

2004 年  
研 究 年 報  
(2004 年 1 月～2004 年 12 月)

東京大学  
人工物工学研究センター

平成 17 年 6 月

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東京大学 人工物工学研究センター  
2004年 研究年報

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# 1. 人工物工学研究センター平成 16 年の活動報告



# 人工物工学研究センター 平成 16 年の活動報告

(前)人工物工学研究センター長・教授 新井民夫

## 1.1 平成 16 年度の概要

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## 1.2 国立大学法人化

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## 1.3 活動の概要

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H16

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## 1.4 人工物学の広がり

2002

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## 2. 研究部門の概要と研究内容紹介



ライフサイクル工学研究部門  
Lifecycle Engineering Research Division

藤田豊久, 高橋浩之  
Toyohisa Fujita, Hiroyuki Takahashi

20

人工物最終廃棄段階での省エネ型選別方法の開発と評価  
(藤田)

FPCA

LCA

CMIS

人工物診断技術の研究 (高橋, 福田)

人工物が及ぼす社会問題解決へ向けて粒子を用いた実験  
的な場の相互作用からの考察(藤田)

人工物使用における環境保全のための新技術の提案(藤  
田)

研究業績 (藤田教授)

誌 上 発 表 Publications  
(\*は, 査読制度があるもの)

1. 雑誌

(1) 原著論文

欧文誌

- 1) Seung Woo Baik, Atsushi Shibayama, Kenji Murata and Toyohisa Fujita The Effect of Underwater Explosion on the Kinetics of Alkaline Leaching of Roasted Tungsten Carbide Scraps for Recycling, Int. J. Soc. Mater. Eng. Resour, Vol. 12, No. 2,(2004) pp. 55-59.\*
- 2) Yuren Jiang, Atsushi Shibayama, Kejun Liu, Toyohisa Fujita, Recovery of Rare Earths from the Spent Optical Glass by Hydrometallurgical Process, Canadian Metallurgical Quarterly, Vol. 43.(2004) pp. 431-438.\*
- 3) Kunio Shimada, Shigemitsu Shuchi, Toyohisa Fujita, Toshio Miyazaki, Atsushi Shibayama, Shinichi Kamiyama, Newly Improved Magnetic Compound Fluid (MCF) for More Stability of Particle Dispersion, Intl J. Applied Electromagnetics and Mechanics, Vol. 19,(2004), pp. 351-354.\*
- 4) Younghun Kim, Mitsuaki Matsuda, Atsushi Shibayama, Toyohisa Fujita: Recovery of LiCoO<sub>2</sub> from Wasted Lithium Ion Batteries by Using Mineral Processing

プラントヘルスマニタリング(高橋)

メンテナンスフリー型人工物 (高橋)

- Technology, Resources Processing, Vol. 51(2004), pp. 3-7.\*
- 5) Akira Otsuki, Atsushi Shibayama, Jun Sadaki, Toyohisa Fujita, Masatomo Watanabe: Removal of Nickel, Zinc and Phosphorus from Wastewater of Industrial Factories, Resources Processing, Vol. 51(2004), pp. 14-19.\*
  - 6) Liu Kejun, Wan Tai Yen, Atsushi Shibayama, Toshio Miyazaki, Toyohisa Fujita: Gold Extraction from Thiosulfate Solution Using Trioctylmethylammonium Chloride, Hydrometallurgy, Vol. 73(2004), pp. 41-53.\*
  - 7) Lin Luo, Liu Kejun, Atsushi Shibayama Wantai Yon, Toyohisa Fujita, Osamu Shindo, Akira Takai: Recovery of Tungsten and Vanadium from Tungsten Alloy Scrap, Hydrometallurgy, Vol. 72(2004), pp. 1-8,\*
  - 8) Harunobu Arima, Toyohisa Fujita, Wan-Tai Yen.: Using Nickel as a Catalyst in Ammonium Thiosulfate Leaching for Gold Extraction, Materials Transactions, Vol. 45, No. (2004), pp. 516-526.\*

和文誌

- 1) , : , Vol. 51, No. 4(2004) pp 181- 188 \*
- 2) : , Vol. 120(2004) pp 388- 394 \*
- 3) : , Vol. 120(2004) pp 406- 411. \*

(2) 総説

欧文誌

- 1) Gjergj Dodbiba, Toyohisa Fujita: Progress in Separating Plastic Materials for Recycling, Physical Separation in Science & Engineering, Vol. 13, No. 3-4(2004), pp 165-182.\*

和文誌

- 1) : , 14 , (2004) pp 194- 196
- 2) 10 (2004), pp 737- 741.
- 3) : , 19 (2004) pp 95- 100.

2. 単行本・プロシーディングス

(1) 原著論文

欧文

- 1) Toyohisa Fujita, Gjergj Dodbiba : Recent Recycling Trend Using Mineral Processing and the Synergistic Effect for Fields Applied on Particles to Consider Recycling of Artifacts , Intl Symp on "Green Technology for Resources and Materials Recycling", Seoul ,(2004) pp. 15-22.
- 2) Ryoji Ito, Masashi Nagura, Toyohisa Fujita, Jun Sadaki, Ji-Whan Ahn : Removal of Salts from Municipal Solid Waste Incinerator Bottom Ash , Intl Symp on "Green Technology for Resources and Materials Recycling", Seoul (2004) pp. 395-400.
- 3) Akira Otsuki, Mitsuaki Matsuda, Mei Guangjun, Atsushi

Shibayama, Toyohisa Fujita : Recycling Fluorescent Powders Using Liquid-Liquid Extraction , Intl Symp on "Green Technology for Resources and Materials Recycling", Seoul (2004) pp. 100-103.

- 4) Toyohisa Fujita, Atshushi Shibayama, Gjergj Dodbiba, Hajime Muto, Kazusa Nagashima, Yuichi Sugai and Jun Sadaki : Bioremediation of Soil Contaminated by Oil and Dioxins , REWAS '04, Madrid, Spain ,(2004) pp. 2411-2418.
  - 5) Gjergj Dodbiba, Atsushi Shibayama, Jun Sadaki, Natsuki Takemoto, Toyohisa Fujita: Dry Separation of Materials from Waste Electrical Appliances, REWAS '04, Madrid, Spain,(2004) pp. 2613-2622.
- 1) 2 (2004) pp. 287- 301.

