. S. Kurosawa, T. Hirokawa, K. Kashima, H. Aizawa, J.-W. Park, M. Tozuka, Y. Yoshimi, K. Hirano, Adsorption of Anti-C-Reactive Protein Monoclonal Antibody and F(ab') Fragment on Plasma-Polymerized Styrene, Allylamine and Acrylic Acid Coated with Quartz Crystal Microbalance, *J. Photopolymer Science and Technology*, **15**, 323-330. 2002
10. S. Aoyagi, T. Miyasaka, Y. Yoshimi and K. Sakai: A New Reagentless Immunosensor for Measuring IgG Concentration in Human Plasma Based on Fluorescence-Enhancement Immunoassay, *J. Artificial Organs*, **5**, 60-63, 2002
11. Y. Yoshimi, R. Ohdaira, C. Iiyama and K. Sakai: "Gate Effect" of Thin Layer of Molecularly Imprinted Poly (Methacrylic Acid -co- Ethyleneglycol Dimethacrylate), *Sensors and Actuators B.*, **73**, 46-53, 2001
12. K. Hattori, Y. Yoshimi and K. Sakai: Gate effect of Cellulosic Dialysis Membrane Grafted with Molecularly Imprinted polymer, *J. Chem. Eng. Jpn.*, **34**, 1466-1469, 2001
13. Z. A. Talib, S. Kurosawa, B. Atthoff, H. Aizawa, K. Kashima, T. Hirokawa, Y. Yoshimi, M. Yoshimoto, T. Hirotsu, J. Miyake and J. Hilborn: Plasma Polymerization of Silicon-Containing Monomers, *J. Photopolymer Science and Technology*, **14**, 129-138, 2001
14. S. Aoyagi, Y. Suzuki, K. Sakai, T. Miyasaka and Y. Yoshimi: Transient Measurement with an enzyme-immobilized electrode undergoing protein adsorption, *Electrochemistry*, **69**, 251-253, 2001

Other Features:

Human body is an integration of ideal chemical plants. Then philosophy of chemical engineering is available for development for artificial organs. Then we are developing novel devices for artificial organs based on chemical engineering.

We are preparing the following themes for the HBT.

(A) Development of biomimetic sensor for artificial organs

Increasing of diabetic patients is very serious for newly developed countries. Artificial pancreas controlling blood sugar automatically needs implantable glucose sensor. However conventional

enzymatic glucose sensor cannot endure sterilization process. Then we are developing an “enzyme free” glucose sensor using molecularly recognitive synthetic polymers.

(B) Basic Artificial Sense Organs

Development of prosthesis technology of sense organs (eyes, ears, etc.) or brain progresses behind that of heart or kidney. So we are challenging the development of basic technology or artificial sense organs (artificial synapse and voltage imaging of neuronal networks.)

We need your young power for developing the new frontier in chemical engineering.

I was a secretary general of 14 th Symposium of Young Asian Biochemical Engineers' Community held in 2008, Tokyo. So I have personal connections with many Asian scientists of Biochemical Engineering.

-Bio-Science and Engineering-

SHIBATA, Masahiro

Field of Interest: Vascular Biomechanics, Regenerative medicine,
Microvascular hemo- and oxygen dynamics

Title of Courses: Advanced Research Program on Bio-function Control
System research in biomedical control

Topics for Thesis: Oxygen measurement in Microcirculation
Capillary angiogenesis for regenerative tissue
Experimental and theoretical evaluation of vascular wall elasticity
In vivo imaging of capillary blood flow

Publications and International Conference Papers:

- G. Nakagami, H. Sanada, N. Matsui, A. Kitagawa, H. Yokogawa, N. Sekiya, S. Ichioka, J. Sugiyama, and M. Shibata. "Effect of vibration on skin blood flow in an in vivo microcirculatory model", *BioScience Trends* 1, pp.161-166 (2008)
- S. Ichioka, T. Ando, M. Shibata, N. Sekiya, and T. Nakatsuka. "Oxygen consumption of keloids and hypertrophic scars". *Ann Plast Surg* 60, pp.194-197 (2008)
- S. Ichioka, H. Watanabe, N. Sekiya, M. Shibata, and T. Nakatsuka. "A Technique to visualize wound bed microcirculation and the acute effect of negative pressure", *Wound Repair Regen* 16, pp.460-465 (2008)
- M. Shibata, N. Ohura, N. Sekiya, S. Ichioka, T. Yamakoshi, K. Yamakoshi, and A. Kamiya. "Compact capillaroscopy for human skin using CCD video-probe", *Microvascular Reviews and Communications* 1, pp.4-7 (2007)
- S. Ichioka, N. Sekiya, M. Shibata, and T. Nakatsuka. "Alpha V beta 3 ($\alpha\text{v}\beta\text{3}$) integrin inhibition reduces leukocyte-endothelium interaction in a pressure-induced reperfusion model", *Wound Rep Reg* 15, pp.572-576 (2007)
- M. Shibata, S. Ichioka, T. Togawa, and A. Kamiya. "Arterioles' contribution to oxygen supply to skeletal muscles at rest", *Eur J Appl Physiol* 97: pp.327-331 (2006)
- M. Shibata, K. Qin, S. Ichioka, and A. Kamiya. "Vascular wall energetics in arterioles during nitric oxide dependent and independent vasodilation", *J Appl Physiol* 100, pp.1793-1798 (2006)
- N. Ohura, T. Kurita, A. Takishima, M. Shibata, K. Harii: "Efficacy of a skin-protection power for use as a dressing for intractable ulcers", *J Wound Care* 15: pp.471-478 (2006)
- M. Shibata, S. Ichioka, and A. Kamiya. "Nitric oxide modulates oxygen consumption by arteriolar walls in rat skeletal muscle", *Am J Physiol. Heart Circ Physiol* 289, pp.H2673-H2679 (2005)
- M. Shibata, S. Ichioka, and A. Kamiya. "Estimating oxygen consumption rates of arteriolar walls under physiological conditions in rat skeletal muscle", *Am J Physiol Heart Circ Physiol* 289, pp.H295-H300 (2005)

- M. Shibata, S. Ichioka, J. Ando, T. Togawa, and A. Kamiya. "Non-linear regulation of capillary perfusion in relation to ambient pO₂ changes in skeletal muscle", *Eur J Appl Physiol* 94, pp.352-355 (2005)
- N. Ohura, S. Ichioka, T. Nakatsuka, and M. Shibata. "Evaluating dressing materials for the prevention of shear force in the treatment of pressure ulcers", *J Wound Care* 14, pp.401-404 (2005)
- Y. Asano, S. Ichioka, M. Shibata, J. Ando, and T. Nakatsuka. "Sprouting from arteriovenous shunt vessels with increased blood flow" *Med Biol Eng Comput* 43, pp.126-130 (2005)
- E. Warabi, Y. Wada, H. Kajiwara, M. Kobayashi, N. Koshiha, T. Hisada, M. Shibata, J. Ando, M. Tsuchiya, T. Kodama, and N. Noguchi. "Effect on endothelial cell gene expression of shear stress, oxygen concentration, and low-density lipoprotein as studied by a novel flow cell culture system", *Free Radic Biol Med* 37, pp.682-694 (2004)
- S. Ichioka, S. Kudo, M. Shibata, J. Ando, N. Sekiya, T. Nakatsuka. "Bone marrow cell implantation improves flap viability after ischemia-reperfusion injury", *Ann Plast Surg* 52, pp.414-418 (2004)
- S. Ichioka, S. Kudo, K. Tokioka, M. Shibata, J. Ando, N. Sekiya, T. Nakatsuka. "A symmetrical dorsal island double flap in the mouse", *Eur J Plast Surg* 27, pp29-32 (2004)

-Bio-Science and Engineering-

HANAFUSA, Akihiko

Field of Interest: Welfare and Human Engineering,
Rehabilitation Engineering
Title of Courses: Advanced Research Program on Bio-function Control
Research on welfare and rehabilitation support system
Topics for Thesis: Development of welfare and rehabilitation systems.
Development of computer assisted design system for welfare and medical
equipments including human body model.
Brain computer interfaces for welfare equipments.

Publications and International Conference Papers:

1. Akihiko Hanafusa, Tomozumi Ikeda, Naoki Suzuki, and Asaki Hattori, "Wheelchair Driving Analysis System Incorporating Assessment of Sitting Posture of Spine", 6th SEATUC Symposium, pp.OS-04-09-1-4, 2012.
2. Taisuke Ishii, Akihiko Hanafusa, Takashi Komeda, "Availability Assessment of Wavelet Analysis of EEG Signal", 5th SEATUC Symposium, pp.304-307, 2011.
3. Akihiko Hanafusa, Shuri Terada, Yuuri Miki, Chiharu Sasagawa, Tomozumi Ikeda, Teruhiko Fuwa, "Makeup Support System for Visually Impaired Persons: Overview of System Functions", 12th International Conference Computers Helping People with Special Needs (ICCHP2010), pp.338-345, 2010.
4. Akihiko Hanafusa, Johta Sasaki, Teruhiko Fuwa, Tomozumi Ikeda, "Self-Aided Manipulator System for Bed-Ridden Patients - Evaluation of Psychological Influence for the Generated Approach Motion -", IEEE 11th International Conference on Rehabilitation Robotics (ICORR2009), pp.626-631, 2009.
5. Akihiko Hanafusa, Motoki Sugawara, Teruhiko Fuwa, Tomozumi Ikeda, Naoki Suzuki, Asaki Hattori, "Wheelchair Propulsion Analysis System that Incorporates Human Skeletal Muscular Model ~Analyses on the Flat Floor and Slope~", Medical Imaging and Augmented Reality (MIAR 2008), LNCS 5128, pp.70-80, 2008.
6. Akihiko Hanafusa, Hiroko Washida, Jota Sasaki, Teruhiko Fuwa, Yasuhito Shiota, "Approach Motion Generation of the Self-Aided Manipulator for Bed Ridden Patients", Complex Medical Engineering, Springer, pp.227-238, 2007.

Mechanical Engineering

-Mechanical Engineering-

TAKASAKI, Akito

Field of Interest: Materials Science, Hydrogen Storage Materials, Functional Materials, Strength of Materials, Hydrogen Embrittlement
Title of Courses: Advanced Research Program on Eco-materials Engineering
Structure and Properties of Materials for Mechanical Engineering
Topics for Thesis: Synthesis of Novel Hydrogen Storage Materials; Hydrogenation Properties of Advanced Materials; Powder Metallurgy; Functional Materials(Shape Memory Alloys, Thin Films)

Publications and International Conference Papers:

1. A.Takasaki, S. Uematsu, K.F. Kelton: Ti-Zr-Ni Quasicrystal Coating Layers Produced by Plasma Thermal Spraying, *Materials Science Forum*, 534-536 (2007) 449
2. A.Takasaki, Y. Furuya, Mechanical Alloying of Graphite and Magnesium Powders, and their hydrogenation, *Journal of Alloys and Compounds*, 446-474 (2007) 110-113
3. A.Patah, A. Takasaki, J.S. Szmyd, Synergetic effect of oxides on hydrogen reaction kinetics of magnesium hydride, *Materials Science Forum*, 561-565 (2007) 1605-1608
4. A. Patah, A. Takasaki, J.S. Szmyd, The Effect of Cr₂O₃/ZnO on Hydrogen Desorption Properties of MgH₂, *Solid-State Chemistry of Inorganic Materials VII*, edited by P.M. Woodward, J.F. Mitchell, S.L. Brock, J.S.O. Evans (Materials Research Society Symposium Proceedings Vol. 1148E, Warrendale, PA, (2009) pp.1148-PP03-38.
5. A. Patah, A. Takasaki, J.S. Szmyd, Influence of Multiple Oxide (Cr₂O₃/Nb₂O₅) Addition on the Sorption Kinetics of MgH₂, *International Journal of Hydrogen Energy*, 34 (2009) 3032-3037.
6. A.Takasaki, W. Zając, T. Okuyama, J.S. Szmyd, Electrochemical Hydrogenation of Ti₄₅Zr₃₈Ni₁₇ Quasi Crystal and Amorphous Powders Produced by Mechanical Alloying, *Journal of Electrochemical Society*, 156 (7) (2009) A521-A526
7. A.Takasaki, H. Matsumoto, Synthesis of bulk Ti-based Quasicrystal by Shock Compression, *Advanced Powder Technology*, 20 (4) (2009) 395-397
8. A. Takasaki, R. Era, Hydrogen storage Properties of Graphite Intercalated with Lithium by Mechanical Alloying, *Proc. ExHFT-7 (7th World Conference on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics, Krakow, Poland) eds. J.S. Szmyd, J. Spalek, T.A. Kowalewski, (2009) 269-275*
9. A. Żywczak, D. Shinya, Ł. Gondek, A. Takasaki, H. Figiel, Hydriding of Ti₄₅Zr₃₈Ni_{17-x}Fe_x Nanocompounds, *Solid State Communications*, 150 (2010), 1-4
10. A.Takasaki, W. Zając, T. Okuyama, Electrochemical Properties of Ti₄₅Zr₃₈Ni₁₇ Quasicrystal and Amorphous Produced by Mechanical Alloying, *Transactions of Materials Research Society of Japan*, 35(2), (2010) 405-408
11. A. Takasaki, T. Okuyama, J.S. Szmyd, Synthesis of Ti-Zr-Ni Amorphous and Quasicrystal Powders by Mechanical Alloying, and their Electrochemical Properties, *Journal of*

