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Foreword

The Faculty of Computer and Information Sciences, Hosei University is a very new school, established last year with 22 academic staff, 5 administrative staff and 155 freshmen at Koganei, Tokyo. Hosei University, one of the old private universities in Japan and celebrating the 120th anniversary last year, is innovatively reforming itself and establishes new faculties recently to pursue the studies of globalization, environment, welfare and information, which are the most crucial issues of the coming age.

The Faculty of Computer and Information Sciences studies wide ranges of computer science and information technologies, including computer architecture, parallel processing, programming languages, operating systems, compiler, databases, artificial intelligence, genetic programming, neural networks, pattern recognition, image processing, computer graphics, digital animation, Internet applications, LAN, coding and the cyber world.

This annals is the first report of the Faculty of Computer and Information Sciences. The activities of the first year are remarkable. Our members held the Sixth IEEE International Conference of Engineering of Complex Computer System in September. The faculty held the Inauguration Symposium in January. A lot of papers have been published at outstanding international conferences. In education, many innovative methods have been introduced, including seminars of the first year students, courses taught in English, Java as the first programming language and exchange programs with Griffith University and the University of Adelaide.

There are no doubts that our activities are stronger and stronger year by year with your cooperation, which is very important. Advance computer science and information technologies with us.

Dean, Professor
Kenji Ohmori



Associate Professor
Runhe HUANG

Runhe HUANG was born in Fujian, China on December 4, 1962. She received her B.Sc. in Electronics Technology from National Defense University of Technology, China, in 1982, and her Ph.D. in Computer Science and Mathematics from the University of the West of England, UK, in 1993. She worked at National Defense University of Technology as a Lecturer during the period 1982-1988. In 1988, she received a Sino-Britain Friendship Scholarship for her Ph.D. study in U.K. She was an assistant professor in the Computer Science and Engineering Lab. of University of Aizu for 7 years. She becomes an associate professor in Hosei University since April 2000.

Her research fields include Computer Supported Collaboration Working (CSCW), Artificial Intelligence and its Applications, Multimedia and Distributed Processing, Genetic Algorithms. She has been involving or leading the following main research projects:

- Multimedia Modeling Framework (1995-1996)
- Genetic Algorithms for Survival Network Designs (1996-1997)
- Cheer: A Computer based Hyper Educational Environments (1997-1998)
- Multimedia Collaborative Working/Learning Environments (1998-1999)
- University21: 21st Century Virtual Education Community (1998-)
- Open Agent Architecture for Integrating Developed Intelligent Agents (1999-)

Her current research interests are mainly focused on Distributed Intelligent and Collaborative Computing including Multimedia Collaborative Systems over the Internet; Distributed Processing and Resource Management; Intelligent Agents for a Virtual University and Cyber-world; Intelligent Processing in E-business and E-commerce. Wireless Internet Computing in a Lifelong Learning Community.

Dr. Huang is a member of IEEE, ACM and IPSJ. She has been active in various academic societies. She has published more than 50 academic refereed papers in various international conferences and journals. She received the Best Paper Award from the 2000 International Conference on Information Society in the 21st Century: Emerging

Message

With rapid developments of the Internet and Web technologies, the 21st century is a networked digital information era. Accompanying this era, a new world (*Cyberworld*) is on the way to be brought out. It is an interesting and a full of mystery world. It is the time for us to discover mysteries and make inventions, in particularly, in the fields of world modeling and finding scientific and social laws for guiding people's communications, collaborations and educations in this exciting world. Let us face the challenges and enjoy inventions in the 21st century!

My hobby is reading, traveling, cooking, gardening, programming and badminton.

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Professor

Satoru S. KANO

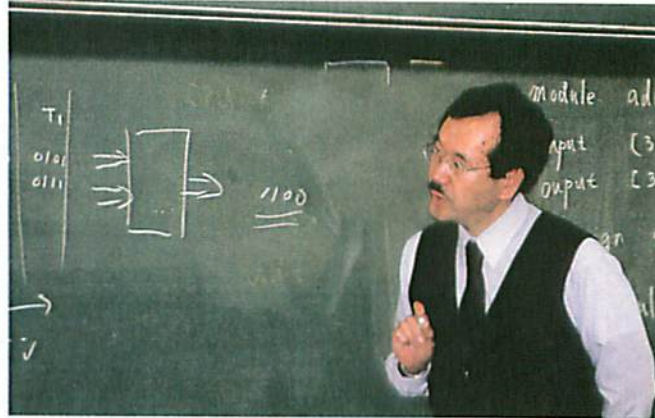
Satoru S. Kano received a BS in Physics from the University of Tokyo in 1972. He received an MS in physics in 1974 and a PhD in physics (quantum electronics and molecular physics) in 1977, both from the University of Tokyo, Japan. Before graduating from the University of Tokyo, he worked as a research associate at the Department of Physics at the University of Tokyo until 1979. He worked as a visiting scientist at IBM San Jose Research Laboratory from 1977 to 1978 on partial leave from the University of Tokyo. He worked at Central Research Laboratory of Komatsu Ltd. from 1979 to 1980 as a research staff member. From 1980 until 1987, Dr. Kano was an associate professor at Institute for Laser Science at University of Electro-communications in Chofu, Tokyo. He also worked at Institute of Plasma Physics at Nagoya University from 1985 until 1987 as an associate professor (visiting). He worked for IBM Tokyo Research Laboratory from 1987 until 1996 as the Manager of Advanced Optics, Advanced Technology Institute. During his service at IBM, he was a professor (visiting), New Laser Device, RCAST (Research Center for Advanced Science and Technology), the University of Tokyo from 1991 to 1993. From 1996 until 2000, Dr. Kano was for the School of Engineering, Hosei University as a full professor, and he is at the Faculty of Computer and Information Sciences from 2000. From 1999, he is also a professor (visiting) at Department of Photoscience, School of Advanced Science at the Graduate University for Advanced Studies, Hayama, Kanagawa, Japan.