口頭発表 Oral Presentations

1. 国際会議等 (誌上発表のプロシーディングスに掲載されていないもの)

- 1) Toyohisa Fujita: Development of Environmental Cleaning Methods, Intl Symp on Mechanical Systems Innovation, Tokyo, 21<sup>st</sup> COE Mechanical Systems Innovation (2004)
- 2) Ryoji Ito, Gjergj Dodbiba, Toyohisa Fujita: MR Fluid of Liquid Gallium, Electrorheological (ER) Fluids and Magneto-rheological (MR) Suspensions, 8 2004
- 3) Shi-sha Zhu, Toyohisa Fujita, Q-x Wang, K. Liu., Gjergj Dodbiba : The Concomitant-Effect of Electrorheological Fluid in a Control Flow Field, Electrorheological(ER) Fluids and Magneto-rheological(MR) Suspensions, 8 2004

2. 国内会議等

- 1) 3 2004
- 2) 3 2004
- 3) ASR 3 2004
- 4) Se 3 2004
- 5) Fe III 3 2004
- 6) 112 6 2004
- 7) 112 6 2004
- 8) 112 6 2004
- 9) Naomi Ealedona Stibnite Mineralogy and its Separation from Complex Gold-Stibnite Ore 112 6 2004

- 10) 112 6 2004
- 11) ,
- 12) 112 6 2004
- 13) 2004 9 2004
- 14) 9 2004
- 15) 9 2004
- 16) 2004 9 2004  
Seung Woo Baik, Atsushi Shibayama, Kenji Murata, Toyohisa Fujita : The Effect of Explosion-Crushing on the Kinetics of Alkaline Leaching of Roasted Tungsten Carbide Scraps 2004 9 2004
- 17)

2004 9 2004

その他特記事項  
Other Achievements

受賞

- 1) : Preparation of High Purity Zinc Oxide from Zinc Metal Scrap , 2004 6 15
- 2) : 2004 6 3
- 3) : 2004 6 3

特許

- 1) 2004-163112 TLO JFE (2004)
- 2) 2004-092418 TLO (2004)

研究業績 (高橋助教授)

誌上発表 Publications  
(\*は、査読制度があるもの)

1. 雑誌

(1) 原著論文  
欧文誌

- 1) Yuichi Kunieda, Daiji Fukuda, Masashi Ohno, Hiroyuki Takahashi, Manabu Ataka, Masataka Ohkubo, Fuminori Hirayama, Masaharu Nakazawa : "Development of Ir/Au-TES Microcalorimeter" , JOURNAL OF NUCLEAR SCIENCE AND TECHNOLOGY, Supplement4, pp144-148, March 2004
- 2) K. Amemiya, H. Takahashi, T. Naruse, M. Nakazawa, Y. Nakagawa, T. Majima, T. Kageji, Y. Sakurai, T.

- Kobayashi, N. Yasuda, M. Yamamoto, K. Ogura : "High-Resolution Alpha-Autoradiography with Contact Microscopy Technique" , JOURNAL OF NUCLEAR SCIENCE AND TECHNOLOGY, Supplement4, pp275-278, March 2004
- 3) J.Y. Yeom, H. Takahashi, T. Ishitsu, M. Nakazawa, H. Murayama : "Development of a High Resolution APD Based Animal PET and Multi-Channel Waveform-Sampling Front-End ASIC" , JOURNAL OF NUCLEAR SCIENCE AND TECHNOLOGY, Supplement4, pp279-282, March 2004
- 4) P. Siritiprussamee, H. Takahashi, J.Y. Yeom, T. Ishitsu, M. Nakazawa, S. Kishimoto, T. Ino, M. Furusaka, K.Sakai, H. M. Shimizu : "Development of a front-end electronics for M-MSGC using individual-readout ASIC with resistive strip output" , JOURNAL OF NUCLEAR SCIENCE AND TECHNOLOGY, Supplement4, pp307-309, March 2004
- 5) Y. Kunieda, D. Fukuda, M. Ohno, H. Takahashi, M. Nakazawa, T. Inou, M. Ataka : "Comparison of superconducting transition characteristics of two iridium/gold bilayer transition edge sensor devices", JAPANESE JOURNAL OF APPLIED PHYSICS PART 1-REGULAR PAPERS SHORT NOTES & REVIEW PAPERS, 43 (5A), pp. 2742-2744, (2004)
- 6) Y. Kunieda, D. Fukuda, H.Takahashi, M. Ohno, M. Nakazawa, M. Ohkubo, F. Hirayama, M. Koike : "Microscopic observation of operating Ir/Au-TES microcalorimeter by low-temperature scanning synchrotron microscopy", Nuclear Instruments and Methods in physics research, A 520 (1-3), pp.267-269 (2004)
- 7) M. Ohno, H. Takahashi, D. Fukuda, Y. Kunieda, M. Nakazawa, M. Ohkubo, F. Hirayama, C. Ohtani, H.M. Shimizu : "Development of a pixellated Ir-TES for a large format TES array", Nuclear Instruments and Methods in physics research, A 520 (1-3), pp.414-416 (2004)
- 8) P. Siritiprussamee, H. Takahashi, J.Y. Yeom, T. Ishitsu, M. Kai, M. Nakazawa, S. Kishimoto, T. Ino, M. Furusaka : "A new M-MSGC readout method and front-end ASIC development", Nuclear Instruments and Methods in physics research, A 525, 1-2, pp. 225-228 (2004)
- 9) J.Y. Yeom, H. Takahashi, T. Ishitsu, M. Nakazawa, H. Murayama : "Development of a multi-channel waveform sampling ASIC for animal PET with DOI information" Nuclear Instruments and Methods in physics research, A 525, 1-2, pp.221-224 (2004)
- 10) H. Takahashi, P. Siritiprussamee, M. Kai, M. Nakazawa, T. Ino, M. Furusaka, S. Kishimoto, M. Taniguchi, S. Ito, M. Kanazawa : "Development of a two-dimensional multi-grid-type microstrip gas chamber for spallation neutron source", Nuclear Instruments and Methods in physics research, A 529, pp.348-353 (2004).

和文誌

- 1) : " Ir/Au-TES " X vol. 30, No. 2, pp. 165-169 (2004)
- 2) , , : " " , , 3 (3), pp. 20-25, (2004).
- (2) 総説
- 1) Radioisotopes, Vol. 53, No.3, pp. 189-196, March (2004).

- 2) Radioisotopes, Vol. 53, No.6, pp.381-388, June (2004).

## 2. 単行本・プロシーディングス

### (1) 原著論文

#### 英文

- 1) JY. Yeom, T. Ishitsu, H. Takahashi :“ Development of a Waveform Sampling Front-End ASIC for PET” , Asia and South Pacific Design Automation Conference 2004, pp567-568, January 27-30 (2004)
- 2) Prasit Siritiprussamee, , , : “Development of He Multi-grid-type Microstrip Gas Chamber (M-MSGC) for Spallation Neutron Sources” , 18 , , pp 7-8 2 2 4 2004

#### 和文

- 1) , , , , , , 18 , , pp 1-2, 2 2 4 2004
- 2) , , : Ir/Au , , , pp 43-44, 2 2 4 18 2004
- 3) , , , : , 14 , , pp 375-377, 11 29 12 1 2004 .
- 4) MSGC , , pp3-24 12 15 2004