- Materials Research, 25(8), (2010) 1575-1582
12. A. Takasaki, A Review on the Hydrogen Storage Systems for Fuel Cell Vehicles in Japan, *Jurnal Mekanikal* (ISBN 0127-3396), No.30 (2010), pp.17-23
 13. A.Takasaki, C. Kuroda, S.-H. Lee, J.-Y. Kim, Electrochemical Properties of $Ti_{45}Zr_{38-x}Ni_{17+x}$ ($0 \leq x \leq 8$) Quasicrystals Produced by Rapid-Quenching, *Journal of Alloys and Compounds*, 509S (2011), pp. S782-S785
 14. T. Saito, Yokoyama, A. Takasaki, Hydrogenation of TiNi Shape Memory Alloy Produced by Mechanical Alloying, *Journal of Alloys and Compounds*, 509S(2011), pp.S779-S781
 15. A. Żywczak, Ł. Gondek, H. Figiel, J. Żukrowski, J. Czub, A. Takasaki, Structure and hyperfine properties of $Ti_{48}Zr_{7}Fe_{18}$ and its hydrides, *Journal of Alloys and Compounds*, 509 (9), (2011) 3952-3957
 16. A.Takasaki, K.F.Kelton, Hydrogen storage in Ti-Zr/Hf-Ni quasicrystal powders produced by Mechanical alloying, in "Quasicrystals: Types, Systems, and Techniques", B.E. Puckermann ed., Nova Science Publishers Inc, (2011), pp. 127-146
 17. A.Takasaki, S.Iijima, T.Yamane, T.Okabe, Hydrogen Adsorption by Woodceramics Produced from Biomass, *Journal of Shanghai Jiaotong University (Science) Springer*, 17(3) (2012), 330-333

(Number 3 to 5 are publications with a HBT student)

Other Features:

- <http://www.qsys.se.shibaura-it.ac.jp/m-mecha/>

-Mechanical Engineering-

YAMADA, Jun

Field of Interest: Radiation Transfer in Thermal System, Skin Optics,
Computational Electromagnetics

Title of Courses: Advanced Research Program on Environmental Energy Engineering
Studies on Radiation Transfer

Topics for Thesis: Radiative Characteristics of Surface with Nano-structure

Publications and International Conference Papers:

1. Jun Yamada, Yasuo Kurosaki and Tomoyuki Morikawa, 2001, Radiation emitted from Fluidizing Particles adjacent to a Heated Surface in a Fluidized Bed, International Journal of Thermal Science, Vol. 40, pp. 104-113
2. Jun Yamada, Yasuo Kurosaki, Takanori Nagai, 2001, Radiation Heat Transfer Between Fluidizing Particles and Heat Transfer Surface in a Fluidized Bed", Transaction of the ASME, Journal of Heat Transfer, Vol. 123, No. 3, pp. 458-465
3. Jun Yamada, 2002, Radiative Properties of Fibers with Non-Circular Cross Sectional Shapes, Journal of Quantitative Spectroscopy & Radiative Transfer, Vol. 73, pp. 261-272
4. Jun Yamada, Hiroki Iida, 2002, Numerical Study on Radiative Characteristics for Scale of Morpho Butterfly (in Japanese)", Thermal Science and Engineering, Vol. 10, No. 2, pp. 39-45
5. Jun Yamada, Norihisa Nagahara, Isao Satoh and Yasuo Kurosaki, 2002, Direct-Contact Heat Exchange Between Fluidizing Particles and a Heat Transfer Surface in a Fluidized Bed: Temperature Visualization of Fluidizing Particles, Heat Transfer-Asian Research, Vol. 31, No. 3, pp. 165-181
6. Jun Yamada, Toru Murase and Yasuo Kurosaki, 2003. 6, Thermal Imaging System Applying Two-Color Thermometry, Heat Transfer-Asian Research, Vol. 32, No. 6, pp. 473-488
7. M. Aslan, J. Yamada, M. P. Menguc and J. A. Thomasson, 2003.10, Characterization of Individual Cotton Fibers via Light-Scattering Experiments, Journal of Thermophysics and Heat Transfer, Vol. 17, No. 4, pp. 442-449
8. J. Yamada, A. Kawamura, Y. Miura, S. Takada and K. Ogawa, 2005. 3, Study on Radiation Transfer in Human Skin for Cosmetics, Journal of Quantitative Spectroscopy & Radiative Transfer, Vol. 93, No. 1-3
9. J. Yamada, R. Nagai, M. Watanabe, M. Aoki, 2007. 6, Numerical Analysis for Radiative Characteristics of Surfaces with Periodic Nanostructure, Radiation Transfer - V, Proc. 5th International Symposium on Radiative Transfer at Istanbul, CD RAD-V-053
10. J. Yamada, Y. Arita, Akihiro An, Y. Miura, S. Takata, 2007. 8, Estimation of Radiative Properties for Human Skin by Reflection Profile Measurement, Proc. of the 7th Asian Thermophysical Properties Conference, Paper No. 90

11. Y. Miyamoto, J. Kamoshida and J. Yamada, 2009.6, Drying Behavior of Residual Liquid Droplets during Marangoni Drying, Proceedings of 7th World Conference on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics, Krakow, Poland (ExHFT-7) p. 138 (CD-ROM) 1875-1882
12. M. Sangklinhom, J. Yamada, 2009.6, A Study on Radiative Transfer in A TiO₂ Photo electrode for Dye Sensitized Solar Cell Performance Enhancement”, Proceedings of 7th World Conference on Experimental heat Transfer, Fluid Mechanics and Thermodynamics, Krakow, Poland (ExHFT-7) p. 45 (CD-ROM) 581-588
13. J. Yamada, K. Nakamura, M. Kaizuka, K. Kikuchi, S. Takata 2009, Effect of Skin Texture on Radiative Characteristics of Human Skin, Proceedings of 7th World Conference on Experimental heat Transfer, Fluid Mechanics and Thermodynamics, Krakow, Poland (ExHFT-7) p. 17 (CD-ROM) 227-233
14. Manon SANGKLINHOM and Jun YAMADA, A Study on Radiative Transfer in a TiO₂ Photoelectrode for Improvement of Dye-Sensitized Solar Cell Performance, Journal of Thermal Science and Technology, Vol. 4 (2009) No. 2, pp.248-259

Other Features:

-Mechanical Engineering-

HASEGAWA, Hiroshi

Field of Interest: Optimal Design, Conceptual Design, Computational Engineering and Science, Emergent and Intelligent Systems

Title of Courses: Advanced Research Program on Systems Control Engineering
Research in Systems Design

Topics for Thesis: Memetic Algorithm for Optimal Design
Methodology of Creative and Inventive Design Support System (CDSS)
Creativity for Conceptual Design

Publications and International Conference Papers:

1. Hiroshi Hasegawa, Junya Tabuchi, Akimine Suzuki and Takayuki Kashiwakura, Creative and Inventive Design Support System: Concept Making of Biped Robot for Intrinsically Safety Design, Proceedings of 12th ETRIA World TRIZ Future Conference 2012, (2012.10)
2. Shun Takahashi, Hiroshi Hasegawa, Takeshi Mizokami and Kanako Goto, Idea creation: Function Synthesis Approach with Simplification and Evaluation, Proceedings of 12th ETRIA World TRIZ Future Conference 2012, (2012.10)
3. Tam Bui, Hieu Pham and Hiroshi Hasegawa, Modified Self-Adaptive Strategy for Controlling Parameters in Differential Evolution, Proceedings of ASIA SIMULATION CONFERENCE 2012, (2012.10)
4. Hieu Pham and Hiroshi Hasegawa, Adaptive System of Swarm Intelligent with Genetic Algorithm for Global Optimization, Proceedings of the 2012 IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC 2012), (2012.10)
5. Bui Ngoc Tam, Pham Ngoc Hieu and Hiroshi Hasegawa, Hybrid Integrate Differential Evolution with Artificial Bee Colony for Global Optimization, Proceedings of The International Conference on Evolutionary Computation Theory and Applications 2012 (ECTA2012) (2012.10)
6. Pham Ngoc Hieu and Hiroshi Hasegawa, Differential Evolution for Adaptive System of Particle Swarm Optimization with Genetic Algorithm, Proceedings of The International Conference on Evolutionary Computation Theory and Applications 2012 (ECTA2012), (2012.10)
7. Nerakae Krissana and Hiroshi Hasegawa, The Effect of Toe Mechanism for Simulation of Small Biped Walking Robot by Gait Generation, Proceedings of The International Conference on Modelling & Applied Simulation 2012 (MAS2012) , (2012.09)
8. Hieu Pham, Sousuke Tooyama and Hiroshi Hasegawa, Evolutionary Strategies of Adaptive Plan System with Genetic Algorithm, The Japan Society of Mechanical Engineers, Journal of Computational Science and Technology, Vol.6, No.3, (2012.9)
9. Ayano Sato and Hiroshi Hasegawa, Considering User's Kando for Conceptual Design on CDSS, Proceedings of TRIZ Future Conference 2011, (2011.11)
10. Hieu Ngoc Pham and Hiroshi Hasegawa, Hybrid Approach For Improved Particle Swarm Optimization Using Adaptive Plan System With Genetic Algorithm, Proceedings of the International Conference on Evolutionary Computation Theory and Applications 2011 (ECTA2011), (2011.10)
11. Hieu Ngoc Pham and Hiroshi Hasegawa, New Evolutionary Algorithm Based on Particle Swarm Optimization and Adaptive Plan System With Genetic Algorithm, Proceedings of the International Conference on Modelling & Applied Simulation 2011 (MAS2011), (2011.09)