His current research is on nonlinear laser spectroscopy and its application to surface science, especially energy transfer processes of adsorbed molecules on metal surfaces. He is also interested in coherent manipulation of molecules and runs the experiments jointly with the chemists at Tokyo Institute of Technology.

He is a member of American Institute of Physics, Japan Society of Applied Physics, The Physical Society of Japan, and The Chemical Society of Japan.

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Professor

Nobuhiko KOIKE

Nobuhiko KOIKE was born in Tokyo, Japan on October 14, 1947. He received the B.E. and M.E. degrees in Electrical engineering from the University of Tokyo, Tokyo, Japan in 1970, 1972 respectively. He received the Phd. from the University of Tokyo in 1991.

He was formerly with C&C Research Laboratories of NEC Corporation, where he was engaged in design and development of parallel machines including: parallel logic simulation machine HAL, parallel circuit simulation machine Cenju, and massively parallel machine Cenju-3 and Cenju-4. From 1996 to 1999, he served as the general manager of newly found C&C Research Laboratories NEC Europe, located in Germany.

Since 2000, he has been a Professor at the Faculty of Computer and Information Sciences, Hosei University.

His current research areas include: parallel computer architecture and its applications in scientific and intelligent computing.

He is a member of the IEICE of Japan and Information Processing Society of Japan.

He received the best paper award in 1985, the 25 year's anniversary best paper award in 1985, and the 30 year's anniversary best paper award in 1990, from the Information Processing Society of Japan.

Message

My research area focuses on achieving high-performance applying parallel and distributed processing technologies in both scientific and intelligent computing areas.

With the advancement of microprocessor, parallel processing is becoming important technology. However, exploiting parallelisms in applications and mapping them onto actual parallel machines become difficult if the number of processors is increased. Current research interest is to apply PC cluster system to important applications, such as DNA information processing.

My hobbies are Sailing-ship model building, Classical music listening and Skiing.

Publications (January 1996 ~ December 2000)

1. R. Hempel, R. Calkin, WR. Hess, W. Joppich, C.W. Oosterlee, H. Ritzdorf, P. Wypior, W. Ziegler, N. Koike, T. Washio, U. Keller: "Real applications on the new parallel system NEC Cenju-3", *Parallel Computing* 22, 1996
2. N. Koike: "The Earth Simulator Project: HPC Activities in Japan, Past and Present", *Supercomputer 1998*, Mannheim, Germany
3. N. Koike: Edited, "Heterogeneous Computing and Multidisciplinary Applications", *Proceedings of the Eighth NEC Research Symposium*. 1997



Professor

Yamin LI

Yamin LI received his BS, MS, and Ph.D degrees in computer science and engineering from Tsinghua University, Beijing, China in 1982, 1984, 1989, respectively. From 1984 to 1993, he was a faculty member of Tsinghua University. From 1993 to 2000, he was an associate professor of University of Aizu. Since 2000, he has been a professor at the Faculty of Computer and Information Sciences, Hosei University.

His current research interests include: advanced computer organization and architecture, distributed and parallel computer architecture, parallel multithreaded architecture, and computer arithmetic algorithm and hardware implementation.

He is a senior member of the IEEE and a member of the IEEE Computer Society.

Publications (January 1996 ~ December 2000)

1. Y. Li and W. Chu, "Using FPGA for Computer Architecture/Organization Education", *IEEE Computer Society Technical Committee on Computer Architecture Newsletter*, June 1996, IEEE Computer Society Press. pp.31-35
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Professor

Shaoying LIU

Shaoying LIU was born in Shannxi Province, China on April 25, 1960. He received a B.Sc and an M.Sc. degrees in Computer Science both from Xi'an Jiaotong University, Xi'an, China in 1982 and 1987, respectively, and a Ph.D in Computer Science from the University of Manchester, U.K. in 1992. From 1982 to 1988, he worked as an Assistant Lecturer and Lecturer, respectively, in the Department of Computer Science at Xi'an Jiaotong University. From 1991 to 1994, he worked as a Research Associate in the Department of Computer Science at the University of York, and as a Research Assistant in the Department of Computer Science at the Royal Holloway and Bedford New College of London University, respectively. In 1994 he joined Hiroshima City University, Japan, as an Associate Professor in the Department of Computer Science, and he worked there until March 2000. He was invited as a Visiting Research Fellow by The Queen's University of Belfast, Northern Ireland, U.K., in 1994, and an Academic Visitor by the Computing Laboratory at Oxford University, U.K., in 1998. In April 2000, he joined the Faculty of Computer and Information Sciences at Hosei University, Japan, as an Associate Professor, and then a Professor since April 2001.

His current research areas include: formal engineering methods, internet-based intelligent software engineering supporting environments, and safety-critical and complex computer systems. In particular, he has been concentrating on the research of developing a formal engineering method called SOFL and related software verification techniques, such as fault tree analysis, specification testing, and specification-based program testing.