### 口頭発表 Oral Presentations

#### 1. 国際会議等（誌上発表のプロシーディングスに掲載されていないもの）

- 1) H. Takahashi: “Future trends in position-sensitive neutron detectors”, Joint meeting on neutron optics and detectors, Jan. 12-16, 2004 Tokyo, JAPAN, (2004)
- 2) P. Siritiprussamee, H. Takahashi, M. Kai, M. Nakazawa, T. Ino, M. Furusaka, S. Kishimoto, M. Taniguchi, S. Ito, M. Kanazawa : “Development of two-dimensional multi-grid-type microstrip gas chamber (M-MSGC) for Spallation neutron sources”, Joint meeting on neutron optics and detectors, Jan. 12-16, 2004 Tokyo, JAPAN (2004).
- 3) M. Kai, H. Takahashi, F. Fukuoka, P. Siritiprussamee, M. Nakazawa, T. Ino, M. Furusaka, S. Kishimoto: “Multi-grid-type microstrip gas counter with cathode signal encoding method for He-3 Microstrip tube”, Joint meeting on neutron optics and detectors, Jan. 12-16, 2004 Tokyo, JAPAN, (2004)
- 4) Y. Kunieda, H. Takahashi, K. Hiramoto, M. Ohno, M. Nakazawa, D. Fukuda, M. Ukibe, M. Ohkubo: “Digital signal processing based on a clustering algorithm for Ir/Au pixel array”, 2nd International Workshop on Transition Edge Sensor Device Physics University of Miami, March 18, 2004, Miami, USA (2004)
- 5) Hiroyuki Takahashi : “Multi-grid-type Microstrip Gas Detector”, The 4th Korea-Japan Meeting on Neutron

- Science, 23 - 24 February 2004 Neutron Science Laboratory (KENS) at KEK, Tsukuba, JAPAN (2004).
- 6) Hiroyuki Takahashi : “Position-Sensitive Neutron Detector Development for JSNS” Gaseous Detector Workshop, June 10-11, 2004, The Atherton Hotel - State College, PA, USA (2004)
- 7) D. Fukuda, M. Ohkubo, H. Takahashi, Y. Kunieda, M. Nakazawa : “The University of Tokyo, Noise analysis of Ir/Au TES with asymmetrical slits parallel to the electric current” Applied Superconductivity Conference, ASC 2004, Jacksonville, Florida, USA, October 3-8, 2004, 2EA06, (2004)
- 8) Y. Kajimoto, K. Amemiya, H. Takahashi, M. Nakazawa : “Improvement of the high-resolution alpha auto-radiography with contact UV microscopy”, Eleventh world congress on neutron capture therapy, ISNCT-11, October 11-15, 2004, Boston, USA (2004).
- 9) Hiroyuki Takahashi : “Micropattern Detectors and Position-sensitive Neutron Detector Development in Japan”, Korea-Japan Seminar on Advanced Utilization of Particle Accelerator & The Third Accelerator Summer School of Proton Engineering Frontier Project, Pohang Korea, July26-30(2004)
- 10) N. Zen, H. Takahashi, D. Fukuda, Y. Kunieda, K.Hiramoto, M. Nakazawa, M. Ukibe, M. Ohkubo : “Digital Signal Processing Based on a Clustering Algorithm for Ir/Au TES Microcalorimeter”, ROME2004 IEEE CONFERENCE, ROME, ITALY, October 16 22 (2004)
- 11) Y. Tomita, Y. Shirayanagi, S. Matsui, Hamamatsu Photonics K.K., M. Misawa, H. Takahashi, T. Aoki : “X-ray Color Scanner with Multi Energy Capability”, ROME2004 IEEE CONFERENCE, ROME, ITALY, October 16-22 (2004).
- 12) P. Siritipurussamee, H. Takahashi, M. Kai, M. Nakazawa, T. Ino, M. Furusaka, S. Kishimoto, M. Taniguchi, S. Ito, M. Kanazawa : “Development of a Two-Dimensional Multi-Grid-Type Microstrip Gas Chamber Using Global-Local Grouping Method.”, ROME2004 IEEE CONFERENCE, ROME, ITALY, October 16-22 (2004).
- 13) J. Y. Yeom, H. Takahashi, P.Siritipurussamee, M. Nakazawa, H. Murayama : “Multi-Channel CMOS ASIC Preamplifiers for APD and MSGC Readouts”, ROME2004 IEEE CONFERENCE, ROME, ITALY, October 16-22 (2004).
- 14) Qui-Wei Wang, H. Takahashi, Y. Hosono, M. Nakazawa, K. Yoshida, Y. Miyazaki : “A Low Background Digital Anticoincidence Beta Counting System for C-14 Dating Using a Gas Counter Combined with Tiled CdTe Wall Detectors” IEEE 2004 Nuclear Science Symposium, October 16-22, Rome, Italy, 2004.
- 15) H. Takahashi, M. Nakazawa, Y. Nakagawa, H. Yanagie, T. Hisa, M. Eriguchi, T. Majima, T. Kageji, S. Miyatake, S. Kawabata, Y. Sakurai, T. Kobayashi, N. Yasuda, M. Kagawa, K. Ogura : “Improvement of the high-resolution alpha auto-radiography with contact UV microscopy ”, Eleventh World Congress on Neutron Capture Therapy, Boston, MA, USA, October 11-15(2004)
- 16) K. Amemiya, H. Takahashi, Y. Kajimoto, T. Wachi, M. Nakazawa, Y. Nakagawa, H. Yanagie, T. Hisa, M. Eriguchi, T. Majima, T. Kageji, S. Miyatake, S. Kawabata, Y. Sakurai, T. Kobayashi, N. Yasuda, M. Kagawa, K. Ogurak : “High-resolution alpha-autoradiography w/ contact UV microscopy technique”, Eleventh World Congress on Neutron Capture Therapy, Boston, MA, USA, October 11-15(2004)

2. 国内会議

- 1) H. Takahashi : “Development of a Pixelated Superconducting Transition Edge Sensor”, Miniworkshop on Pixel Array Detectors, Tsukuba, Japan, Nov. 24<sup>th</sup> (2004)
- 2) , , , ,  
 , , Ir/Au TES  
 X 9 ,  
 2004 , , 3 29 30  
 (2004)
- 3) , , , , ,  
 , , , , ,  
 , , :

- 4) Qiu Wei Wang, Yoneichi Hosono, Kuniaki Amemiya, Masaharu Nakazawa, Hiroyuki Takahashi : “Study on a micro ion chamber for spatial distribution of ions around an alpha source” 2004 ,  
 , 3 29 30 (2004)
- 5) , Yeol, Yeom Jung : “A 16 channel CMOS ASIC preamplifier for APD readout”, 44  
 , , 11 4 6 2004

そ の 他 特 記 事 項  
Other Achievements





サービス工学研究部門  
Service Engineering Research Division

浅間 一, 下村芳樹  
Hajime Asama, Yoshiki Shimomura

人の行動計測と判別に関する研究 (浅間, 川端, 三島, 石黒)

Explorer CAD Service

Abduction

人のモデル化に関する研究 (浅間, 黒田, 小菅, 川端)

CAD

研究業績 (浅間教授)

誌上発表 Publications  
(\*は, 査読制度があるもの)

1. 雑誌

(1) 原著論文

欧文誌

- 1) Fraichard. T., Asama H.: "Inevitable collision state a step towards safer robot?", Advance Robotics, Vol. 8, No. 10, pp. 1001-1024 (2004).\*
- 2) Kunimitsu S., Asama H., Kawabata K., Mishima T.: "Development of crane vision for positioning container", Journal of Robotics and Mechatronics, Vol. 16, No. 2, pp. 186-193 (2004).\*