12. Nerakae Krissana and Hiroshi Hasegawa, Simulation Based Design Optimization Framework for a Gait Pattern Generation of a small Biped Robot with Tiptoe Mechanism, Proceedings of the International Conference on Modelling & Applied Simulation 2011 (MAS2011), (2011.09)
13. Hiroshi Hasegawa, Yuki Sonoda, Mika Tsukamoto and Yusuke Sato, "Creative and Inventive Design Support System: Systematic Approach and Evaluation using Quality Engineering", 4th International Conference of Design Computing and Cognition (DCC10), Springer Publishers, (2011.01)
14. Hieu Ngoc Pham and Hiroshi Hasegawa, "Hybrid Neighborhood Control Method of Adaptive Plan System with Genetic Algorithm", 7th EUROSIM Congress on Modeling and Simulation 2010, (2010.09)
15. Mika Tsukamoto, Yuki Sonoda and Hiroshi Hasegawa, "Creative and Inventive Design Support System: Presentation and Evaluation of Analysis model with a Contact and an Observer Object", Poster Abstracts of 4th International Conference of Design Computing and Cognition (DCC10), (2010.07)
16. Masayuki Saiki, Naoya Ito and Hiroshi Hasegawa, "The Simulation of Tiptoe Mechanism for Biped Robots", ASIA SIMULATION CONFERENCE 2009, (2009.10)
17. Kento Yoshioka and Hiroshi Hasegawa, "The Simulation for Conceptual Design Using the Particles Methodologies", ASIA SIMULATION CONFERENCE 2009, (2009.10)
18. Sousuke Tooyama and Hiroshi Hasegawa, "Adaptive Plan System with Genetic Algorithm using the Variable Neighborhood Range Control", IEEE Congress on Evolutionary Computation 2009 (IEEE CEC 2009), (2009.05)
19. Hiroshi Hasegawa, "Adaptive Plan System with Genetic Algorithm based on Synthesis of Local and Global Search Method for Multi-Peak Optimization Problems", 6th EUROSIM Congress on Modeling and Simulation 2007, (2007.09)
20. Naoya Ito and Hiroshi Hasegawa, "Robust Optimization under Uncertain Factors of Environment for Simple Gait of Biped Robots", 6th EUROSIM Congress on Modeling and Simulation 2007, (2007.09)
21. Hiroshi Hasegawa, Hiroto Sasaki, Hiroyasu Uehara and Keishi Kawamo, "The optimisation of spot-weld positions for vehicle design by using hybrid meta-heuristics", International Journal of Vehicle Design, Vol. 43, Nos. 1-4, (2007.01)
22. Hiroshi Hasegawa, Hiroto Sasaki and Hiroyasu Uehara, "The Hybrid Meta-heuristics Method by Reflecting Recognition of Dependence Relation among Design Variables for The Multi-peak Problems", ASIAN SIMULATION CONFERENCE 2006, (2006.11)
23. Amane Sasaki, Masaya Hasegawa, Hiroyasu Uehara, Hiroshi Hasegawa and Keishi Kawamo, "Study on The Weight Minimization Problems of Mechanical Structures By Using GA, SA and their Hybrid Method ~ Toward the Ideal Design Optimization System Using Emergence Algorithms ~", The Second China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems (CJK-OSM2), (2002.11)
24. Takaaki Miyamoto, Hiroshi Hasegawa, Keishi Kawamo, "A Method for Weight Minimization Problems of 2-Dimensional Trusses under Constraints of Stresses and Frequencies by Using Genetic Algorithm", 1st China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems (CJK-OSM1), (1999.10)
25. Yasushi Turuta, Yusaku Suzuki, Hiroshi Hasegawa and Keishi Kawamo, "A Method for the Shape and Topology Optimization of Mechanical Structures Using Genetic Algorithm", JSME Centennial Grand Congress by the Japan Society of Mechanical Engineers International Symposium on OPTimization and Innovative Design (OPID97), (1997.07)
26. Keishi Kawamo, Hiroshi Hasegawa and Yasushi Tsuruta, "A Method for the Shape and Topology Optimization of Mechanical Structures Using Genetic Algorithm", Current Advances in Mechanical Design and Production VI – Proceedings of the Sixth Cairo University International MDP Conference Cairo, (1996.01)

- Mechanical Engineering -

ITO, Kazuhisa

Field of Interest: Robust Control of mechatronic systems (NOT including robotics), Water hydraulic systems, Energy saving system, Agricultural engineering

Title of Courses: Advanced Research Program on Systems Control Engineering
Research in Dynamical System Control

Topics for Thesis: Robust controller design for water hydraulic servo system and analysis of its energy saving performance

Publications and International Conference Papers:

1. P.N.Pha, K.Ito, W.Kobayashi, S.Ikeo: Analysis of Velocity Control Performance and Energy Recovery Efficiency of Water Hydraulic Fluid Switching Transmission, International Journal of Automation Technology. Vol.6 No.4, pp.457-467, 2012
2. K.Ito, T.Yamada, S.Ikeo and K.Takahashi: Application of Simple Adaptive Control to Water Hydraulic Servo Cylinder System, Chinese Journal of Mechanical Engineering, 25-5, pp.882-888, 2012
3. Yukio Kawakami, Kazuhisa Ito, Masashi Ogawa, Akiyoshi Horikawa, Koji Shioda and Kiono Nagai: Development of Articulated Manipulators with Pneumatic Cylinders, Int. J. of Automation Technology, Vol.5, No.4, pp.478-484, 2011
4. W.Kobayashi, K.Ito, S.Ikeo, T.Yamada and K.Takahashi: Study on Energy Efficiency of Water Hydraulic Fluid Switching Transmission, Proc. of the 8th JFPS International Symposium on Fluid Power 2011, pp.579-585 (October 25-28, 2011, Okinawa, Japan)
5. P.N.Pha, K.Ito, W.Kobayashi and S.Ikeo: Research on Velocity Error and Energy Recovery Efficiency of Water Hydraulic Fluid Switching Transmission, Proc. of the 11th International Conference on Automation Technology 2011, R0005 (November 18-20, 2011, Douliu, Taiwan)
6. S.Ikeo, J.Ogawa and K.Ito: Energy Saving in Injection Molding Machine, Proc. of the 8th International Fluid Power Conference IFK2012, E3 (March 26-28, 2012, Dresden, German)

7. R.Inoguchi, K.Ito and S.Ikeo: Pure-Hydraulic Hybrid Cylinder Drive System with Hydraulic Transformer, Proc. of the 2nd Japan-China Joint Workshop on Fluid Power 'Sustainable Future on Fluid Power', pp.17-21 (May 23, 2012, Tokyo, Japan)
8. K.Ito: Greenhouse Temperature Control with Wooden Pellets Heater Via Model Predictive Control Approach, Proc. of the 20th Mediterranean Conference on Control and Automation 2012, pp.1542-1547 (July 3-6, 2012, Barcelona, Spain)
9. K.Ito, W.Kobayashi, S.Ikeo and Pham Ngoc Pha: Control and Energy Saving Performance of Water Hydraulic Fluid Switching Transmission, Proc. of the 12th Scandinavian International Conference on Fluid Power SICFP2011, Vol.1, pp.103-114, May 18-20, 2011, Tampere, Finland
10. K.Ito: Control Performance Comparison of Simple Adaptive Control to Water Hydraulic Servo Cylinder System, Proc. of the 19th Mediterranean Conference on Control and Automation 2011, pp.195-200, June 20-23, Corfu, Greek
11. M.Hirano, T.Shen, K.Ito and K.Tamura: State feedback stabilization of cascaded nonlinear systems with discontinuous connection, Journal of Control Theory and Applications, Vol.6, No.1, pp.45-52, 2008
12. K.Ito, K.Sasaki, S.Ikeo and K.Takahashi : Application of Minimal Control Synthesis Algorithm to Pneumatic Positioning Control System, JFPS International Journal of Fluid Power System, Vol. 1, No. 1, 2008
13. K.Ito, S.Ikeo, H.Takahashi and N.Kanamori : Robust Control Performance Comparison on Water Hydraulic Servo Motor System , in Dr.D.N.Johnston, Prof.A.R.Plummer Ed., Fluid Power and Motion Control FPMC2008, pp.149-162, ISBN:9-780861-971503

Other Features:

Research topic candidates:

- Robust water hydraulic actuator control
- Energy regenerating control for water hydraulic system
- Generator governor control with water hydraulic system
- Agricultural engineering

Materials Science and Engineering

-Materials Science and Engineering-

MURAKAMI, Masato

Field of Interest: Synthesis and characterization of superconducting materials, Applications of superconductivity, Ferrous shape memory alloys

Title of Courses: Study of High Functional Materials

Topics for Thesis: Magnetic characterization of high temperature superconductors
Processing of high temperature superconductors
Applications of bulk high temperature superconductors
Applications and characterization of Fe-Mn-Si shape memory alloys

Publications and International Conference Papers:

1. M. Tomita and M. Murakami: "High temperature superconductor bulk magnets that can trap magnetic fields of over 17T at 29K " *Nature*, vol. 421, p. 517-520, 2003
2. M. Muralidhar, N. Sakai, N. Chikumoto, M. Jirsa, T. Machi, M. Nishiyama, Y. Wu and M. Murakami: "New type of vortex pinning structure effective at very high magnetic fields", *Phy. Rev. Lett.*, vol. 89, p. 237011 1-4, 2002
3. S. Sasaki, I. Yagi, and M. Murakami : "Levitation of an iron ball in midair without active control", *J. Appl. Phys.* vol. 95, no. 4, p. 2090-2093, 2004
4. M. Murakami, Y. Nishimura, T. Hirooka, S. Sasaki and I. Yagi: "Interaction of multiple iron balls in magnetic fields", *J. Appl. Phys.* vol. 97, p. 083911-1-4, 2005
5. M. Koyama, M. Murakami, K. Ogawa, T. Kikuchi, T. Swaguchi: "Influence of Al on Shape memory effect and twinning induced plasticity of Fe-Mn-Si-Al alloy", *Materials Transactions*, vol. 48, No. 10 (2007) pp2729-2734.
6. M. Murakami: "Processing and Applications of bulk RE-Ba-Cu-O superconductors", *International Journal of Applied Ceramic Technology*, vol. 4, No. 3, (2007) pp.225 -241.
7. A. Wongsatanawarid, H. Seki, M. Murakami, " Growth of large bulk Y-Ba-Cu-O with multi-seeding", *Supercond. Sci. Technol.* vol. 23 no. 4, p. 45022, (2010).
8. Y. F. Zhang, M. Izumi, M. Murakami, D. D. Wang, P. L. Li, " Enhanced J_c in air-processed $GdBa_2Cu_3O_{7-d}$ superconductor bulk grown by the additions of two Nd_2BaCuO_5 seeds, *Physica C* vol. 470 no. 20, p. 1164-1166, (2010).
9. A. Wongsatanawarid, H. Seki, S. Kobayashi, M. Murakami," Crack reduction in a large bulk Y-Ba-Cu-O superconductor through liquid binder addition", *Physica C* vol. 470 no. 20, p. 1167-1169, (2010).
10. H. Seki, A. Wongsatanawarid, S. Kobayashi, Y. Ikeda, M. Murakami," Effects of binder addition on the mechanical properties of bulk Y-Ba-Cu-O superconductors", *Physica C* vol. 470 no. 20, p. 1177-1180, (2010).

11. M. Ikeda, K. Takeda, H. Hasegawa, H. Seino, K. Nagashima, M. Murakami," Characterization of non-contact torque transfer and switching system for superconducting flywheel", *Physica C* vol. 470 no. 20, p. 1224-1226, (2010).
12. H. Kurabayashi, S. Horikoshi, A. Suzuki, M. Ikeda, A. Wongsatanawarid, H. Seki, S. Akiyama, M. Hiragushi, M. Murakami, " Interaction between ring permanent magnets and bulk Dy-Ba-Cu-O superconductors", *Physica C* vol. 470 no. 20, p. 1853-1855, (2010).
13. H. Seki, Y. Shimpo, T. Katagiri, M. Murakami," Fabrication of bulk Y-Ba-Cu-O superconductors with artificial holes through oxidation of carbon rods", *J. Phys.*, vol. 234 no. 1, p. 12037, (2010).
14. A. Wongsatanawarid, H. Seki, M. Murakami," Multi-seeding melt growth process of bulk Y-Ba-Cu-O superconductors for engineering applications", *J. Phys.*, vol. 234 no. 1, p. 12047, (2010).