He is a member of the IEEE Computer Science Society. He received an "Outstanding Paper Award" at 1996 IEEE International Conference on Engineering of Complex Computer Systems (ICECCS'96) and a "Certificate of Appreciation for Outstanding Service as ICFEM'97 General Chair and Founder" at 1997 IEEE International Conference on Formal Engineering Methods (ICFEM'97) from IEEE Computer Society Technical Committee on Complexity in Computing.

Message

The goal of my research is to provide effective languages, methods, and supporting environments for developing reliable and robust complex software systems. To reach this goal, my own and my group's research has been centered on the development of a formal engineering method called SOFL, standing for Structured Object-Oriented Formal Language, and the rigorous software verification techniques, such as fault tree analysis and testing. Recently, I am more interested in research on internet-based intelligent software engineering supporting environments, and application of formal engineering methods to safety-critical and complex computer systems.

My hobby includes table tennis, soccer, and Karaoke.

Publications (January 1996 ~ December 2000)

1. Shaoying Liu, "Verifying Formal Specifications Using Fault Tree Analysis", Proceedings of International Symposium on Principle of Software Evolution, IEEE Computer Society Press, Kanazawa, Japan, November 1-2, 2000, pp. 271-280.
2. Shaoying Liu, Tetsuo Fukuzaki, Toji Miyamoto, "A GUI and Testing Tool for SOFL", Proceedings of Asia-Pacific Software Engineering Conference, IEEE Computer Society Press, Singapore, December 5-8, 2000, pp. 421-425.
3. Shaoying Liu, Jim Woodcock, "Supporting Rigorous Reviews of Formal Specifications Using Fault trees", Proceedings of Conference on Software Theory and Practice, IFIP 16th World Computer Congress 2000, Publishing House of Electronics Industry, Beijing, China, August 21-25, 2000, pp. 459-470.
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5. Shaoying Liu, Masaomi Shibata, Ryuichi Sato, "Applying SOFL to Develop a University Information System", Proceedings of 1999 Asia-Pacific Software Engineering Conference, IEEE Computer Society Press, Takamatsu, Japan, December 6-10, 1999, pp. 404-411.
6. A Jeff. Offutt and Shaoying Liu, "Generating Test Data from SOFL Specifications", The Journal of Systems and Software, Elsevier Science Inc., Vol. 49, No. 1, December 1999, pp. 49-62.
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9. Shaoying Liu, "Software Development by Evolution", Proceedings of Second International Workshop on Principles of Software Evolution (IWPSE99), Fukuoka City, Japan, July 16-17, 1999, pp. 12-16.
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11. Shaoying Liu, Masashi Asuka, Kiyotoshi Komaya, Yasuaki Nakamura, "An Approach to Specifying and Verifying Safety-Critical Systems with Practical Formal Method SOFL", Proceedings of Fourth IEEE International Conference on Engineering of

- Complex Computer Systems, IEEE Computer Society Press, Monterey, California, USA, August 10-14, 1998, pp. 100-114.
12. Shaoying Liu, Masashi Asuka, Kiyotoshi Komaya, Yasuaki Nakamura, "Applying SOFL to Specify A Railway Crossing Controller for Industry", Proceedings of 1998 IEEE Workshop on Industrial-strength Formal specification Techniques, IEEE Computer Society Press, Boca Raton, Florida, USA, October 20-23, 1998.
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 14. Shaoying Liu, "Evolution: A More Practical Approach than Refinement for Software Development", Proceedings of Third IEEE International Conference on Engineering of Complex Computer Systems, IEEE Computer Society Press, Villa Olmo, Como, Italy, September 8-12 1997, pp. 142-151.
 15. Shaoying Liu, "A Formal Definition of FRSM and Applications", International Journal of Software Engineering and Knowledge Engineering, World Scientific Publishing Company, Vol. 8, No. 3, September 1998, pp. 253-281.
 16. Shaoying Liu and John A. McDermid, "A Formal Specification of Fault Trees for SAM", Transactions of Information Processing Society of Japan, Vol. 38, No. 10, October 1997, pp. 2014-2030.
 17. Keijiro Araki, "The SOFL Approach: An Improved Principle for Requirements Analysis", Transactions of Information Processing Society of Japan, 1998, pp. 1973-1989.
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Books (Edited)

1. Shaoying Liu, John A. McDermid, Michael Hinchey, "Formal Engineering Methods", Proceedings of Third IEEE International Conference on Formal Engineering Methods (ICFEM 2000), IEEE Computer Society Press, York, UK, September 4-6, 2000.
2. John Staples, Michael Hinchey, Shaoying Liu, "Formal Engineering Methods", Proceedings of Second IEEE International Conference on Formal Engineering Methods (ICFEM'98), IEEE Computer Society Press, Brisbane, Australia, December 9-11, 1998.
3. Michael Hinchey and Shaoying Liu, "Formal Engineering Methods", Proceedings of First IEEE International Conference on Formal Engineering Methods (ICFEM'97), IEEE Computer Society Press, Hiroshima, Japan, November 12-14, 1997.



Associate Professor

Michael McDONALD

Michael McDONALD was born in Manchester, England, on August 21, 1959. He received the B.A. and M.A. degrees in music from Cambridge University, England, in 1975 and 1979, respectively. After obtaining certification as an English teacher (Royal Society of Arts Cert. TEFL), he taught English at Academy International, London, from 1979 to 1981. He then moved to Tokyo, first as an English teacher at Business English Center, from 1981 to 1987, and next as a technical editor at IBM Japan, from 1987 to 2000.