和文誌

- 1) 國光 智, 浅間 一, 川端邦明, 三島健稔, 浅間 一  
" ", 電気学会論文集C, vol. 124, no. 2, pp. 480-488 (2004).\*
- 2) 平田泰久, 小菅一弘, 浅間 一, 嘉悦早人, 川端邦明:  
" ", 日本機械学会論文集(C編), vol. 70, no. 691, pp. 759-765 (2004).\*

コミュニケーションに関する研究 (浅間, 川端)

サービス CAD の開発と高創造性設計手法の提案 (下村, 渡辺, 藤本, 原, 森本)



				Support Vector Machine
	04	1P1-H 40(1) - 1P1-H 40(2)	2004	5 pp. 1011- 1012
13)				その他特記事項 Other Achievements
	04	1P1-L1- 73(1)	2004	受賞 1) , (2004).
14)	- 1P1-L1- 73(3)			特許 1)
	04	2A1-H 9(1)	2004	2) JP2004/008827
15)	- 2A1-H 9(2)			3) 2004- 089532
		2P1-L1- 51(1) - 2P1-L1- 51(2)	2004	4) 3559826
16)				2004- 326417
		2P2-L1- 54(1) - 2P2-L1- 54(4)	2004	プロジェクト 1)
17)				2)
18)	(2004).			IC
19)		(2004).		学会, 国際会議責任者, 等
				1) IFAC (International Federation of Automatic Control) Technical Committee Chair on Intelligent Autonomous Vehicles.
20)			(2004).	2) Program Chair of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2004), Sendai, Japan, Sep., (2004).*
	8			3)
21)	22		(2004).	研究業績 (下村助教授)
				誌上発表 Publications (*は, 査読制度があるもの)
22)	16 - 68- 69		2004	1. 雑誌 (1) 原著論文 欧文誌
				1) M. Yoshioka, Y. Umeda, H. Takeda, Y. Shimomura, Y. Nomaguchi and T. Tomiyama: "Physical Concept Ontology for the Knowledge Intensive Engineering Framework," Advanced Engineering Informatics, Special issue on ontology and its applications to knowledge-intensive engineering, Vol. 18, Issue 2, (ISSN 1474-0346), pp. 95-113, 2004.*
23)	PP. 35- 38,	10	(2004)	和文誌 なし
	" IRS			(2) 総説 和文誌
24)	" 5	pp. 62- 63,	(2004).	1) : 15.5 , Vol. 107, No. 1029, pp. 641, 2004.
		" 5		
25)		pp. 152- 153		
26)	pp. 226- 227,			

2) :  
Vol. 36, No.2, Feb, (2004 2 ), pp. 34-39, 2004.

2. 単行本・プロシーディングス

(1) 原著論文

欧文

- 1) Y. Nomaguchi and Y. Shimomura: Management of Design Knowledge for Knowledge-based CAD. In Tools and Methods of Competitive Engineering, Vol. 2, pp. 1111-1112, Editors: I. Horvath and P. Xirouchakis, Millpress Rotterdam Netherlands, ISBN-9059660188, 2004. \*
- 2) T. Arai and Y. Shimomura: Proposal of Service CAD System -A Tool for Service Engineering-. Annals of the CIRP, Vol. 53/1, (ISSN 1660-2773), pp. 397-400, 2004. \*
- 3) Y. Shimomura, Y. Fujimoto, S. Yajima and S. Kondo: Proposal of Stratum-Type Manufacturing System based on Cellular Machines. In Proceedings of the 37th International Seminar on Manufacturing Systems (CIRP-ISMS2004), CIRP, pp. 181-186, Budapest, Hungary, 2004. \*
- 4) Y. Shimomura, T. Sakao, T. Hara, T. Arai and T. Tomiyama: Service Explorer - A Tool for Service Design -. In Proceedings of International Conference on Machine Automation 2004 -ICMA2004-, pp. 381-386, Osaka University, Japan, 2004. \*
- 5) Y. Nomaguchi and Y. Shimomura: Management of Design Knowledge for Knowledge-based CAD. In Proceeding of the 5th International Symposium on Tools and Methods of Competitive Engineering (TMCE 2004), Lausanne, Switzerland, CD-ROM, 2004. \*
- 6) T. Sakao and Y. Shimomura: A Method and a Computerized Tool for Service Design. In Proceeding of the 8th International Design Conference, Dubrovnik, Croatia, pp. 497-502, CD-ROM, 2004. \*
- 7) A. Matsuda, K. Watanabe, Y. Shimomura, S. Kondo and Y. Umeda: Development of Planning Support System for Upgradeable Product Design. In Proceeding of the International Eco-Efficiency Conference / Eco-Efficiency for Sustainability: Quantified Methods for Decision Making, Leiden, the Netherlands, pp. 50, 2004. \*
- 8) T. Hara, Y. Shimomura, M. Uchida and T. Sakao: Proposal of a Computerized Tool for Service Design. In Proceeding of the 8th World Multi-Conference on Systemics, Cybernetics and Informatics (SCI 2004), Florida, IEEE Computer Society, pp. 374-379, CD-ROM, 2004. \*
- 9) T. Tomiyama, Y. Shimomura and K. Watanabe: A Note on Service Design Methodology. In Proceedings of Design Theory and Methodology - DTM'04 -, CD-ROM, DETC2004-57393, The American Society for Mechanical Engineering (ASME), 2004. \*
- 10) K. Watanabe, Y. Shimomura, T. Sakao, A. Raggi and L. Petti: Application of a Service Modeling Tool to Hotel Industry. In Proceeding of the 6th International Conference on EcoBalance -Development and Systematizing of EcoBalance tools based on Life-Cycle-Thinking-, Ibaragi, The Society of Non-Traditional Technology, pp. 495-498, CD-ROM, 2004. \*
- 11) G. Tian, T. Hara, T. Miura, Y. Shimomura and T. Arai: A Framework for Service Engineering using Hierarchical Colored Petri nets. In Proceedings of International Conference on Machine Automation 2004 -ICMA2004-, pp. 387-392, Osaka University, Japan, 2004. \*
- 12) T. Sakao, T. Hara, K. Watanabe, Y. Shimomura, A. Raggi, and L. Petti: Service Engineering: A New Engineering Discipline for Industries toward Sustainable Consumption.

In Proceedings of the Third International Workshop on Sustainable Consumption, pp. 66-82, Tokyo, 2004. \*

和文

- 1) , , , :-  
! , , ISBN-4889562729,  
2004.
- 口 頭 発 表 Oral Presentations
1. 国際会議等 (誌上発表のプロシーディングスに掲載されていないもの)
  2. 国内会議
- 1) , , , , :  
Universal Abduction Studio , Design  
Symposium2004 , pp. 99-104,  
, 2004. \*
  - 2) , , , :  
— Design  
Symposium2004 , pp. 235-238,  
, 2004.
  - 3) , , , , :  
. Design Symposium2004 , pp. 227-230,  
, 2004. \*
  - 4) :  
- ,  
/ , 2004.  
, 8  
, JAERI-Conf 2004-014,  
pp. 117-122, 2004.
  - 5) , :  
CAD 6 -  
, 2004  
, pp. 235-236, CD-ROM, 2004.
  - 6) , , , CAD , :  
7 -  
-, 2004  
, pp. 237-238, CD-ROM, 2004.
  - 7) , , , , :  
8 - CAD  
-, 2004  
, pp. 239-240, CD-ROM, 2004.
  - 8) , , , , :  
9 - CAD  
-, 2004  
, pp. 241-242, CD-ROM, 2004.
  - 9) , , , , :  
CAD 10  
-, 2004  
, pp. 243-244, CD-ROM, 2004.
  - 10) , , , : LCA  
2 - LCA  
-, 2004

11) , pp. 477-478, CD-ROM, 2004.