Other Features:

- URL <http://moniko.s26.xrea.com>

-Materials Science and Engineering-

NODA, Kazuhiko

Field of Interest: Electrochemistry, Corrosion Science
Title of Courses: Advanced Research Program on Eco-materials Engineering
Material Chemistry
Topics for Thesis: Atmospheric Corrosion
Electrodeposition of Metal
Materials of Fuel Cell

Publications and International Conference Papers:

1. M. Itagaki, H. Araki, K. Watanabe, H. Katayama and K. Noda : Electrochemical impedance of thin rust film fabricated artificially, *Passivation of Metals and Semiconductors, and Properties of Thin Oxide Layers*, 317-323 (2006)
2. M. Itagaki, A. Ono, K. Watanabe, H. Katayama, and K. Noda : Analysis on organic film degradation by dynamic impedance measurements. *Corrosion Science*, 47, 3802-3811 (2006)
3. E. Kobayashi, M. Ogo, H. Doi, T. Yoneyama, K. Noda and T. Hanawa: Calcium Phosphate Precipitation by Galvanic Current between Titanium and Gold in Pseudo-body Fluid, *Materials Science Forum Vols. 539-543*, 653-656 (2007)
4. A.P. Yadav, H. Katayama, K. Noda, H. Masuda, A. Nishikata and T. Tsuru : Effect of Fe–Zn alloy layer on the corrosion resistance of galvanized steel in chloride containing environments, *Corrosion Science*, 49, 3716-3731 (2007)
5. A.P. Yadav, H. Katayama, K. Noda, H. Masuda, A. Nishikata and T. Tsuru : Surface potential distribution over a zinc/steel galvanic couple corroding under thin layer of electrolyte, *Electrochimica Acta*, 52, 3121-3129 (2007)
6. A.P. Yadav, H. Katayama, K. Noda, H. Masuda, A. Nishikata and T. Tsuru : Effect of Al on the galvanic ability of Zn–Al coating under thin layer of electrolyte, *Electrochimica Acta*, 52, 2411-2422 (2007)

Other Features:

-Materials Science and Engineering-

KYUNO, Kentaro

Field of Interest: Solid State Physics, Surface Science, Physics of Thin Films
Title of Courses: Advanced Research Program on Functional Devices Technology
Semiconductor Materials
Topics for Thesis: Crystallization of Amorphous Si Thin Films for Solar Cells
Crystal Growth of Ge Thin Films for Thin-Film Transistors

Publications and International Conference Papers:

1. K.Suzuki, N.Igarashi and K.Kyuno, Two-Step Forming Process in Planar-Type Cu₂O-Based Resistive Switching Devices, Applied Physics Express **4** (2011) 051801
2. N.Sasaki, K.Kita, A.Toriumi and K.Kyuno, Observation of the creation and annihilation of local current paths in HfO₂ thin films on Pt by ultrahigh-vacuum conductive atomic force microscopy : Evidence of oxygen spill over during the forming process, Japanese Journal of Applied Physics **48** (2009) 060202
3. Y.Zhao, K.Kita, K.Kyuno and A.Toriumi, Dielectric and electrical properties of amorphous La_{1-x}Ta_xO_y films as higher-k gate insulators, Journal of Applied Physics **105** (2009) 034103
4. Y.Zhao, K.Kita, K.Kyuno and A.Toriumi, Band gap enhancement and electrical properties of La₂O₃ films doped with Y₂O₃ as high-k gate insulators, Applied Physics Letters **94** (2009) 042901
5. Y.Zhao, K.Kita, K.Kyuno and A.Toriumi, Higher-k LaYOx films with strong moisture resistance, Applied Physics Letters, **89** (2006) 252905
6. K.Yamamura, K.Kita, A.Toriumi and K.Kyuno, Reversible creation and annihilation of a local leakage path in HfO₂/GeOx stacked gate dielectrics : A direct observation by ultrahigh vacuum conducting atomic force microscopy, Applied Physics Letters, **89** (2006) 222101
7. Y.Yamamoto, K.Kita, K.Kyuno and A.Toriumi, Structural and electrical properties of HfLaOx films for an amorphous high-k gate insulator, Applied Physics Letters, **89** (2006) 032903

Other Features:

Electronic Properties of Thin Films
Resistive Switching Properties of Oxide Thin Films

- Materials Science and Engineering-

AIZAWA, Tatsuhiko

Field of Interest: Manufacturing-Materials Science & Engineering
Title of Courses: Advanced Research Program on Eco-materials Engineering
Nano Structuring for Advanced Material Systems
Topics for Thesis: Sustainable Manufacturing
Nano-Columnar DLC Coating for Dry Micro-Stamping
Micro-Texturing for Medical and Bio-Engineering
Advanced Plasma Technology for Dies and Molds
Femto/Pico-Second Laser Technologies for Dies and Molds
New Carbon Technologies for Dies and Molds
Micro- and Nano-Manufacturing

Publications and International Conference Papers:

1. "Oxygen Plasma Etching of Diamond-Like Carbon Coated Mold-Die for Micro-Texturing," Surface Coatings and Technology (2012) (in press).
2. "Innovation in Mold-Die Technology toward Leading Industries in Asia," Chapter 3, Industrial Technologies for Development of Aisa. Nakanishi-Publisher. (2012) (in press).
3. "Micro-Pattern Imprinting onto Aluminum Thin Sheet by CNC-Controlled Stamping," Steel Research International Journal. (2012) (in press).
4. "Duplex coating of AISI-316 and 420 Dies for Hot Mold-Stamping," Steel Research International Journal. (2012) (in press).
5. "Micro-patterning onto diamond like carbon coating via RF-DC oxygen plasma etching", Proc. 5th SEATUC Conference (2011) 425-428
6. "Fabrication of micro-patterned optical elements by fine mold stamping", Proc. 5th SEATUC Conference (2011) 429-432.
7. "Tool life design for dry metal forming via nano-laminated DLC coating", Proc. 5th SEATUC Conference (2011) 5-8.
8. "Imprinting of patterns onto polymer and oxide-glasses", Proc. 6th ICOMM Conference (2011) 77-82.
9. "Fine micro-stamping system for micro-pattern printing onto polymers and glasses", Proc. 10th ICTP Conference (2011) 1097-1102.
10. "Dry transfer stamping by nano-laminated DLC-coated tools", Proc. 10th ICTP Conference (2011) 1103-1108.
11. "Development of precise micro press forming system for fabrication of micro parts", Proc. 10th ICTP Conference (2011) 1093-1098.

12. "Nano-laminated DLC coating for dry micro-stamping", *J. Steel Research International*. 46 (2010) 1011-1014.
13. "Dry small hole shearing of cold rolled steel sheet with electroconductive ceramic tools" *J. Steel Research International* 46 (2010) 825-828.
14. "Advancement of die and mold technologies to frontier type: Case study in oxide glass molding" *J. Planning of Research and Technology* (2010) (in press) (In Japanese).
15. "Polyhedral design of cell-structured materials for their static and dynamic mechanical responses", *Proc. 14th Int. Conf. Geometry and Graphics* (2010) 102-1 – 102-10.
16. "Electro-conductive ceramic tooling for dry deep drawing", *J. Materials Processing Technology*. 210 (2010) 48-53.
17. "Innovations in supporting industries, Discovery-learning in the glass molding for optical elements" *Proceedings of Second Symposium on Importance of Supporting Industries in Japan and Korea*. (2009, Korea) S1-S18.
18. "Solid-State Synthesis of Magnesium-Based Functional Alloys and Compounds" (2009) *TransTech Publication*.
19. "Formation of nano-columnar amorphous carbon films via electron beam irradiation" *J. Mater. Sci.* 43 (2008) 6159-6166.
20. "Nano-lamination in amorphous carbon for tailored coating in micro-dry stamping of AISI 304 stainless steel sheets" *Surface & Coating Technologies* 203 (2008)794-798.
21. "Special tooling and machining industries in Japan" *Proc. Int. Colloquium on Tooling and Manufacturing in Future*. 12 (2008) 1-14.
22. "Wave of innovations to impact supporting industries in Japan" *Proceedings of First Symposium on Importance of Supporting Industries in Japan and Korea*. (2009, Korea) 103-118.
23. "Formation of aluminum nitrides by precipitate accommodated plasma nitriding. MRS (2008) CD-ROM.
24. "Ellipsometric characterization on multi-layered thin film systems during hydrogenation" *Materials Transactions*. 48 [6] (2007) 1-7.
25. "Development of Nano-Columnar Carbon Coating for Dry Micro-Stamping" *Surface & Coating Technologies*. 202 (2007) 1177-1181
26. "Controlled elasticity in nano-structured metallic glass by ion implantation method" *Materials Science Forum*. 561-565 (2007) 1315-1318.
27. "Microstructure and elasticity of glassy alloy surface and inert ion implantation" *Materials Transactions*. 48 (2007) 627-632.
28. "Micro-dry stamping of AISI 304 stainless steel sheet by nano-laminated DLC

coated tools” Proceedings of First Asian Workshop on Nano/micro Forming Technology. (2007) 15-16.

29. “Nano-graphitization in amorphous carbon films via electron beam irradiation and the iron implantation” MRS. (2007) CD-ROM.

Other Features:

- 1) Working as a Research Professor in the University of Toronto since 2005 till now
- 2) Working as a Visiting Professor in the University of Technology in Malaysia since 2008 till now
- 3) Working as a Professor in the University of Brawijaya, Indonesia since 2011 till now

-Materials Science and Engineering-

MATSUMURA, Kazunari

Field of Interest: Biomaterials for Bio-sensing,
Bio-inspired Chemistry, Interface and Colloid science
Title of Courses: Advanced Research Program on Eco-materials Engineering
Biomaterials Science and Engineering
Topics for Thesis: Liposome-based Sensor System using Peptide Chemistry,
Micro-fabricated Bio-colloidal Array,
Ion Beam Fabrication of Molecular Imprinting Polymer

Publications and International Conference Papers:

1. “Modification of sensor surface with oligopeptide as liposome anchor for development of analytical devices based on biomembrane systems”, Kasuya, Y.; Nosaka, S.; Yamada, D.; Matsumura, K., *Peptide Science* (2010), 46th, 69-72.
2. “Grayscale Photopatterning of an Amorphous Polymer Thin Film Prepared by Photopolymerization of a Bisanthracene-Functionalized Liquid-Crystalline Monomer”, Kihara, H.; Motohashi, M.; Matsumura, K.; Yoshida, M., *Advanced Functional Materials* (2010),
3. “Fast responsive poly(N,N-diethylacrylamide) hydrogels with interconnected microspheres and bi-continuous structures”, Kishi, R.; Matsuda, A.; Miura, T.; Matsumura, K.; Iio, K., *Colloid and Polymer Science* (2009), 287(5), 505-512.
4. “Quartz crystal microbalance study of liposome adsorption to surface-bound peptides for applications in liposome-based sensor”, Kasuya, Y.; Nosaka, S.; Yamada, D.; Ikeda, Yasuyuki; Matsumura, Kazunari, *Peptide Science* (2009), 45th, 45-48.
5. “Liposome Immobilization on Peptide-modified Quartz Crystal Microbalance Electrodes for Kinetic Analysis of Interactions on Membrane Surfaces”, Kasuya Y.; Ohtaka M.; Tsukamoto K.; Ikeda Y.; Matsumura K., *Chemistry Letters* (2008), 37(6), 588-589.
6. “Preparation, Characterization and Application of Surface-Immobilized Liposomes as Nanosized Mimics of Cells”, Kasuya, Y.; Matsumura, K. *1st Russian-Japanese Young Scientists Conference on Nanomaterials and Nanotechnology, Moscow*, (2008), Oct. 6-7

Other Features:

Architecture

-Architecture-

AKAHORI, Shinobu

Field of Interest: Architecture
Title of Courses: Advanced Research Program on Regional Environmental Design
Architectural Design
Topics for Thesis: Urban Design and Cultural Patrimonies

Publications and International Conference Papers:

- S. AKAHORI, M.TORIUMI, "Urban Design in France", Syokokusya, 07/10
S. AKAHORI, "Contemporary Architecture in Luxembourg", architects 6, JIA, p20, 04/10
S. AKAHORI, "Role of Architects as a profession", architect 548, Osaka AABE, p13, 02/10
S. AKAHORI, "Promenade Plaints-Green promenade born by Train way abandoned", CHIKAI 302, 2009 summer pp18-19
S. AKAHORI, M.TORIUMI, "Projets Urbains Français 6 Lyon", Shinkenchiiku 0904, pp195-198, 03/09
S. AKAHORI, M.TORIUMI, "Projets Urbains Français 5 Bordeaux The public space by light and plantations", Shinkenchiiku 0903, pp215-218, 02/09
S. AKAHORI, M.TORIUMI, "Projets Urbains Français 4 La Defense to offense", Shinkenchiiku 0902, pp201-204, 01/09
S. AKAHORI, M.TORIUMI, "Projets Urbains Français 3 Nantes", Shinkenchiiku 0901, pp182-185, 12/08
S.AKAHORI, M.TORIUMI, "Projets Urbains Français 2 Paris after Grand Projets", Shinkenchiiku 0812, pp210-213, 11/08
S. AKAHORI, M.TORIUMI, "Projets Urbains Français 1 Euralille 20 years after", Shinkenchiiku 0811, pp178-183, 12/08
S. AKAHORI, "La Defense", architects 5, JIA, p19, 06/08
S. AKAHORI, "Construction a school in DJIBOUTI", SFJTI tome 54 no 1, pp.40-43,05/08
H. HATTORI, S.AKAHORI, "The insurance of architect", Nikkankogyo journal, pp.107-112, 10/07
S. AKAHORI, Architectural education and qualification in France, Symposium, Architectural Institute of Japan, 2006
S. AKAHORI, Institut franco-Japonais du Kansai, Selection of JIA 2005, 2005
S.AKAHORI, Institute Franco-Japanese, Architecture ASIA, new heritage, a journal of the architects regional council Asia (ARCASIA) p48-49, may 2005
S. AKAHORI, Renovation and re-structure, Institute Franco-Japanese of Kansai, Symposium franco-japonais sur les cites du futur 2003, 2004
YAHAGI Kijyuro, S.AKAHORI, M. KANO, "Giuseppe TERRAGNI", A de S PUBLISHING INC., 1998
S. AKAHORI, Spatial interpenetration in Modernism and Material as appearance, JA Modern Houses II, p6-7, 04/98

S.AKAHORI, Architecture française, SHINKENCHIKU (Japon) (l'exercice

professionnelle en France, conditions de production d'un projet, relation architecte / maîtrise d'ouvrage public ou privé) 06/91

S. AKAHORI, Fragments de la ville (Paris. mémoire de la ville) Signe de B (Japon) 07/92

S. AKAHORI, L'école d'architecture Paris-Belleville KENCHIKUBUNKA (Japan) 12/93 (série d'interviews des différents enseignants de cette école avec présentation de projets d'étudiants et de réalisations d'anciens étudiants)

S. AKAHORI, Les conditions économiques de la construction en France, JIA NEWS (Japon) 08/94

S. AKAHORI, L'architecture contemporaine en France, Journal of Architecture and Building Sciences 04/94

Other Features:

EXPOSITIONS;

“Parallel NIPPON -japanese architecture 1996-2006-”, Tokyo Metropolitan Museum of Photographie (2006), “Scénographies d’architectes”, Pavillon de l’Arsenal in Paris (2006), “Progrès”, Japan Institute of Architects in Tokyo (2004), “Huit architectes français et Willem”, in Berlin (1998), “EURALILLE Poser, exposer” à Lille (1995), à Wienne (1996), “ARCHITECTURE PUBLIQUES 1989-1995”, Communes de l’Ain (1995), Pavillon de l’Arsenal (1992), Salon d’automne au Grand Palais (1992), Galerie Axis à Tokyo (1991), ‘Médiathèque’ Centre G. Pompidou à Paris (1988), GaJede Bernanos à Paris (1986), Bunka Gakun à Tokyo (1983)

PROJECTS ;

Guide d’architecture de la METROPOLE LILLOISE, Le passage, 2004

Patrimoine industriel et urbanisme, Le site de Philidor-Maraîchers, SEDP, 2003

Profil, at (Japon) 04/91

Concours de l’école maternelle et halte-garderie, Le Moniteur Architecture AMC 02/91

Stand du moniteur architecture, Le Moniteur Architecture AMC 12/90

Prix Cogedim 1990 de la première oeuvre, Le Moniteur Architecture AMC 11/90

Projet d’une médiathèque, D’A 09/90

Profils Les élus 1989, Le Moniteur Architecture AMC 03/90

Projet d’une école de danse, Cahier de Pavillon de l’Arsenal 12/89

REALISATIONS;

Lycée Français International de Tokyo, 2012

IT House, 2009

Scénographie de l’exposition “Road of Koreans messengers”, AIJ, 2007

Scénographie de l’exposition “Parallel NIPPON-japanese architecture 1996-2006-”, Tokyo Metropolitan Museum of Photographie, Tokyo, 2006

Scénographie de l’exposition “Homme et Robots”, Maison du Japon à Paris, 2003

Rénovation de l’Institut franco-japonais du Kansai à Kyoto, 2003

Rénovation d’une crèche à Paris 12ème, Le Moniteur, 1998

Groupe Scolaire International à EURALILLE, Le Moniteur Architecture AMC, 10/95, 09/96, Le Moniteur, SHINKENCHIKU (Japan) 01/97, THE JAPAN ARCHITECT (JA) 01/98, The Architectural Review (England) 09/97, Journal of Architecture and Building Science Special Issue, AIJ 1998

Ecole maternelle et halte-garderie à Divonne, Le Moniteur Architecture AMC (France), 03/93, 12/93, SHINKENCHIKU, 02/94, THE JAPAN ARCHITECT (JA), 01/95, Le Moniteur Architecture AMC 1985-1995 CD-ROM

-Architecture-

ITO, Yoko W.

Field of Interest: Architectural History, Urban History
Preservation engineering of Cultural Properties

Title of Courses: Advanced Research Program on Regional Environmental Design
History of Architecture

Topics for Thesis: Reconstruction of Historical Architecture
Preservation and Renovation for Cultural Properties
Design Survey for World Heritage Proposals
Experimental Verification Comparing Virtual and Real Spaces
Trials for Reconstruction Design Methods using VR spaces

Publications and International Conference Papers:

1. Yoko Watanabe, Masahiko Hara, Yuta Ichinose, Yusuke Isomata, Masakazu Tamano, Hoko Miwa, Satoshi Yoshikawa: A Study on the Tokuma Katayama Archives -Design Characteristics of the Leading Architect in the Japanese Modernization Period- 6th SEATUC Symposium CDR 03-30-104 2012.3
2. M.Ohkura , M.Konuma, Y.Kogure, S.Tanaka, H. Ei, A.Sakai, T.Ishidou, and Y.W.Ito, Restoration Support System for a Historic Textile Market Using Virtual Environment Proceedings of the 14th International Conference on Human-Computer Interaction, pp.413-422, Orlando (2011)
3. H.Miwa, M.Kido, Y.Watanabe, and T.Ishidou: A Study on the Age Determination of Architectural Remains 5th SEATUC Symposium pp.292-295 (2011)
4. H.Ito, H.Sasayama, Y.W.Ito "A Study on Restoration of Site of Barrier and Formative Process of *Kamiashigawa* Settlement", Journal of Architecture, Planning and Environmental Engineering No. 656 (2010)
5. M.Itoh, H.Mieno, T.Fujinuma, M.Ohkura, and Y.W.Ito " Method to Support Restoration and Reconstruction of Historical Buildings using Virtual Environment -Study on Theater Interior through Impression Estimation- ", Journal of Japan Society of Kansei Engineering Vol.9, No.2 pp.161-170 (2010)
6. E.Matsuo, H.Ito, F.Nishino, Y.W.Ito, H.Sasayama "A Study on Village Forming Process of Kamiashigawa in Fuefuki City, Yamanashi Prefecture- Reconstruction from Historical Pictures and Documents-" Summaries of technical papers of Annual Meeting Architectural Institute of Japan F-2, pp. 399-400 (2009)
7. H.Sasayama, S.Yoshioka, K.Yasuhara, Y.Nishiguchi, Y.Hirade, H.Ito, Y.W.Ito, K.Sugiyama "A Research on Traditional Thatched Roof Minka of Ashigawa in Fuefuki City, Yamanashi Prefecture" part1-part3 Summaries of technical papers of Annual Meeting Architectural Institute of Japan F-2, pp. 95-100 (2008)

8. A.Komatsu, Y.W.Ito, K.Kimoto "Technical Support to Overseas Building Project from Japan –Case Study on British Overseas Territory Montserrat" Summaries of technical papers of Annual Meeting Architectural Institute of Japan F-1, pp. 1151-1152 (2008)
9. Y.W.Ito et al. "History of Yamanashi Prefecture ", Volume of Medieval Chronology (2007)
10. S.Yamamoto, Y.W.Ito "A Survey of Iwatsuki Ward for Urban Revitalization on historical town dwelling along Nikko-Onari Highway" Summaries of technical papers of Annual Meeting Architectural Institute of Japan F-2, pp. 473-474 (2007)
11. T.Ishido, M.Ohkura, Y.W.Ito " Experiment on maze space –Comparison between real space and VR space", Summaries of technical papers of Annual Meeting Architectural Institute of Japan E-1, pp. 843-844 (2007)
12. M.Ohkura, Y.Komatsu, Y.Shimada, T.Shibata, S.Nakayama, T.Aoto, Y.W.Ito"Comparison of the Impression of Spaces in Inclined Projection System –The Difference of the Experimental Results Between Virtual Environment and Real Environment - ", Journal of Japan Society of Kansei Engineering Vol.6, No.2 (014) (2006)
13. R.Teramoto, M.Kido, Y.W.Ito “On architectural design-methods from the view-point of Matsuki Archives No.1 : Unshirou Matsuki”Summaries of technical papers of Annual Meeting Architectural Institute of Japan F-2, pp.67-68 (2006)
14. M.Kido, R.Teramoto, Y.W.Ito “On architectural design-methods from the view-point of Matsuki Archives No.2 : Terushige Matsuki”Summaries of technical papers of Annual Meeting Architectural Institute of Japan F-2, pp.69-70 (2006)
15. Y.W.Ito et al. "Society and Culture of Medieval Kai", Iwata Shoin Publication Inc. (2005)
16. M.Ohkura Y.Komatsu, Y.Shimada, T.Shibata, S.Nakayama, and Y.W.Ito "Comparison of the impression of the space between virtual environment and real environment", Proceeding of the 11th International Conference on Human-Computer Interaction, Las Vegas (2005)
17. Y.W.Ito et al. "History of Yamanashi City", Volume of Cultural Properties and Religious Architecture (2005)
18. Y.W.Ito et al. "Fine Art, Architecture, Castles in Kai", Iwata Shoin Publication Inc. (2002)
19. Y.W.Ito, H.Ito "A Study on Transition of Rows of Town Houses and their Types in Daigahara along the Old Route of Koshu-Kaido", Journal of Architecture, Planning and Environmental Engineering No. 549 pp.253~261(2001)
20. Y.W.Ito et al. "History of Yamanashi Prefecture ", Volume of Cultural Properties (1999)
21. Y.W.Ito "On Shichimendo-Halls Built in Villages In Minami-Koma County of Yamanashi Prefecture", Journal of Architecture, Planning and Environmental Engineering No.495 pp.223~230 (1997)
22. Y.W.Ito et al. "Encyclopedia of Timber Architecture", Gakugei Shuppan Publication Inc. (1995)

Other Features:

-Architecture-

MURAKAMI, Kimiya

Field of Interest: Building Environmental Engineering
Title of Courses: Advanced Research Program on Regional Environmental Design
Research of Building and Community System
Topics for Thesis: Evaluation Method of Efficiency of Heat Source System

Publications and International Conference Papers:

1. Kimiya Murakami, Ryosuke Okada,” Study on the Proper Evaluation of the Efficiency of DHC Systems”, Technical Papers of The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan, 2010(in Japanese)
2. Shohei Ogata, Ryosuke Okada, Kimiya Murakami,” Study on the Energy-Saving Effect of the Heat Source Water Supply Network Using Reclaimed Water Constructed in an Existing Urban Area”, Technical Papers of The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan, 2010(in Japanese)
3. Ryosuke Okada, Kimiya Murakami, Toshihiko SUDO, Akira Okagaki, “ Investigation of Cooling and Heating Load in Large-scale Office Buildings Part.1 Investigation Outline and Characteristic of Annual Cooling and Heating Load”, Technical Papers of The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan, 2010(in Japanese)
4. Toshihiko SUDO, Ryosuke Okada, Kimiya Murakami, Akira Okagaki, “ Investigation of Cooling and Heating Load in Large-scale Office Buildings Part.2 Basic unit analysis cooling and heating load of real buildings and applicability simulation of heat source system”, Technical Papers of The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan, 2010(in Japanese)
5. Ryosuke Okada, Kimiya Murakami,” Study on the Proper Evaluation of the Efficiency of DHC Plants which utilize Cogeneration”, Technical Papers of The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan, 2009(in Japanese)
6. Tomoaki Kobayakawa, Kimiya Murakami,” Study on Heat Source Water Supply Network as New City’s Infrastructure for Energy Supply Part 1: Proposal of Heat Source Water Supply Network and Case Study Models”, Technical Papers of The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan, 2009(in Japanese)