Since April 2000, he has been an Associate Professor of English at the Faculty of Computer and Information Sciences, Hosei University.

His current research interests include the structure of research papers, error analysis, and functional grammar.

He is a committee member of the Society of Writers, Editors, and Translators (SWET), and a member of the Japan Association of Language Teachers (JALT) and Teachers of English to Speakers of Other Languages (TESOL).

He received an Administrative Excellence award from IBM in 1990

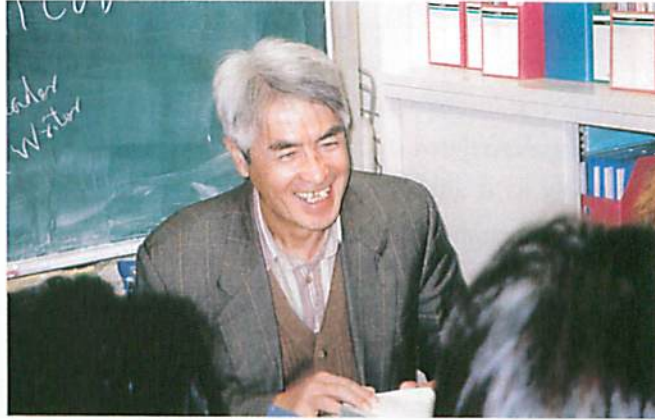
Message

English is the *de facto* international medium of communication in the world of computers, and especially of the Internet. Hosei's Faculty of Computer and Information Science provides a unique opportunity for Japanese students to obtain a bilingual education in computer-related studies, and it is a pleasure and a privilege for me to be a part of this pioneering enterprise, particularly as it allows me to make use of the experience I have gained in my two previous lines of work, as an English teacher and as a technical editor.

I also retain a strong interest in my original field of study, classical music, and I enjoy playing the piano and listening to music in my spare time.

Publications (January 1996 ~ December 2000)

1. M. McDonald, "Writing Technical Papers in English," University of Tokyo (internal), October 1996 (updated yearly).



Professor

Ikuo NAKATA

Ikuo NAKATA received the B. S. and M. S. degrees in mathematics and the D. Sc. degree in information science from the University of Tokyo, in 1958, 1960, and 1977, respectively.

He joined the Central Research Laboratory, Hitachi, Ltd. in 1960 and the Systems Development Laboratory, Hitachi, Ltd. in 1974. From 1979 to 1997 he had been a Professor of the Institute of Information Sciences and Electronics, University of Tsukuba. From 1997 to 2000 he had been a Professor of the University of Library and Information Science. Since 2000, he has been a Professor at the Faculty of Computer and Information Sciences, Hosei University.

His current research interests include programming languages, language processors, software engineering, and parallel processing.

He is a member of the Information Processing Society of Japan, the Institute of Electronics and Communication Engineers of Japan, the Japan Society for Software Science and Technology, the IEEE Computer Society, and the Association for Computing Machinery.

Publications (January 1996 ~ December 2000)

1. M. Guo, I. Nakata and Y. Yamashita, "Contention-Free Communication Scheduling for Array Redistribution," *Parallel Computing*, Vol. 26, pp.1325-1343, 2000.
2. H. Nakai, M. Sassa, H. Kameyama, and I. Nakata, "Incremental Attribute Evaluation of LR-attributed Grammars Using Space-Efficient Data Structure," *Proc. International Workshop on Attribute Grammars and Applications*, WAGA'00, pp.99-116, 2000.
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8. M. Guo, Y. Yamashita, and I. Nakata, "Efficient Implementation of Multi-Dimensional Array Redistribution," *IEICE Transactions on Information and Systems*, Vol.E81-D, No. 11, pp.1195-1204, 1998.
9. T. Haraikawa, M. Soeno, Y. Yamashita, and I. Nakata, "Register Allocation Frameworks for Slide-Window Architecture," *Transactions of IPSJ*, Vol. 39, No. 9, pp.2684-2694, 1998.
10. M. Guo, Y. Yamashita, and I. Nakata, "An Efficient Data Distribution Technique for Distributed Memory Parallel Computers," *Transactions of IPSJ*, Vol. 39, No. 6, pp.1718-1728, 1998.
11. M. Guo, Y. Yamashita, and I. Nakata, "Improving Performance of Multi-dimensional Array Redistribution on Distributed Memory Machines," *Proc. Third International Workshop on High-Level Parallel Programming Models and Supportive Environments*, pp.82-91, 1998.
12. M. Guo, Y. Yamashita, and I. Nakata, "An Efficient Data Distribution Technique for Distributed Memory Parallel Computers," *JSP'97*, pp.189-196, 1997.
13. H. Nakai, M. Sassa, Y. Yamashita, and I. Nakata, "An Incremental LR Parsing Method and its Evaluation," *Transactions of IPSJ*, Vol. 37, No. 3, pp.371-383, 1996.
14. H. Nakai, M. Sassa, Y. Yamashita, and I. Nakata, "Incremental Attribute Evaluation Based on LR-attributed Grammar," *Transactions of IPSJ*, Vol. 37, No. 12, pp.2254-2265, 1996.
15. I. Nakata, Y. Yamashita, and Y. Oyanagi, "Software of the Massively Parallel Computer System CP-PACS," *Johoshori*, Vol. 37, No. 1, pp.29-37, 1996.