12) , pp. 1297-1298, CD-ROM, 2004.

13) ( 8 ) - , 2004 pp. 479-480, CD-ROM, 2004.

14) Universal Abduction Studio 4 -UAS -, 2004 , pp. 315-316, CD-ROM, 2004.

15) , 2004 , pp. 481-482, CD-ROM, 2004.

16) , CAD , 11 -, 2004 , pp. 1-2, CD-ROM, 2004.

17) , CAD , 12 -, 2004 , pp. 3-4, CD-ROM, 2004.

18) Universal Abduction Studio 5 -UAS -, 2004 , pp. 71-72, CD-ROM, 2004.

19) T. Guohui, T. Hara, T. Miura, Y. Shimomura and T. Arai: Introducing Petri Nets Method to Service Engineering. 2004 , pp. 45-46, , 2004.

20) : . 14 , No. 04-38, pp. 324-327, 2004.

21) : . 14 , No. 04-38, pp. 320-323, 2004.

22) : . 14 , No.04-38, pp. 328-331, 2004.

23) Universal Abduction Studio . 14 , No. 04-38, pp. 332-335, 2004.

24) Luigia Petti: - 04 , pp. 104-107, , 2004.

25) : CAD 04 , pp. 108-111, , 2004.

26) : 04 , pp. 112-115, , 2004.

その他特記事項 Other Achievements



デジタル価値工学研究部門  
Digital Value Engineering Research Division

白山 晋, 奥田洋司  
Susumu Shirayama, Hiroshi Okuda

知識獲得からのデジタル価値創造に関する研究 (白山)

CFD

可視化を利用した情報選別と知識抽出に関する研究 (白山)

デジタル価値創出のためのミドルウェア (奥田)

(1)

V&B  
(2)

ハイエンドコンピューティングと創発アルゴリズムをを  
援用した水素社会構築過程のシミュレーション (奥田)  
(2)

研究業績 (白山助教授)

誌 上 発 表 Publications

1. 雑誌

なし

2. 単行本・プロシーディングス

(1) 原著論文

欧文

- 1) Susumu SHIRAYAMA: The Framework of a System for Recommending Computational Parameter Choices, Notes on Numerical Fluid Mechanics, Springer, 2004
- 2) Tokutake, H., Sunada, S., Shirayama, S., Matsue, J. and Hirose, W.: Development of A Flying Visual Sensor Proceedings of Joint 2nd International Conference on Soft Computing and Intelligent Systems and 5th International Symposium on Advanced Intelligent Systems, 2004.

和文

なし

口 頭 発 表 Oral Presentations

1. 国際会議等 (誌上発表のプロシーディングスに掲載されていないもの)

なし

2. 国内会議

1)

53

(2004.1), pp.235-236.

2)

(2004.5), pp.875-878.

3)

(2004.5), pp.871-874.

- 4) (2004.11), p.312, CD-ROM 831.
- 5) 32 (2004.7), pp.51-52. 24) 18 (2004.12), p.172, CD-ROM D3-4
- 6) 2004 CD-ROM 11-9 (2004.8) その他特記事項 Other Achievements  
招待講演, キーノート講演等
- 7) ( ) No.04-1 (2004.9) 2004 ( ) No.04-1 (2004.9), pp.331-333. 1) CFD ( ) No.04-1 (2004.9), pp.331-333.
- 8) 2004 ( ) No.04-1 (2004.9), pp.331-333. 2) 2004 ( ) No.04-1 (2004.9), pp.81-83.
- 9) ( ) No.04-1 (2004.9), pp.81-83. 3) 36 (2004.9), pp.273-276.
- 10) Vol.2004.No.12 (2004.10), pp.317-320. 4) CG 17 (2004.11)
- 11) CG 17 (2004.11) 5) 18 (2004.12), p.8, pp.18-19, CD-ROM
- 12) 17 (2004.11) 6) ITBL 75 H16.3
- 13) 14 (2004.11), pp.190-193. 研究業績 (奥田助教授)
- 14) 14 (2004.11), pp.188-189. 誌上発表 Publications (\*は、査読制度があるもの)
- 15) 18 (2004.12), p.8, pp.18-19, CD-ROM 1. 雑誌 (1) 原著論文 欧文誌
- 16) pp.135-136. (2004.5), 2) Hiroaki Matsui and Hiroshi Okuda: "Treatment of the Magnetic Field for Geodynamo Simulations Using the Finite Element Method", Earth Planets Space, Vol.56, pp.945-954 (2004).\*
- 17) ITBL (2004.5), pp.621-624. 3) Hiroaki Matsui and Hiroshi Okuda: "MHD Dynamo Simulation Using the GeoFEM Platform: Comparison with a Spectral Method", Pure and Applied Geophysics, Vol.161, No.11-12, pp.2199-2212 (2004).\*
- 18) 2004 (2004.8), pp.78-79. 4) Kengo Nakajima and Hiroshi Okuda: "Parallel Iterative Solvers with Selective Blocking Preconditioning for Simulations of Fault-Zone Contact", Numerical Linear Algebra with Applications, pp.831-852 (2004).\*
- 19) 2004 (2004.8), pp.116-117. 36 (2004.9), pp.273-276. 4) Hiroaki Matsui and Hiroshi Okuda: "Development of a Simulation Code for MHD Dynamo Processes Using the GeoFEM Platform", International Journal of Computational Fluid Dynamics, Vol.18(4), pp.323-332 (2004).\*
- 20) 17 MPS (2004.11) 和文誌
- 21) 17 (2004.11) 1) , : " SMP MPI/OpenMP A , Vol. 70, No. 692, pp. 519-524 (2004). \*
- 22) (2004.11) 2) , : " SMP , Vol. 21, pp. 49-52 (2004). \*
- 23) CD-ROM 809. (2004.11), p.288, 3) , : " Hessian , "



(2) 総説  
和文誌

- 1) : “ SR8000 ” , , Vol. 6, No. 6 pp. 22-34 (2004).
- 2) : “ HPC IT ” , pp. 139-162 (2004).