7. Shinta Tanabe, Kimiya Murakami," Study on Heat Source Water Supply Network as New City's Infrastructure for Energy Supply Part 2; Verification of the Effect in Sewerage Compound Maintenance Type Models", Technical Papers of The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan, 2009(in Japanese)
8. Yukihide Kobayashi, Kimiya Murakami," Study on Evaluation Method for Energy Efficiency of Energy Systems Part4 ; Evaluation Method for Energy Systems with Waste Energy", Technical Papers of The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan, 2008(in Japanese)
9. Hirokazu Enomoto, Naoko Kawashima, Kimiya Murakami,"Study on Evaluation Method of Efficiency of Cogeneration-Part1:Arrangement of Object Range of Evaluation and Quality Index for Each Case", Technical Papers of The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan, 2007(in Japanese)
10. Naoko Kawashima, Hirokazu Enomoto, Kimiya Murakami,"Study on Evaluation Method of Efficiency of Cogeneration-Part2: Total Power and Heat Efficiency Equivalent to Power Output of CGU or CGS", Technical Papers of The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan, 2007(in Japanese)
11. Kimiya Murakami, Naoko Kawashima, Hirokazu Enomoto, "Study on Evaluation Method of Efficiency of Cogeneration-Part3: The Primary Energy Conversion Method of Electric Power and Waste Heat from CGU, and Influence which the Application has on the Efficiency of Heat Source Systems", Technical Papers of The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan, 2007(in Japanese)
12. Kimiya Murakami, "Study on Evaluation of Combined Heat and Power System-Part4 : Evaluation index of Unit of Combined Heat and Power System-", Summaries of Technical Papers of Annual Meeting Architectural Institute of Japan,2006.(in Japanese)
13. Kimiya Murakami, "Study on Regional Energy Supply System by Cooperation with Public Micro Grid", Summaries of Technical Papers of Annual Meeting Architectural Institute of Japan, 2005. (in Japanese)
14. Kimiya Murakami, "Study on Best Mix of Intensive Mode Power Source and Distributed Power Source in Urban Energy System", Summaries of Technical Papers of Annual Meeting Architectural Institute of Japan, 2005. (in Japanese)
15. Kimiya Murakami, "Study on Steam Pipeline Networking in District Heating and Cooling System", Summaries of Technical Papers of Annual Meeting Architectural Institute of Japan, 2005. (in Japanese)

Other Features:

-Architecture-

AKIMOTO, Takashi

Field of Interest: Thermal Comfort, HVAC, LCA, Environmental Design
Title of Courses: Advanced Research Program on Regional Environmental Design
Building Environmental Engineering
Topics for Thesis: Thermal Comfort and Productivity, Task/Ambient Conditioning System,
Assessment System of Buildings

Publications and International Conference Papers:

1. H. Kubo, S. Tanabe, T. Yokoyama, T. Omori, N. Ohira, R. Tominaga, T. Akimoto, Predictive Model of Thermal Sensation for Heating Systems Considering Contact with the Floor, Healthy Buildings 2012, 10th International conference, (Brisbane, Australia), 2012.7
2. J. Kubota, T. Akimoto, T. Chikamoto, S. Hashimoto, A. Nishino, Investigation of Thermal Comfort Model using Optimum Control of Local Air Velocity, Healthy Buildings 2012, 10th International conference, (Brisbane, Australia), 2012.7
3. T. Kanda, T. Akimoto, K. Kanou, S. Tazawa, Y. Kawaraguchi, Indoor Thermal Environment and Energy Saving by reducing Heating/Cooling Capacity of Air Conditioner at Home, Healthy Buildings 2012, 10th International conference, (Brisbane, Australia), 2012.7
4. Y. Kawano, T. Akimoto, Comfortable Bedroom controlled by Mechanical Air Conditioner and Natural Ventilation, Healthy Buildings 2012, 10th International conference, (Brisbane, Australia), 2012.7
5. T. Akimoto, Y. Watanuki, F. Kimura, and K. Nakajima, Natural Ventilation Effects for Environmentally Symbiotic House with Double Layer Veranda in Summer, Healthy Buildings 2012, 10th International conference, (Brisbane, Australia), 2012.7
6. T. Akimoto, H. Ohta, S. Hashimoto, A. Nishino, T. Chikamoto, and S. Nakamura, Thermal Comfort in Transitional Metabolism based on Subjective Experiments with Ceiling Supply Task Conditioning System, INDOOR AIR 2011, The 12th International Conference on Indoor Air Quality and Climate, (Austin, Texas), 2011.6
7. K. Mori, T. Akimoto, T. Nagai, and K. Emoto, Consideration by Field Survey of Consumption and Computerized Simulation in Apartment House with Gas Hot Water Floor Heating, INDOOR AIR 2011, The 12th International Conference on Indoor Air Quality and Climate, (Austin, Texas), 2011.6
8. Y. Watanuki and T. Akimoto, Verification of Renewal Actions in Long-Life Office Building by CASBEE, INDOOR AIR 2011, The 12th International Conference on Indoor Air Quality and Climate, (Austin, Texas), 2011.6
9. T. Akimoto, M. Yamamoto, M. Sasaki, and S. Tanabe, Field survey of workers' communication and knowledge-creativity in an office for intellectual creative work, CLIMA 2010, The 10th REHVA WORLD CONGRESS "Sustainable Energy Use in Buildings", (Antalya, Turkey), 2010.5

10. M.Sasaki, T.Yanai, T.Akimoto, and S.Tanabe, Evaluation of work place environment and energy consumption in office for creative work, CLIMA 2010, The 10th REHVA WORLD CONGRESS "Sustainable Energy Use in Buildings", (Antalya,Turkey), 2010.5
11. R. Ishiguro, T.Chikamoto, S. Fukuda, S. Hashimoto, R. Inada, A. Nishino and T. Akimoto, Airflow control for personal air-conditioning and unoccupied zone by multi-flow ceiling cassette type packaged air-conditioner, CLIMA 2010, The 10th REHVA WORLD CONGRESS "Sustainable Energy Use in Buildings", (Antalya,Turkey), 2010.5
12. H. Ohta, T. Akimoto, S. Hashimoto, A. Nishino, R. Inada, T. Chikamoto and S. Nakamura, Environmental selection option effects of ceiling supply task conditioning system, CLIMA 2010, The 10th REHVA WORLD CONGRESS "Sustainable Energy Use in Buildings", (Antalya,Turkey), 2010.5
13. R. Kuzuki, M. Satoh, T. Akimoto, S. Murakami, H. Ishino, K. Sasajima, F. Nohara, H. Ninomiya, Y. Tabata, Integrated Energy Simulation for Building and MEP Systems Including Thermal Cascading in Consideration of the Characteristics of Thermal Energy Media, CLIMA 2010, The 10th REHVA WORLD CONGRESS "Sustainable Energy Use in Buildings", (Antalya,Turkey), 2010.
14. T. Akimoto, S. Tanabe, T. Yanai, and M. Sasaki, Thermal Comfort and Productivity – Evaluation of Workplace Environment in a Task Conditioned Office, Building and Environment, Volume 45, Issue 1, 2010.1
15. S. Nakamura, T. Akimoto, and N. Miura, Floor-Supply Displacement Air-conditioning System applied for Office Space faced to Void - Laboratory Experiment and CFD Analysis based on the Experimental Results-, ROOMVENT 2009, (Busan, Korea), 2009.5
16. K. Emoto, S. Kagiya, K. Matsumae, T. Akimoto, Y. Kuwasawa, and K.Emura, Effects of Heat Loss Coefficient of Enclosures on Thermal Comfort, ROOMVENT 2009, (Busan, Korea), 2009.5
17. T. Akimoto, Designing an Assessment System of Buildings for All Lifecycle Stages based on the Concept of Eco-efficiency, 2nd International Conference on Build Environment in Developing Countries 2008, Sustainable Build Environment: Bridging Theory and Practice, ICBEDC 2008, (Penang, Malaysia), 2008.12
18. T. Akimoto, S. Kagiya, K. Matsumae, and Y. Kuwasawa, Contact Area and Heat Transfer of Subject with Heated Floor, Advanced Building Ventilation and Environmental Technology for Addressing Climate Change Issues, The 29th AIVC Conference in 2008 (Kyoto, Japan), 2008.10
19. T. Yanai, M. Sasaki, and T. Akimoto, The Evaluation of Thermal Performance in the Sustainable Office Building with Environmental Adjustable System, the 2008 World Sustainable Building Conference, World SB08 (Melbourne, Australia), 2008.9
20. T. Akimoto, S. Murakami, T. Ikaga, T. Seike, K. Iwamura, and T. Hayashi, Case Studies of Comprehensive Assessment System for Building Environment Efficiency (CASBEE) for Home, the 2008 World Sustainable Building Conference, World SB08 (Melbourne, Australia), 2008.9
21. T. Akimoto, S. Kagiya, K. Matsumae, and Y. Kuwasawa, Evaluation of Thermal Comfort for Various Heating Systems, The 11th International Conference on Indoor Air Quality and Climate, Indoor Air 2008 (Copenhagen, Denmark), 2008.8
22. T. Akimoto, Thermal Comfort and Productivity – Evaluation of Workplace Environment, International Symposium on the Interaction between Human and Building Environment (Seoul, Korea), 2008.7

-Architecture-

MIURA, Masao

Field of Interest: Urban Environment, Building Environment and Architecture
Title of Courses: Advanced Research Program on Regional Environmental Design
Urban Environment Systems
Topics for Thesis: Study on Theories and Methods for Urban Environment
Improvement

Publications and International Conference Papers:

1. Abdul Azeez Kadar Hamsa, Masao Miura, Shuhei Inokuma and Yosuke Nishimura, Perception Analysis of Living Environment at Taman Melati Residential Areas, Journal of Design and Built Environment (An International Refereed Journal Published by Faculty of Built Environment, University of Malaya), Vol. 7, pp.1-13, 2010
2. Abdul Azeez Kadar Hamsa, Masao Miura, Osamu Sakurai and Sohei Seki, Analysis of Streetlight Illuminance in Residential Areas in Kuala Lumpur, Journal of Asian Architecture and Building Engineering (JAABE), Vol.8, No.2, 547-554, 2009
3. Tetsu Kubota, Masao Miura, Yoshihide Tominaga, Akashi Mochida, Wind tunnel tests on the relationship between building density and pedestrian-level wind velocity: Development of guidelines for realizing acceptable wind environment in residential neighborhoods, Building and Environment (The International Journal of Building Science and its Applications), Vol.43, pp.1699-1708, 2008
4. Abdul Azeez Kadar Hamsa, Masao Miura, Shuhei Inokuma and Yosuke Nishimura, Evaluating the Living Environment in Residential Areas at Taman Melati, Kuala Lumpur, Journal of Asian Architecture and Building Engineering (JAABE), Vol.5, No.2, 377-384, 2006

Other Features:

-Architecture-

SHINOZAKI, Michihiko

Field of Interest: Design Science in Architecture and Urban Studies
Title of Courses: Advanced Research Program on Regional Environmental Design
Environmental Design
Topics for Thesis: Sustainable Urban Design in Asian Cities,
Visual Landscape Assessment,
Design Computing in Urban Morphological Study

Publications and International Conference Papers:

1. Aswin I., Shinozaki, M., "Computational Models for Measuring Spatial Quality of Interior Design in Virtual Environment", *Building and Environment*, Vol. 49, pp67-85, 2012.3 Elsevier
2. Aswin I., Shinozaki, M., "Elaboration Model for Mapping Architectural Space", *Journal of Asian Architecture and Building Engineering*, Vol.10, No.2, 2011.11 (accepted)
3. Saito K., Ismail S., Mohd Hisyam R., Shinozaki M., "Quantitative Study of Relationship Between Urban Structure and Ambient Microclimate in new Developed Housing Areas – Environmental-Friendly Housing Area Design Methods in Tropic Southeast Asia Part 1", *Journal of Architecture, Planning and Environmental Engineering*, Architectural Institute of Japan, No.603, pp. 1155-1162, 2011.6 (in Japanese)
4. Akbar A., Shinozaki, M., "The Barrier of Innovation Adoption on Urban Household Sanitation in Indonesia", *International Journals of Engineering & Sciences*, Vol.11, Issue 1, 2011.2
5. Gero J.S. Ed., Aswin I., Shinozaki, M., "Approximate Enclosed Space Using Virtual Agent", *Design Computing and Cognition '10*, Springer, pp.285-303, 2011.1
6. Aswin I., Shinozaki, M., "Experimental and Computation Method on Personality Impact in Architectural Design", *ACADIA 2010 Conference*, 2010.10
7. Mohd Hisyam R., Shinozaki, M., "Physical Environment and Needs of Community in High Tech Park development: Case Studies of Cyberjaya, Malaysia and Tsukuba Science City, Japan", *International Society of Habitat Engineering, Journal of Habitat Engineering*, Vol.1, No.1, pp.249-262, 2010.3
8. Mohd. Hisyam, R., Shinozaki, M., "High Tech Parks: The Built Environment, Sustainability and Their Place Making. A Comparative Case Study between Cyberjaya in Malaysia and Tsukuba Science City in Japan", *XXVI IASP World Conference on Science and Technology Parks*, Raleigh, 2009.6
9. Aswin I., Shinozaki, M., "The Investigation on Using Unity3D Game Engine in Urban Design Study", *ITB Journal of Information and Communication Technology*, Vol. 3C No.1, pp.1-18, 2009
10. Aswin, I., Shinozaki, M., "New Framework of Behavioral-based Simulation for Spatial Design Assessment", *11th International Conference on Computers in Urban Planning and Urban Management*, Hong Kong, 2009.6
11. Nafisa, H., Shinozaki, M., "Landscape Visual Classification Using Land Use and Contour Data for Tourism and Planning Decision Making in Cameron Highlands District", *World Congress on Science, Engineering and Technology*, Paris, 2009.6
12. Saito, K., Shinozaki, M., "Urban Landscape Visualization and Analysis for Buildings Skyline Study using 3D GIS Technology", *The 12th International Conference of Computer on Civil and*

- Building Engineering*, Proceedings (Ref. No. 396), Beijing, 2008.12
13. Nafisa, H., Shinozaki, M., "The Understanding of Landscape Pattern for Regional Conservation Planning, Case Study: Hiki Gun, Saitama", *Asia GIS 2008*, Proceedings, Busan, 2008.9
 14. Aswin, I., Shinozaki, M., "Constructing Virtual Urban Environment Using Game Technology, A Case Study of Tokyo Yaesu Downtown Development Plan" *26th eCAADe Conference*, Proceedings ISBN 978-0-9541183-7-2, pp.359-366, Antwerpen, 2008 .9
 15. Mohd. Hisyam, R., Shinozaki, M., "Sustainable Development: A Lesson From High Tech Parks and Case Study of Cyberjaya, Malaysia", *Hawaii International Conference for Social Sciences*, Proceedings, Hawaii, 2008.6
 16. Shinozaki, M., "Virtual 3D Models in Urban Design", *Virtual Geographic Environment 2008*, Hong Kong, 2008.1
 17. Mohd. Hisyam, R. and Shinozaki, M., "High Tech Parks: Industrial Garden Complexes", *International Conference on Built Environment in Developing Country*, Proceedings, Penang, 2007.12
 18. Saito, K., Shinozaki, M. and Hitaka, K., "A Technological Study of Multiple Application as Common Platform for Time-Space Data Using Google Earth", *Journal of Architecture and Building Science*, Architectural Institute of Japan, Vol.13, No.25, pp.317-320, ISSN:13419463, 2007.6 (in Japanese)
 19. Shinozaki, M., Saito, K. and Hitaka, K., "Digital Platform for Collaborative Urban Landscape Design using Google Earth", *REAL CORP 007*, Proceedings, ISBN:978-39502139-2-8 (CD-ROM); ISBN:978-39502139-3-5, Vienna, 2007.5
 20. Shinozaki, M., Saito, K. and Hitaka, K., "Virtual Fukuoka", *The 1st SEATUC Symposium Proceedings*, South East Asia Technical University Consortium, Bangkok, 2007.2
 21. Saito, K., Shinozaki, M. and Kuwata, H., "Performance-oriented bulk control system for securing minimum daylight access to the possible adjacent buildings Part2", *Journal of Architecture, Planning and Environmental Engineering*, Architectural Institute of Japan, No.611, 2007.1 (in Japanese)
 22. Saito, K., Shinozaki, M. and Chiba, S., "Development of user participation based Communication tools for revitalization of local communities using Mapserver" , *FOSS4G2006 Free and Open Source Software for Geoinformatics*, Lausanne, 2006.9
 23. Shinozaki, M., Kuwata, H. and Saito, K., "Performance-oriented bulk control system for securing minimum daylight access to the possible adjacent buildings Part1", *Journal of Architecture, Planning and Environmental Engineering*, Architectural Institute of Japan, No.603, 2006.5 (in Japanese)
 24. Saito, K., Chiba, S. and Shinozaki, M., "Development of GIS Educational Tools for Urban Planning Using Free and Open Source Software", *The 8th International Congress of APSA, Asian Planning Schools Association*, Penang, 2005.9
 25. Saito, K., Shinozaki, M., "Web-based Daylight Simulator for Assessment of Sustainable Urban Planning – Assessment of Sustainable City and Built Environment" *The 7th International Congress of APSA, Asian Planning Schools Association*, Hanoi, 2003.9
 26. Shinozaki, M. "Study on Daylight Energy and Sky factor as Environmental Indicators for making New Urban Form", CIB W101 Tokyo Conference, *International Council for Research and Innovation in Building and Construction*, Tokyo, 2002.9

Other Features:

Deputy Chair, City Planning Council, Koto Ward, Tokyo
 Deputy Chair, Landscape Design Committee, Kazusa Academia Park, Chiba Pref.
 Director, Urban Simulation Lab., Tokyo
 Member, Urban Design Council, Sumida Ward, Tokyo
 Member, Environmental Impact Assessment Council, Saitama City
 Member, Committee for CASBEE/Urban Development, Institute for Building Environment and Energy Conservation

-Architecture-

MINAMI, Kazunobu Ph.D (University of Tokyo), S.M.Arch (MIT)

Field of Interest: Architectural Design Theory and Method
Title of Courses: Advanced Research Program on Regional Environmental Design
Architectural Planning
Topics for Thesis: Study on Long-Term Occupancy Records of Public Housing

Publications and International Conference Papers:

1. THE NEW JAPANESE HOUSING POLICY AND RESEARCH AND DEVELOPMENT TO PROMOTE THE LONGER LIFE OF HOUSING, Kazunobu Minami, CIB W104 16th International Conference: OPEN AND SUSTAINABLE BUILDING, pp.65-72, Open and Sustainable Building, May 17-19, 2010, Bilbao, Spain
2. THE NEW JAPANESE HOUSING LAW TO PROMOTE THE LONGER LIFE OF HOUSING AND EXAMPLE OF CHANGES IN THE LAYOUT OF PUBLIC HOUSING OVER 40 YEARS IN JAPAN, Kazunobu Minami, CHANGING ROLES; New Roles, New Challenges, pp.449-455, October 2009, The Netherlands
3. An education of the urban tissue design studio to reorganize the urban environments in downtown Tokyo –A case study of the Shimbashi areas of Tokyo –, Kazunobu MINAMI, pp.91-95, EDUCATION FOR AN OPEN ARCHITECTURE Proceedings of the Joint Conference of CIB W104 and W110, October 20-22, 2008, College of Architecture and Planning Ball State University Muncie, Indiana
4. A Study of the Urban Tissue Design for Reorganizing Urban Environments -A Case Study of the Shimbashi Areas of Tokyo, Kazunobu MINAMI, Building Stock Activation 2007, November 2007
5. A Post-Occupancy Evaluation of Layout Changes Made to KEP Adaptable Housing, Kazunobu Minami, Journal of Asian Architecture and Building Engineering, vol.6, No.2 November 2007, pp.369–373
6. A Study on the Continuous Customization of an adaptable housing by KEP System, Kazunobu Minami, Adaptables2006, TU/e, International Conference On Adaptable Building Structures, July,2006,Vol.1, PP.2-101~106
7. Regeneration of City Space Based on the Continuity of Orders, Kazunobu Minami, Journal of Asian Architecture and Building Engineering, pp.369–373,November 2005
8. Continuity and Regeneration of the Orders in City Space, Kazunobu Minami, Proceedings of the Tenth International Conference on Open Building and Sustainable Development, Tenth International Conference of CIB W104, September 2004, Paris

9. Whole life appraisal of repair and improvement work costs of post office buildings in Japan, Kazunobu Minami, Construction Management and Economics, volume 22, number 3, pp313-318, Spon Press, the United Kingdom, March 2004
10. Whole Life Cost of Post Offices Based on a Survey of Actual Conditions and Consideration of Investment Correction, Kazunobu Minami, Journal of Facilities Management, Vol. 2 Number 4 2004, Henry Stewart Publications, London, pp382-407
11. Repair and Improvement Work of Post Office Buildings and Reduction of Overall Investment Costs by Lengthening the Life of the Buildings, Kazunobu Minami, The Journal of Asian Architecture and Building Engineering vol. 2, no.1 May 2003
12. Repair and Improvement Work of Post Office Buildings and Reduction of Overall Investment Costs by Lengthening the Life of the Buildings, Kazunobu Minami, The Journal of Asian Architecture and Building Engineering, Vol. 2, No.1, May 2003
13. Research into Repair and Improvement Work of Post Office Buildings by Surveying and Monitoring, Kazunobu Minami, Journal of Architecture and Planning (Transactions of AIJ), Vol. 565, pp.269-275、 2003.3
14. Estimation of Whole Life Cost of Post Offices Based on a Survey of Actual Conditions and Consideration of Investment Correction, Kazunobu Minami, Journal of Architecture and Planning (Transactions of AIJ), Vol. 565, pp. 277-284、 2003.3
15. Building a Sustainable “Relationship between Urban Tissue and Buildings” , Kazunobu Minami, Open House International, vol27、 No2、 69—75、 2002.6
16. Open Building in the Netherlands· an evaluation, Kazunobu Minami, Open House International, vol26、 No4、 59-66、 2001.12

Other Features:

Member: Science Council of Japan, Architectural Institute of Japan, CIB, DOCOMOMO International

Awards

- 1986 Tucker-Voss Awards, Department of Architecture, School of Architecture and Planning, Massachusetts Institute of Technology
- 2000 Chiba Prefecture Architecture and Culture Award
- 2001 International Illumination Design Awards, Edwin F. Guth Award for Interior Lighting Design, Special Citation for Innovative Use of Emerging Lamp Technology
- 2004 Best paper Award, Paper Competition on the Development and Control of City Architecture, The Architectural Institute of Japan
- 2005 Award for the Distinguished Activity of Arts, The City of Aomori

-Architecture-

NAKAMURA, Hitoshi

Field of Interest: **Urban Planning and Design, Disaster Risk Management**
Title of Courses: **Advanced Research Program on Regional Environmental Design
City Planning**
Topics for Thesis: **Comparison of the community-based recovery processes from the
3.11 earthquake disaster
Reevaluations of the seismic resilience of the densely built-up
areas to define new measures for earthquake risk reduction
Evaluating the community-based environmental improvement
activities in the densely built-up areas
Land use planning and environmental design for adapting to the
global climate change
Relationship between "Flood maps" and land use measures
Evaluating the community-based collaborative activities against
mega flood hazards in the urban areas
Biodiversity-friendly spatial planning for disaster mitigation
Development of pre-disaster image training programs for post-
disaster urban recovery
Development of the geospatial disaster management mash-up
system
Inductive development of new urban planning theory on city
diversity and resilience**

Publications and International Conference Papers:

1. Nakamura H., Shiozaki Y. and Kato T. (2012). A preliminary survey of flood map types in Europe, Institute of Industrial Science, the University of Tokyo, SEISAN-KENKYU 64(4): 461-463
2. Nakamura, H. (2012). Urban planning system and machizukuri in Tokyo, Center for Sustainable Urban Regeneration, The University of Tokyo, SUR 23: 66-71
3. Nakamura H. and Yamamoto T. (2012). The distance between the outer walls along narrow roads in Kyojima, Tokyo, Proceedings of the 9th International Symposium on Architectural Interchanges in Asia (ISAIA 2012): G5-7
4. Hori, H., Nakamura, H. and Kato, T. (2012). The damages of land liquefaction by the 3.11 Eastern: Japan Great Earthquake Disaster and public financial support in Ibaraki prefecture, Japan, Proceedings of the 15th World Conference on Earthquake Engineering

5. Nakamura, H. and Hino, K. (2011). The Great East Japan Earthquake: Features of the Damage and Reconstruction Efforts, the City Planning Institute of Japan, CPIJ Newsletter 35: 7-16
6. Nakamura, H. (2008). “The incremental improvement of the area densely built-up with old wooden houses in Tokyo”, Vulnerable Cities: Realities, Innovations and Strategies, cSUR-UT: Library for Sustainable Urban Regeneration 8, Springer, pp.169-185
7. Nakamura, H. (2006). Prospects of the environmental improvement approach based on promoting the earthquake resistant renovation of old wooden row houses in the densely built-up areas: a case study on Osaka City, Doctor Thesis, Department of Urban Engineering, The University of Tokyo (in Japanese)

↓

Other Features:

As proved once again by 2011 mega-earthquake that hit Japan, a lot of communities and cities in Japan and across the Globe are exposed to the risk of disasters, like flood, quake, fire and tsunami.