Professor

Kenji OHMORI

Kenji OHMORI was born in Aichi, Japan on April 12, 1945. He received a BE in mathematical engineering from the University of Tokyo, Japan in 1969, an MS in electrical engineering and computer science from the University of California, Berkeley in 1972 and a Dr.Eng in Information Technology from the University of Tokyo 1983. From 1969 to 1985, he was with the Central Research Laboratory, NEC, Kanagawa, Japan, where he was engaged in research of multi-processor computer architecture, computer-aided design machines and an object-oriented language. From 1985 to 2000, he was a professor of the Department of Industrial and System Engineering, Hosei University. Since 2000, he has been the founding dean and professor of the Faculty of Computer and Information Sciences, Hosei University.

His current research areas include computer architecture, computer-aided design, intelligent computing, genetic algorithm, image processing, pattern recognition and homotopy.

He is a member of the IEEE computer Society, the ACM, the Institute of Electronics, Information and Communication Engineers, and the Information Processing Society of Japan.

He received a Best Paper Award in 1985 from the Information Processing Society of Japan.

Message

Having a big dream and realizing it step by step are crucial in the information age, which is characterized by “change” and brings you a lot of chances such as achieving innovative technologies, establishing a breakthrough science, innovating profitable e-business and implementing sustainable social infrastructure.

Publications (January 1996 ~ December 2000)

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8. H. Cho and K. Ohmori. On-line Cursive Style Hangul Character Recognition Using Multiple Neural Networks and a State Transition Graph. International Conference on Computational Intelligence and Multimedia Applications (ICCIMA'98), Churchill, Australia, (1998) 270-275
9. K. Ohmori and T. Kasai. Logic Synthesis Using Genetic Algorithms. IEEE International Conference on Intelligent Processing System (ICIPS'97), Beijing, China, (1997) 137-142
10. K. Ohmori and T. Kasai. Logic Synthesis Using Genetic Algorithms. 7th International Symposium on IC Technology, Systems and Application (ISIC'97), Singapore, (1997) 200-203.
11. T. Kasai, K. Ohmori and Y. Ohtsuka. Logic Synthesis Using A Genetic Algorithm. Design Automation Symposium '97. (July 1997) (in Japanese) 273-278.
12. K. Ohmori. VLSI Design Using Genetic Algorithms. Australasia Pacific Forum on Intelligent Processing and Manufacturing of Materials (IPMM'97), Gold Coast, Australia,
13. K. Ohmori, P. Eklund and J. Daalder. Simultaneous Scheduling and Allocation in High-Level Synthesis Using A Genetic Algorithm. International Conference on Computer Aided Design (CADEX'96), Hagenberg, Austria, (Sep 1996) 118-127.
14. S. Kouzai, K. Ohmori and T. Kasai. Simultaneous Scheduling and Allocation in High-Level Synthesis Using A Genetic Algorithm. Design Automation Symposium '96. (Aug 1996) (in Japanese)
15. J.Daalder, P. Eklund and K. Ohmori. High-Level Synthesis Optimisation using Genetic Algorithms. 4th Pacific Rim International Conference on Artificial Intelligence (PRICAI'96), Cairns, Australia, 1996. (Lecture Notes in Artificial Intelligence 1114, Springer, (1996)276-287.)



Professor

Akira K. ONOMA

Akira K. ONOMA He received BS Degree in Physics from Tokyo University of Sciences at 1963. From 1963 to 1970, he worked for Hitachi, Tokyo Japan and from 1970 to 1999 he worked for Hitachi Software Engineering, Yokohama Japan. At 1990, he moved to Hitachi America, Tarrytown NY and founded Hitachi Software Engineering America, Brisbane CA and he managed it as a President. He also managed Information and Graphics Systems, Boulder CO as a Board Director from 1990 to 1991.

He received doctoral degree in Software Engineering from Hiroshima University, Hiroshima Japan at 1998. He was a visiting professor, Computer Science and Engineering, University of Minnesota, Minneapolis MN from August 1999 to February 2000. Since April 2000, he has been a Professor of Computer and Information Sciences, Hosei University.

His research interest is in Software Engineering and Software Life Cycle including software design and software quality assurance.

His main academic service has been for IEEE and ACM. He was a Program Chair of IEEE HASE'96 (High Assurance Systems Engineering Workshop, Niagara-on-the-Lake Canada) and IEEE COMPSAC'98 (International Computer and Software Applications Conference, Vienna Austria) and ACM SSR'99 (ACM Symposium on Software Reusability, Los Angeles CA) and one of program committee members of COMPSAC'99 (Phoenix AZ), COMPSAC'00 (Taipei Taiwan) and COMPSAC'01 (Chicago Ill). He is now an editing committee member of Journal of the Society of Project Management from May 1999. He is a Steering Committee member of HASE.

He is a member of Computer Society of IEEE, ACM, JIPS and PM.