2. 単行本・プロシーディングス

(1) 原著論文

欧文

- 1) “Xianlinag Li and Hiroshi Okuda: On Accuracy of Hybrid Computing for Evaluating Derivatives”, No.04-46, pp.215-219 (2004).
- 2) Satoshi ITO and Hiroshi Okuda: “Parallel Finite Element Analysis of Edge-Tone”, Proc. The International Conference on Computational Methods (2004).
- 3) Masae Muraoka and Hiroshi Okuda: “FE Grid Computation Using Heterogeneous Cluster of PC-Clusters”, Proc. WCCM VI in conjunction with APCOM'04 (2004).
- 4) Masaaki Suzuki and Hiroshi Okuda: “Acceleration of Biomolecular Dynamics Simulations on the Earth Simulator”, International Workshops on Advances in Computational Mechanics (IWACOM), Book of Abstracts, p.173 (2004).
- 5) Hiroshi Okuda: “High-Performance Computing Middleware for Developing FEA Codes, International Workshops on Advances in Computational Mechanics (IWACOM)”, Book of Abstracts, p.160 (2004).
- 6) Noriyuki Kushida and Hiroshi Okuda: “Accelerated Non-Linear Conjugate Gradient Method Using Finite Different Hessian”, The 7th International Conference on High Performance Computing and Grid in Asia Pacific Region, HPC Asia 2004, pp.37-38 (2004).
- 7) Hiroshi Okuda: “Web Application Using Struts for Extraciting Numerical Property of Coefficient Matrix”, 4th ACES WorkShop Abstract, p.118 (2004).
- 8) Hiroshi Okuda and Masae Muraoka: “Finite Element Grid Computations Using Cluster of PC/Supercomputer Clusters”, 4th ACES WorkShop Abstract, pp.62-63 (2004).
- 9) Xianliang LI and Hiroshi Okuda: “Hybrid Computing for Solving Inverse Problem of Electrical Impedance Tomography”, Vol.9, No.1, pp.245-248 (2004).
- 10) Kazuteru Garatanai, Bunichiro Shibazaki, Takeshi Sagiya and Hiroshi Okuda: “FEM Modeling Crustal Deformation with Non-Linear Visco-Elasticity, Plasticity and Faulting”, Proc. The Second International Symposium on Slip and Flow Processes in and below the Seismogenic Region (2004).
- 11) Satoshi Ito and Hiroshi Okuda: “Developemnt of Parallel FE Fluid Analysis Software Using HPC-MW”, SIAM Conference on Parallel Processing for Scientific Computing, p.88 (2004).
- 12) Kengo Nakajima, Hiroshi Okuda: Li Chen, Shin'ichi Ezure, Kazuaki Sakane, Toshio Nagashima and Yasuji Fukahori: “HPC Middleware (HPC-MW) Infrastructure for Scientific Applications on HPC Environments-from PC Cluster to the Earth Simulator”, SIAM Conference on Parallel Processing for Scientific Computing, p.87

(2004).

- 13) Hiroshi Okuda and Kengo Nakajima: “HPC Middleware, Infrastructure for Development of Scientific Applications on Various Types of HPC Environments”, SIAM Conference on Parallel Processing for Scientific Computing, pp.74-75 (2004).
- 14) Hiroshi Okuda: “10 TFLOPS Finite Element Solver on the Earth Simulator: GeoFEM, SIAM Conference on Parallel Processing for Scientific Computing”, p.9 (2004).

和文

- 1) : “ HPC IT ” , pp. 195-202 (2004).
- 2) : “ ” , No. 04-40 pp. 205-206 (2004).
- 3) : “ HPC Middle ware(HPC-MW IT ” , pp. 1-11 (2004).
- 4) : “ ” , p. 16 (2004).
- 5) : “ ” , pp. 40-41 (2004).
- 6) HPC-MW ” , Vol. 9, No. 1, pp. 289-290 (2004).
- 7) : “ HPC-MW ” , Vol. 9, No. 1, pp. 283-286 (2004).
- 8) : “ Newton-Krylov ” , Vol. 9, No. 1, pp. 273-274 (2004).
- 9) : “ GeoFEM HPC-MW ” , (2004).

(2) 著書

- 1) : “ ” , [I] (2004).
- 2) , : “ ” , (2004).
- 3) , : “ ” , (2004).

口頭発表 Oral Presentations

1. 国際会議等（誌上発表のプロシーディングスに掲載されていないもの）

2. 国内会議（誌上発表のプロシーディングスに掲載されていないもの）

その他・関連情報等

欧文

- 1) Hiroshi Okuda, Keiichi Tsujimoto: Touyou Ohashi, Shinzo Ueta and Joonhong: "Large-Scale Simulation of Groundwater Flow and Radioactive Nuclide Transportation", Annual Report of the Earth Simulation Center, April 2003-March 2004, pp.215-217 (2004).
- 2) Hiroshi Okuda and Naoki Inoue: "Large Scale Simulations in the Atomic Energy Research", Annual Report of the Earth Simulation Center, April 2003-March 2004, pp.181-183 (2004).
- 3) Hiroshi Okuda: Kengo Nakajima and Li Chen, "Development of Solid Earth Simulation Platform", Annual Report of the Earth Simulation Center, April 2003-March 2004, pp.97-100 (2004).

和文

- 1) : " HPC , No. 71 (2004).
- 2) : " HPC MW FEMI TBL (2004).
- 3) : " ( 2 ) HPC (B) (2) , 13 15 13480143 (2004).
- 4) " 2 " , (2004).

その他 特記事項 Other Achievements

受賞

1) : , 16 (2004).

メディア報道

1) H16.3.18 , (2004).

プロジェクト

1) IT , 14 16 HPC

2) 16 ,

3) 16 , ApGrid

4) 16 , ITBL

5) 16 HPC , JAERI-HPC MESH

研究助成

1) 30 ,

2) 16 , , HLW

共創工学研究部門  
Co-Creation Engineering Research Division

上田完次, 藤井信忠  
Kanji Ueda, Nobutada Fujii

創的意思決定のシステム理論と実世界ジレンマ (上田)

リサイクルシステムにおける行動主体の意思決定と制度設計 (上田, 西野)

3

限定合理的エージェントによる人工システムの共創的意思決定 (上田, 藤井)

共創的自動作曲システムの構築と心理学的評価 (上田, 竹中)

“ ” “ ”

Ant-System

強化学習エージェントによる作業分担の自己組織的構成 (上田, 藤井)

研究業績 (上田教授)

誌 上 発 表 Publications  
(\*は, 査読制度があるもの)

1. 雑誌

(1) 原著論文

欧文誌

- 1) Kanji Ueda, Attila Lengyel, Itsuo Hatono: “Emergent Synthesis Approches to Control and Planning in Make to Order Manufacturing Environments,” Annals of the CIRP, Vol.53, No. 1, pp. 385-388, (2004)\*
- 2) Zlatan Car, Itsuo Hatono, Kanji Ueda: “Reconfiguration of Manufacturing Systems Based on Vietual BMS,” CIRP Journal of Manufacturing Systems printed & on line, Vol. 33, No. 1, pp. 11-18, (2004)\*
- 3) Attila Lengyel, Itsuo Hatono, Kanji Ueda: “Feasibility Function as a Due Date Bases Scheduling Algorithm for Multi-machine Job Shops,” CIRP Journal of

Manufacturing Systems printed & on line, Vol. 33, No. 2 pp. 173-180, (2004)\*

- 4) Nobutada Fujii, Itsuo Hatono, Kanji Ueda: "Reinforcement learning approach to self-organization in a biological manufacturing system framework," Journal of Engineering Manufacture Part B, 218, pp. 667-673, (2004)\*