Urban Safety Planning & Design Laboratory was started by Dr. H. Nakamura in April 2012, in pursuit of more livable and sustainable way of urban planning and designing.

Research projects in the laboratory focus on multidisciplinary studies across architectural, environmental, social and urban-engineering fields with an emphasis on how to build a safe, resilient, diverse and vibrant city - rather than disaster-protected but unlivable area.

English Website:

<http://www.planktonik.com/nakamurajin/english/>

Civil Engineering

-Civil Engineering-

MORITA, Masaru

Field of Interest: Urban Hydrology, Groundwater Hydrology
Title of Courses: Advanced Research Program on Regional Environmental Design
Urban Environmental Engineering
Topics for Thesis: Watershed Modeling for Interaction between Surface and Subsurface Flows
Flood Risk Management for Urban Drainage System

Publications and International Conference Papers:

(INTERNATINAL JOURNALS):

1. Morita, M. (2012). "Risk Assessment Method for Flood Control Planning Considering Global Climate Change in Urban River Management", From Risk to Opportunity, IAHS Red Book, in press.
2. Morita, M. (2011). "Quantification of Increased Flood Risk due to Global Climate Change for Urban River Management Planning", Water Science & Technology, Vol.63, No.12, 2967-2974.
3. M, Morita (2010). "Impact of Global Climate Change on Infrastructure System for Flood Control in Urban River Management", Internet Journal of Society for Social Management Systems, Paper Code SMS10-134, URL:http://management.kochi-tech.ac.jp/?content=journalpaper_pre.
4. Morita, M. (2008). "Flood Risk Analysis for Determining Optimal Flood Protection Levels in Urban River Management", Journal of Flood Risk Management, Vol.1, No.3, 142-149.
5. Morita, M., and Yen, B.C. (2002). "Modeling of Conjunctive Two-Dimensional Surface-Three-Dimensional Subsurface Flows," Journal of Hydraulic Engineering, American Society of Civil Engineers, Vol.128, No.2, 184-200.
6. Morita, M., and Yen, B.C. (2000). "Numerical Methods for Conjunctive 2-D surface-3-D subsurface flow model," International Journal for Numerical Methods in Fluids, Vol.32, No.8, 921-957.
7. Morita, M., and Yen, B.C. (2000). "Study on Interaction between Surface and Subsurface Flow Using Conjunctive Flow Model," Groundwater Updates, edited by Sato, K., and Iwasa, Y., Springer-Verlag Tokyo, 265-270.

(PROCEEDINGS):

1. Morita, M. (2011). "Risk Assessment Method for Flood Control Planning Considering Global Climate Change in Urban River Management", Proceedings of 5th International Conference on Flood Management (ICFM), Tokyo, Japan.
2. Morita, M. and Yamaguchi, H. (2010). "Quantification of Increased Flood Risk Caused by Global Climate Change for Urban River Management Planning", Proceedings of NOVATECH2010, CD-ROM, Lyon, France.

3. Morita, M. (2009). "Quantification of Flood Risk and its Application for Flood Risk Assessment for Urban River Management", Proceedings of the 8th Urban Drainage Modeling Conference, CD-ROM, Tokyo University, Tokyo, Japan.
4. Morita, M (2008). "Risk Analysis and Decision-making for Optimal Flood Protection Level in Urban River Management", Proceedings of the European Conference on Flood Risk Management, "FLOODrisk2008", CD-ROM, Oxford University, Oxford, UK.
5. Morita, M (2006). "Flood Risk Analysis for Optimal Storm Design Level Decision in Urban Flood Control," Proceedings of Perspective on Environment and Water Resources, ASCE, New Delhi, India.
6. Morita, M and Yamashita, K (2005). "Decision Support System for Storm Design Level Based on Inundation Damage Simulation and Risk Analysis Using GIS," Conference Proceedings of 10 ICUD, 10th international Conference on Urban Drainage, Copenhagen, Denmark.
7. Morita, M (2005). "Flood Risk Analysis on Storm Design Level Decision for Urban Flood Control," Proceedings of International Symposium on Fluvial and Coastal Disasters, Kyoto, Japan.
8. Morita, M (2004). "Flood Risk Analysis for Decision Making Process of Flood Protection Level Based on Inundation Damage Simulation Using GIS," Proceedings of the International Conference on Monitoring, Prediction and Mitigation of Water-Related Disasters, Kyoto, Japan.
9. Morita, M (2004). "Study on Modeling of Interaction between Surface and Subsurface Flows in Urban Areas," Conference Proceedings UDM04, 6th International Conference on Urban Drainage Modeling, Dresden, Germany.
10. Morita, M (2003). "Analysis of Interaction between Surface and Subsurface Flows Using Conjunctive 2-D Surface-3-D Subsurface Flow Model," Proceedings of World Water and Environmental Resources Congress 2003, EWRI, Philadelphia, Pennsylvania, USA.
11. Morita, M., and Fukuda, T. (2002). "Decision Support System for Flood Control Facility Planning Based on Inundation Simulation and Flood Damage Estimation utilizing GIS," Proceedings of 9th International Conference on Urban Storm Drainage, Portland, Oregon, USA.

Other Features:

- Academic expert in flood prevention and water resources planning at policy-making committees of the national and local governments.

-Civil Engineering-

OKAMOTO, Toshiro

- Field of Interest: Soil Mechanics, Geotechnical Engineering, Fill dam Engineering, Rock Mechanics
- Title of Courses: Advanced Research Program on Regional Environmental Design
Geotechnical Engineering
- Topics for Thesis: Title of Okamoto's Doctor Thesis : deformation and strength characteristics of sedimentary soft rock and its time-dependency
Title of master or doctor thesis in Okamoto laboratory of SIT
- Stability of concrete and asphalt facing of rockfill dam by New-Mark - equivalent linear seismic FEM analysis
 - Density and permeability anisotropy of vibratory compacted soil layer
 - Settlement of embankment by Elasto-plastic analysis
 - Seismic stability of earthfill , concrete dam and railway upon or near active fault in Japan
 - Seismic or seepage stability and geotechnical characteristics of river embankment and the foundation

Publications and International Conference Papers:

Statical analysis of measured elastic wave velocity of rockfill dam, T. Okamoto, *5th Dam Engineering*, 2007.2

Seismic stability evaluation and criteria of rockfill dam basing on residual deformation, T. Okamoto, proc. of 16th *Intern. Conf. on Soil Mechanics and Geotechnical Engineering*, vol.2, pp.1897-1900, 2005.9

A study on residual deformation of rockfill dam based on dynamic centrifuge model test, Uruchida S., Uchida Y., Suzuki T., Hoshino Y. and T. Okamoto, *73rd ICOLD Annual Meeting* , Tehran, IRAN, Paper No.084-S5, 2005.5

Evaluation of in-situ strength of rock material taking into account of in-situ density and strength by laboratory test, T. Okamoto, proc. of 4th *International Conference on Dam Engineering, New Development in Dam Engineering*, Balkema, pp.693-704, 2004.10

Recent trend for earthquake induced residual settlement of rockfill dam and some consideration of affecting factors, T. Okamoto, proc. of 4th *International Conference on Dam Engineering, New Development in Dam Engineering*, Balkema, pp.704-716, 2004.10

Centrifuge test of rockfill dam and seismic stability evaluation basing on seismic response and residual deformation by existing shaking table tests and in-situ observation results, T. Okamoto, Y. Uchida, S. Tsuruta , Y. Hoshino and T. Matsuda , *13th World Conference on Earthquake Engineering*, 2004.8

Evaluation of crest deflection of rockfill dams in long-term duration and first filling, T.

Okamoto, proc. of 3rd *International Conference on Dam Engineering*, pp.247- 253, 2002.3

Evaluation of crest settlement of rockfill dams after embankment, T. Okamoto, proc. of 3rd *International Conference on Dam Engineering*, pp.239- 246, 2002.3

Small strain characteristics of soils in Hualien, Taiwan, Tanaka, Y., K. Kudo, K. Nishi, T. Okamoto, T. Kataoka and T. Ueshima, *Soils and Foundations*, vol.40, No.3, pp.111- 125, 2000.6

Anisotropy and heterogeneity of gravelly soil layer in Hualien, Taiwan, Tanaka, Y. and T. Okamoto, proc. of 2nd International symposium on Hard soil - Soft Rocks, *The Geotechnics of Hard soil - Soft Rocks*, vol.2, pp.889- 900, 1998.10

Seismic response analysis of embedded structure at Hualien, Taiwan, Ueshima T. T. Kokusho, T. Okamoto and H. Yajima, *Journal of Nuclear Engineering and Design*, No.172, pp.289- 295, 1997.8

Distribution of ground rigidity and ground model for seismic response analysis in Hualien project of large scale seismic test, Kokusho, T., K. Nishi, T. Okamoto, Y. Tanaka , K. Kudo, T. Kawai, Y. Sawada, K. Suzuki, K. Yajima and S. Higashi, *Journal of Nuclear Engineering and Design*, No.172, pp.297- 308, 1997.8

Some chemical and strength properties of stored fly ash, Kataoka, T., H. Komine, N. Ogata, T. Okamoto and T. Yokokura, Proc. of 2nd *Intern. Conference environmental geotechnical engineering(IS-Osaka)*, vol.2, pp.763- 766, 1996.9

Other Features:

The best paper award for young researchers, Japanese Geotechnical Society for mechanical property of sedimentary soft rock, 1987,

President Award, Central Research Institute of Electric Power Industry, 1992 for Development of construction technology of nuclear power plant on Quaternary ground,

Achievement Awards, Japanese Geotechnical Society, 2006 for achievement as vice-president

<http://www.db.shibaura-it.ac.jp/%7Eokamoto/>

-Civil Engineering-

MATSUMURA, Takashi

Field of Interest: Environmental Policy Planning and Management
Title of Courses: Advanced Research Program on Regional Environmental Design
Environmental Policies Studies
Topics for Thesis: Environmental Pollution Control and Management

Publications and International Conference Papers:

1. A Review of Information Disclosure by Prefectural Governments in Japan in the Field of Water Pollution Accidents (in Japanese with English Abstract), (2010)
2. Analysis of Responses to Water Pollution Accidents in Japan (in Japanese), (2009)
3. Development of Non-structural Measures for Water Pollution Accidents in Japan (in Japanese with English abstract), (2008)
- 4.
- 5.
- 6.

Other Features:

Please be noted that nuclear power plant accidents are out of possible research topics. As listed above, conventional environmental pollution caused by accidents are major topics.