Publications (January 1996 ~ December 2000)

1. A. K. Onoma, H. Suganuma, M. Poonawala, S. Subramanian, W. T. Tsai and T. Syomura, "Opusdei --- Integrated environment for Software Development and Maintenance", Proc. of *COMPSAC '96*, Seoul Korea, pp.516-521, 1996
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7. A. K. Onoma, **A Study on High Quality Software Engineering in an Industrial Environment**, *University of Hiroshima*, Hiroshima Japan (February 1998, Dissertation)
8. A. K. Onoma, W. T. Tsai, M. Poonawala and H. Suganuma, "Regression Testing in an Industrial Environment", *Communications of the ACM*, Vol.41, No.5, pp.81-86, 1998
9. A. K. Onoma, "Industrial Issues in OO", Proc. of *COMPSAC '98*, Vienna Austria, pp.647-648, 1998
10. M. Xu, T. Wang, P. C-Y Shew, C. V. Ramamoorthy, S. Ohara, F. Tsunoda, H. Suganuma and A. K. Onoma, "Using an object-relation knowledge base for software testing", Proc. of *ASSET '99*, Washington DC, USA, pp.246-251, 1999
11. Tomoharu Sawahata, Wei-Tek Tsai, Akira K. Onoma and Tao Jiang, **Apparatus for Visual Programming with Screen Flow**, USA Patent, Patent number 6,055,369, April, 2000



Professor

Shietung PENG

Shietung PENG was born in Shinchu, Taiwan on January 25, 1947. He received the B.S., and M.S. degrees in mathematics from National Taiwan University and Chin-Hua University in 1975 and 1977, respectively; and then, received M.S. and Ph.D. degrees in computer science from University of Texas at Dallas in 1984 and 1986, respectively. From 1986 to 1993, he was with the University of Maryland, Baltimore County, USA. From 1993 to 2000, he was with the University of Aizu, Aizu-wakamaysu, Japan. Since 2000, he has been a Full Professor at the Faculty of Computer and Information Sciences, Hosei University.

His current research areas include: parallel algorithms/architectures, interconnection networks, routing algorithms, cluster computing, and design of array processors.

He is a senior member of the IEEE Computer Society and ACM.

He received awards and grants from AFOSR and DOE, USA, and Grant-in-Aid for Scientific Research, Japan.

Message

My research and that of my graduate students focus on (1) design and analysis of parallel algorithms; (2) interconnection networks, (3) design of array processors; (4) design of efficient routing and communication algorithms for parallel computers and computer clusters. The motivation for the work is to find ideas that give the new knowledge about the efficient and effective use of the parallel/distributed computer systems. My hobbies are igo-playing, mountain-climbing, and swimming.

Publications (January 1996 ~ December 2000)

1. Q.P. Gu and S. Peng, "An efficient algorithm for the k-pairwise disjoint paths problem in hypercubes", *Journal of Parallel and Distributed Computing*, Vol. 60, No. 6, pp. 764--774, 2000.
2. Q.P. Gu and S. Peng, "Cluster fault-tolerant routing in star graphs", *Networks*, Vol. 35, No. 1, pp. 83--90, 2000.
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6. Q.P. Gu and S. Peng, "Node-to-set and set-to-set cluster fault tolerant routing in hypercubes", *Parallel Computing*, Vol.24(8),pp.1245--1261,1998.
7. Q.P.Gu,S.Peng andH.Sudborough,"A2-approximation algorithms for genome rearrangements by reversals and transpositions", *Theoretical Computer Science*, Vol. 210(2) pp. 327--339, 1998.
8. Q.P. Gu and S. Peng, "Pairwise cluster fault tolerant routing in hypercubes", *IEEE Trans. on Computers*, Vol. 46, No. 9, pp. 1042--1049, 1997
9. Q.P. Gu and S. Peng, "Node-to-set disjoint paths problem in star graphs", *Information Processing Letters*, Vol. 62, pp. 201--207, 1997
10. Q.P. Gu and S. Peng, "Node-to-set disjoint paths with optimal length in star graphs", *IEICE Trans. on Information and Systems*, Vol. E-80D, No. 4, pp. 425--433, 1997
11. S. Peng and S. Sedukhin, "Designs of optimal systolic arrays for 2D discrete Fourier transform", *IEICE Trans. on Information and Systems*, Vol. E80-D, No. 4, pp. 425--433, 1997.
12. S. Peng and S. Sedukhin, "Design of array processors for division-free linear systems solvers", *The Computer Journal*, Vol.39, No.8, pp.713--722, 1996.
13. Q.P. Gu and S. Peng,"Optimal algorithms for node-to-node fault tolerant routing in hypercubes", *The Computer Journal*, Vol. 39, No. 7, pp. 626-629, 1996.
14. Q.P. Gu and S. Peng, "Fault tolerant routing in toroidal networks", *IEICE Trans. on Information and Systems*, Vol.E-79D, No.8, pp.1153-1159, 1996.
15. S. Peng and W. Lo, "Efficient algorithms for finding a core of a tree with a specified length", *Journal of Algorithms*, Vol. 20, pp. 445--458, 1996.
16. Q.P. Gu and S. Peng, "Set-to-set fault tolerant routing in star graphs", *IEICE Trans. on Information and Systems*, Vol. E-79D, No. 4, pp. 282--289, 1996.
17. Q.P. Gu, S. Okawa and S. Peng, "Set-to-set fault tolerant routing in hypercubes", *IEICE Trans. on Fundamentals*, Vol. E-79A, No. 4, pp. 483-488, 1996.

International Conference papers

More than 50 papers were presented at the major international conferences on parallel and distributed processing (1996 - 2000).