#### 和文誌

- 1) , , " Neutral Networks  
" Vol.17  
No.5, pp. 187-195 (2004)\*

#### 2. 単行本・プロシーディングス

##### (1) 原著論文

##### 欧文

- 1) Attila Lengyel, Kanji Ueda, Toshiharu Taura: "Multi-objective optimization in job type manufacturing systems based on emergent synthesis," The Proceedings of the 37th CIRP International Seminar on Manufacturing System, pp.205-212, (2004)\*
- 2) Nobutada Fujii, Masaaki Kobayashi, Toshiyuki Makita, Itsuo Hatono, Kanji Ueda: "Integration of Facility Planning and Layout Planning Using Self-Organization in Semiconductor Manufacturing," The Proceedings of the 37th CIRP International Seminar on Manufacturing System, pp.175-180, (2004)\*
- 3) Takeshi Takenaka, Taiki Ogata, Kanji Ueda: "Temporal Co-creation Between Self and Others with Multi-Sensory Inputs," Proceedings of the 5th International Workshop on Emergent Synthesis (IWES04), pp.51-60, (2004)\*
- 4) Masaaki Kobayashi, Nobutada Fujii, Motohiro Kobayashi, Toshiyuki Makita, Itsuo Hatono, Kanji Ueda, Toshiharu Taura: "Area Assignment Problem of Operators in Self-Organization Based Facility Layout", Proceedings of the 5th International Workshop on Emergent Synthesis (IWES04), pp.67-72, (2004)\*
- 5) Attila Lengyel, K. Kanji Ueda: "Correlations between Emergent Synthesis Classes :Due Date based Control and Planning of Job Shops," Proceedings of the 5th International Workshop on Emergent Synthesis (IWES04), pp.91-98, (2004)\*
- 6) Yoshiaki Katada, Kazuhiro Ohkura, Kanji Ueda: "An Approach to Evolutionary Robotics Problems from the Genetic Algorithm with the Variable Mutation Rate Strategy," Proceedings of the 5th International Workshop on Emergent Synthesis (IWES'04), pp.117-124, (2004)\*
- 7) Kazuhiro Ohkura, Kanji Ueda: "Autonomous Specialization: An Approach to Dynamic Role Allocation for a Multi-Robot System," Proceedings of the 5th International Workshop on Emergent Synthesis (IWES'04), pp.133-138, (2004)\*
- 8) Toshiyuki Yasuda, Kazuhiro Ohkura, Kanji Ueda: "A Homegeneous Mobile Robot Team That is Fault-Tolerant," Proceedings of the 5th International Workshop on Emergent Synthesis (IWES'04), pp.139-146, (2004)\*
- 9) Yoshiaki Katada, Kazuhiro Ohkura, Kanji Ueda: "The Nei's Standard Genetic Distance in Artificial Evolution," Proceedings of the 2004 Congress on Evolutionary Computation (CEC2004), pp.1233--1239, (2004)\*
- 10) Ming Chang, Kazuhiro Ohkura, Kanji Ueda, Masaharu Sugiyama: "Modeling Coevolutionary Genetic Algorithms on Two-Bit Landscapes: Partnering Strategies," Proceedings of the 2004 Congress on Evolutionary, pp.2349-2356, (2004)\*
- 11) Ming Chang, Kazuhiro Ohkura, Kanji Ueda, Masaharu

Sugiyama: "Modeling Coevolutionary Genetic Algorithms on Two-Bit Landscapes: Random Partnering," Proceedings of 2004 Genetic and Evolutionary Computation Conference (GECCO 2004), Lecture Notes in Computer Science, Vol. 3102, pp.513-524, (2004)\*

- 12) Yoshiaki Katada, Kazuhiro Ohkura, Kanji Ueda: "An Approach to Evolutionary Robotics Using a Genetic Algorithm with a Variable Mutation Rate Strategy," Parallel Problem Solving from Nature (PPSN VIII), pp.952-961, (2004)\*
- 13) Kazuaki Yamada, Kumiyo Nakakoji, Kanji Ueda: "A Multi-agent Systems Approach to Analyze Online Community Activities," Proceedings of The Fourth International Conference on the Advanced Mechatronics (ICAM'04), Asahikawa, Hokkaido, Japan, pp.595-600, (2004)\*
- 14) Tomomi Kito, Nobutada Fujii, Kanji Ueda: "Co-Creative Decision Making in Artifactual Systems in Consideration of Bounded Rationality," Proceedings of the International Conference - Experiments in Economic Sciences: New Approaches to Solving Real-world Problems, pp.303-317, (2004)\*
- 15) Nariaki Nishino, Hiroki Nakayama, Sobei. H. Oda, Kanji Ueda: "Recycling of Durable Goods: modeling and Experiments," Proceedings of the International Conference - Experiments in Economic Sciences: New Approaches to Solving Real-world Problems, pp.521-536, (2004)\*
- 16) Takeshi Takenaka, Taiki Ogata, Kanji Ueda: "Observation and Modeling of Human Temporal Cocreation", The proceedings of the 13th IEEE International Workshop on Robot and Human Interactive Communication (RO-MAN2004), CD-ROM, (2004)\*
- 17) Yoshiyuki Matsumura, Xin Yao, Jeremy Wyatt, Kazuhiro Ohkura, Kanji Ueda: "Co-evolutionary Approach to Designing Artificial Neural Networks," Japan-China-Korea Joint Symposium on Textile, JCK-P49, in Tokyo, Japan, (2004)\*

##### (2) 総説

- 1) " " 2004 3  
(2004)

##### (3) 著書

- 1) " " (2004)
- 2) " " pp. 710- 712  
(2004)

#### 口頭発表 Oral Presentations

##### 1. 国際会議等 (誌上発表のプロシーディングスに掲載されていないもの)

##### 2. 国内会議

- 1) " Web  
" , 16  
pp. 297- 300 (2004)
- 2) " -  
- 66

3) , , , “  
 ” 2004  
 3 (2004)

4) “  
 ” 2004  
 2004 3 16-18 pp  
 403-404 (2004)

5) “  
 ” 2004  
 2004 3 16-18 pp. 405-406  
 (2004)

6) “  
 ”  
 2004 16-18 2004 3  
 pp. 329-330 (2004)

7) 7) , GA ,  
 ” 48  
 , pp. 587-588 (2004)

8) , , “  
 ’04 , 2P2-L1-29, Jun. 20,  
 (2004)

9) “  
 ” 2004  
 2004 9  
 15-17 pp. 319-320 (2004)

10) , “  
 ”, 14  
 , pp. 184-187 (2004)

11) , , , “  
 ”, 14  
 , pp. 197-200 (2004)

12) , , , “  
 ”, 14  
 , pp. 201-202 (2004)

13) “  
 ”, 14  
 , pp. 203-204 (2004)

14) , , , “  
 ” 5  
 (SI2004)  
 , pp. 152-153 (2004)

15) , , “  
 ”  
 (JAVS2004), pp.  
 227-234 (2004)