Professor

Yuji SATO

Yuji SATO was born in Tokyo, Japan on July 3, 1957. He received the B.E and Ph.D. degrees in engineering from the University of Tokyo, Tokyo, Japan in 1981, 1997, respectively. From 1981 to 2000, he was with the Hitachi Ltd., Tokyo, Japan. From 1992 to 1995, he was also temporarily transferred to Real World Computing Partnership, Tsukuba, Japan. In April 2000, he joined the Faculty of Computer and Information Sciences at Hosei University, Japan, as an Associate Professor, and then a Professor since April 2001. His current research areas include: evolutionary computation for neural networks, and evolution of machine learning techniques in design.

He is a member of the IEEE Computer Society, International Society for Genetic and Evolutionary Computation, and Information Processing Society of Japan.

Message

My research and that of my graduate students focus on evolutionary computation, artificial life, and complex adaptive systems. I want to bring up talented people with the creatively. My hobby is to play tennis, traveling, and gardening.

Publications (January 1996 ~ December 2000)

1. Y. Sato, "Interactive Evolution of Adaptive Parameter for Speaker Verification Systems," *Proc. of the 2000 Genetic and Evolutionary Computation Conference*, pp. 742-749, Morgan Kaufmann Publishers, July 2000.
2. Y. Sato, K. Iwasaki, N. Yamaguchi, and T. Sawase, "Parallel Processor," *Japanese Patent*: 3005248, Issued November 1999.
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Professor

Hiroshi HANAIZUMI

Hiroshi HANAIZUMI was born in Fukushima, Japan on February 16, 1956. He received the B.Sc. degree in communication engineering from the University of Electro-Communications, Tokyo, Japan, in 1978, and the M.Sc. and Dr. Eng. Degrees in instrumentation physics from The University of Tokyo, Japan, in 1980 and 1987, respectively. From 1981 to 1987 he was a research assistant at the Department of Mathematical Engineering and Information Physics, The University of Tokyo. He joined Hosei University in 1987 as a Lecturer in the Department of Industrial and Systems Engineering, and was an Associate Professor from 1989 to 1995, and has been a Professor since 1996. Since 2000, he has been a Professor at the Faculty of Computer and Information Sciences, Hosei University. His current research areas include remote sensing, face recognition and 3D medical image processing.

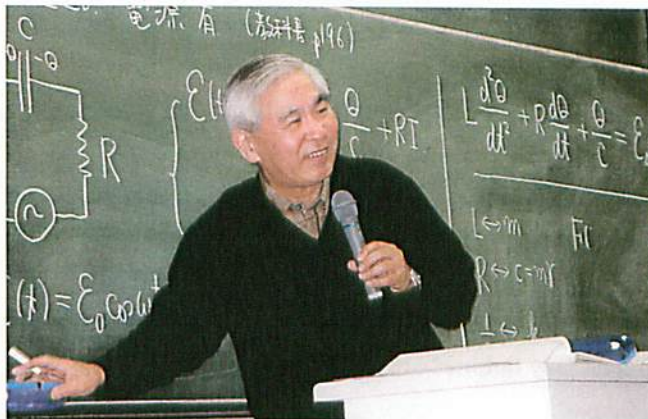
He is a member of the IEEE Computer Society, Geoscience and Remote Sensing Society, Institute of Electronics, Information and Communication engineers, and Society of Instrument and Control Engineers.

Message

My research focuses on image processing and recognition. Images have much information on the objects, for example, remotely sensed images include spectral, spatial and temporal information about terrain objects, and face images personal information. The main purpose of the image processing is to extract the information by using various techniques. Noise reduction is one of very important processing in these techniques. The information extracted is then generalized with the physical properties (p priori information) and is used for recognizing "what or how is the object". The recognized results are used as sources of digital media. I want to realize smart recognition like human. My current research interests are image processing in remote sensing, medical image processing and person recognition from face image. My hobbies are reading and gardening.

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Professor

Munetake ICHIMURA

Munetake ICHIMURA : born in Kobe, Japan on November 3, 1938.

Obtained B.S. (1961), M.S. (1963) and Dr. of Science from the University of Tokyo in 1966.

1966-1969 Lecturer of Department of Physics, Nihon University.

1969-1999 Associate Professor and then Professor of Institute of Physics, College of Arts and Sciences, the University of Tokyo.

1995-1997 Dean of College of Arts and Sciences, the University of Tokyo.

1998-1999 Vice president of the University of Tokyo.

1999-2000 Professor of Ion-beam Technology, Hosei University

2000- Professor of Faculty of Computer and Information Sciences, Hosei University

Current research areas Theory of Nuclear Structure and Reactions

Academic activities A member of the Physical Society of Japan.

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Professor

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Professor

Tosiyasu L. KUNII

Tosiyasu L. KUNII was born in Tokyo, Japan on January 1, 1938. Tosiyasu L. Kunii is currently Professor of Hosei University, Director of IT Institute at Kanazawa Institute of Technology, Visiting Professor of Kanazawa Institute of Technology, Honorary Visiting Professor of University of Bradford, and Professor Emeritus of the University of Tokyo.

He was the Founding President and Professor of the University of Aizu dedicated to computer science and engineering as a meta discipline, from 1993 to 1997. There, he coined and installed an integrated and computer-based educational system on Unix workstations and on the Internet to cover all academic disciplines. He received his B.Sc. in 1962, M.Sc. in 1964 and D.Sc. in 1967 all from the University of Tokyo. He had been Professor of Department of Computer and Information Science at the University of Tokyo from June 1978 until March 1993.