その他特記事項 Other Achievements  
 受賞

1) The 37th CIRP International Seminar on Manufacturing Systems Best Paper Award, A.Lengyel, K. Ueda, T. Taura: “ Multi-objective optimization in job type manufacturing systems based on emergent synthesis,” The Proceedings of the 37th CIRP International Seminar on Manufacturing System, pp.205-212, (2004)

2) 5  
 SI2004  
 ” 2004

メディア報道  
 1) “  
 ” 2004 5 7

プロジェクト  
 1) “  
 ” (B)  
 2) “  
 ”  
 3) “  
 ” (2)

国際会議責任者、等  
 1) The 37th CIRP International Seminar on Manufacturing Systems, General Chair of Steering Committee

研究業績 (藤井助手)

誌上発表 Publications

(\*は、査読制度があるもの)

1. 雑誌  
 (1) 原著論文  
 1) Nobutada Fujii, Itsuo Hatono, Kanji Ueda: “Reinforcement learning approach to self-organization in a biological manufacturing system framework”, Journal of Engineering Manufacture Part B, 218, pp. 667-673, (2004)\*

2. 単行本・プロシーディングス  
 (1) 原著論文  
 欧文  
 1) Nobutada Fujii, Motohiro Kobayashi, Toshiyuki Makita, Itsuo Hatono, Kanji Ueda: “Integration of Facility Planning and Layout Planning Using Self-organization in Semiconductor Manufacturing,” Proc. of 37th CIRP International Seminar on Manufacturing Systems, 19-21 May 2004, Budapest, Hungary, pp. 175-180, (2004)\*  
 2) Masaaki Kobayashi, Nobutada Fujii, Motohiro Kobayashi, Toshiyuki Makita, Itsuo Hatono, Kanji Ueda, Toshiharu Taura: “Area Assignment Problems of Operators in Self-organization Based Facility Layout,” Proc. of the 5th International Workshop on Emergent Synthesis, 25-26 May 2004, Budapest, Hungary, pp. 67-72, (2004)\*  
 3) Nobutada Fujii, Masaaki Kobayashi, Motohiro Kobayashi, Toshiyuki Makita, Itsuo Hatono, Kanji Ueda: “Self-organization Based Planning System in Multi-Product Semiconductor Manufacturing Systems,” Proc. of The 4th CIRP International Seminar on Intelligent Computation in Manufacturing Engineering (ICME2004), 30 June - 2 July 2004, Sorrento, Italy, pp. 9--14, (2004)\*  
 4) Tomomi Kito, Nobutada Fujii, Kanji Ueda: “Co-Creative Decision Making in Artifactual Systems in Consideration

of Bounded Rationality,” International Conference Experiments in Economic Sciences: New Approaches to Solving Real-world Problems (EES2004), 14-17 December 2004, Okayama and Kyoto, Japan, (2004)\*

15-17 pp. 319-320 (2004) 2004 9

口頭発表 Oral Presentations

1. 国際会議等（誌上発表のプロシーディングスに掲載されていないもの）

4) “ ” 2004 2004 3 16-18 pp 403-404 (2004)

2. 国内会議

1) “ ” 14 2004 11 29 -12 pp 203-204 (2004)

2) 1 “ ” 14 2004 11 29 -12 1 pp 201-202 (2004)

5) “ ” 2004 2004 3 16-18 pp. 405-406 (2004)

3) “ ” 2004 11 29 -12 1 pp 201-202 (2004)

“ ” 2004

6) “ ” 2004 2004 3 16-18 pp. 329-330 (2004)

その他特記事項 Other Achievements

メディア報道 “ ” 2004 5 7

客員人工物工学研究部門  
Visiting Professor's Research Division

黒田 あゆみ  
Ayumi Kuroda

広報活動（黒田）

2004 8 17

研究活動（黒田，浅間，上田）

PR

研究業績（黒田客員助教授）

誌 上 発 表 Publications  
（\*は，査読制度があるもの）

出版活動（黒田）

1. 雑誌  
(1) 著書  
1)

TAC

“ ” (2004)





### 3. 講演会等の開催



### 3.1 第8回人工物工学コロキウム

2004 4 26 ( ) 13:00 18:15

2

#### 内容紹介, プログラム

2004 4 26

2002

— —  
12:30  
13:00-13:10 RACE

13:10-13:40

13:40-14:10

14:10-14:40

14:50-15:20 ( )

15:20-15:50

15:50-16:20

16:20-16:50

17:00-17:30

17:30-18:00

18:00

### 3.2 第9回人工物工学コロキウム

2004 7 23 ( ) 13:00 17:40

5

内容紹介, プログラム

— —  
12:00  
13:00-13:15

13:15-13:55 RT(Robot Technology)

13:55-14:35

14:45-15:25

15:25-16:05 - 2.5 -

16:15-16:55

16:55-17:35

17:45

### 3.3 第10回人工物工学コロキウム

2004 12 10 ( ) 13:00 18:00  
13 3

#### 内容紹介, プログラム

2004 12 10 13 10

13

6

— —  
12:30

13:00-13:10

13:10-13:35

13:35-14:20

14:20-14:30

14:30-15:15 :

15:15-16:00 2

( )

16:00-16:10

16:10-16:55

16:55-17:40

17:40-17:55

17:55-18:00

### 3.4 人工物工学研究センター共催の講演会

#### 3.4.1 製錬及び金属加工等技術開発研修会事業講演会

15

2004/2/20

60

#### 3.4.2 第5回創発的シンセシスに関する国際ワークショップ

The 5th International Workshop on Emergent Synthesis (IWES'04)

Hungarian Academy of Science, Budapest, Hungary

2004/5/24, 25

40

20

#### 3.4.3 環境資源工学会第113回例会

2004/11/11

150

## 4. 研究会およびフォーラム





4.1 サービス工学研究会(担当:新井, 下村)

2002 2 3  
2005 3

3

2005 3

2 2 2

2001 2004 1 1

18 2

	2001	12/5		
	2002	2/22	1	
	2003	5/10	2	
		7/16	3	
		9/13	4	
		11/15-16	5	1
		2/11	6	
	2003	4/21	7	
	2004	6/26	8	
		9/12	9	
		12/5	10	
		1/23	11	
		3/23	12	
	2004	5/28	13	
	2005	7/22	14	
		10/12	15	
		12/22	16	
		1/8-9	17	2
		3/3	18	

## 4.2 共創プラットフォーム(担当:上田)

	2003	5			
2	2004		24	7	5

### 設立の背景

### 目的

### 設置期間

2003 5 3 3

### 研究実施期間

### 参加資格

2004 年度活動実績

定例会	レクチャー	チュートリアル	コラボレーション
1 2004 4 16		PD	NHK
2 2004 6 25			
3 2004 8 4			
4 2004 11 12	CG		
5 2005 2 18		PD	2004 10



## 5. 付録



## 5.1 組織

### 5.1.1 スタッフ

### 5.1.2 研究員

### 5.1.3 客員研究員

5.1.4 協力研究員

5.1.5 外国人研究員  
3

5.1.6 研究室メンバー

		1
JSPS	:	1
CCE	:	1

1  
1

1  
2  
3

4  
3

3  
1

5  
5  
2

1  
3  
3

1

5.1.7 事務  
3