He received the 1998 Taylor L. Booth Education Award of IEEE Computer Society, the highest educational award of IEEE Computer Society given to one individual annually, for "initiating and promoting computer and information science education in Japan and for seminal contributions towards the integration of computer-based education in all academic disciplines" on November 13,

1999. In January 1991 he was elected Fellow of IEEE for his contribution to visual computer and visual computation. He was also elected Fellow of the Information Processing Society of Japan (IPSJ) for "International Contributions to Pioneering in and Establishing the Discipline of Visual Computing", March 14, 2000. He authored and edited over 50 books in computer science and in general areas, and published over 500 refereed original academic/technical papers in computer science and applications.

His development of raster graphics in late '60 is recorded in the 1st SIGGRAPH and in the special issue of Computer and Graphics as its proceedings. He also developed networked workstations porting UNIX in early '80. Actually he was the first in Japan to contract the UNIX source code license for academic use and commercial use from Bell Lab. He exhibited the Unix workstations at COMDEX in Las Vegas in 1983, making him among the first originators of UNIX workstations in the world. Soon after, he also developed a *broadband network* system, now a hot subject, and installed it at 500 sites for real time control of various equipment and multimedia. The University of Aizu networked business system, interconnecting 1000 UNIX workstations on campus including a digital library system, was developed by the team having the core of people he used to train at Information Science Department he initiated the foundation in 1970 at the University of Tokyo and then employed and trained as professional software experts by Software Research Center of Ricoh under the direction of Dr. Hideko S. Kunii.

Message

Since I was 8 years old when the 2nd World War ended, my lifetime goal has been to dedicate my life for the growth of other people and our society through higher education to rebuild better world. My Favorite music is Pergolesi's Stabat Mater he composed in his deathbed at the age of mid twenties. This was the music that had encouraged me to stand upright during my difficult presidency at the University of Aizu. I enjoy the nature. Back packing and alpine skiing are refreshing. I had been a ski instructor, and still is occasionally.

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Publications (January 1996 ~ December 2000)

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- 1997, Aizu-Wakamatsu, Japan)} pp.370-377 (IEEE Computer Society Press).
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 25. "Towards Direct Mapping between Visual Information Worlds and Real Worlds", Tosiyasu L. Kunii, Jianhua Ma, Runhe Huang, Visual Information Systems, Clement Leung (ed.) (Lecture Notes in Computer Science series) pp.27-39, 1997 (Springer-Verlag).
 26. "Data Model for Metrics-Based Project Management Systems", Raymond A. Paul, C. L. Chee, Tosiyasu L. Kunii and Yoshihisa Shinagawa, Proceedings of the 20th Annual International Computer Software and Applications Conference (COMPSAC'96) (August 21-23, 1996, Seoul, Korea)} pp.98-103 (IEEE Computer Society Press).
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 30. "Decentralized Distribution of Computer Resources in Massively Parallel Computing Systems", Victor Varshavsky, Tosiyasu L. Kunii and Vladimir Savchenko, Proceedings of the Second International Conference on Massively Parallel Computing Systems (May 6-9, 1996, Ischia, Italy), pp. 102-108.
 31. "A Virtual Reality Interface to an Intelligent Dental Care System", Jens Herder, Karol Myszkowski, Tosiyasu L. Kunii and Masumi Ibusuki, Medicine Meets Virtual Reality 4, P. Bourguine, A. Luciani and T. L. Kunii (eds.) (January 17-20, 1996, San Diego, USA), pp. 400-410 (IOS Press).
 32. "Visualization and Analysis of Occlusion for Human Jaws Using a "Functionally Generated Path", Karol Myszkowski, Jens Herder, Tosiyasu L. Kunii, Masumi Ibusuki, Proceedings of SPIE Symposium on Electronic Imaging, G. G. Grinstein, R. F. Erbacher, and R. N. Ellson (eds.) (January 28 - February 2, 1996, San Jose, USA)} pp. 360-367 (SPIE).
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2. "A Homotopy Model for Cup Lifting", Kenji Ohmori and Toshiyasu L. Kunii, *Proceedings of Computer Graphics International 2000 (CGI2000)*, (June 20-23, 2000, Geneva, Switzerland), pp.117-125, (IEEE Computer Society Press, Los Alamitos, California, U. S. A.).
3. "Homological Invariants and Holographic Representations of Topological Structures in Cellular Spaces", George Baciuc and Toshiyasu L. Kunii, *Proceedings of Computer Graphics International 2000 (CGI2000)*, (June 20-23, 2000, Geneva, Switzerland), pp.89-97, (IEEE Computer Society Press, Los Alamitos, California, U. S. A.).
4. "University21 - An Integrated Educational System", Jianhua Ma, Runhe Huang and Toshiyasu L. Kunii, In: *International Perspectives on Tele-Education and Virtual Learning Environments*, Graham Orange and Dave Hobbs(eds.) pp. 109-139 (Ashgate Publishing Limited, Aldershot, Hampshire, England, 2000).
5. "A Cellular Model for Information Systems on the Web - Integrating Local and Global Information ", Toshiyasu L. Kunii and Hideko S. Kunii, *Proceedings of 1999 International Symposium on Database Applications in Non-Traditional Environments (DANTE'99)*, November 28-30, 1999, Heian Shrine, Kyoto, Japan, Organized by Research Project on Advanced Databases, in cooperation with Information Processing Society of Japan, ACM Japan, ACM SIGMOD Japan, pp. 19-24, (IEEE Computer Society Press, Los Alamitos, California, U. S. A.).
6. "Science of Computer Graphics", Toshiyasu L. Kunii, *Proceedings of Pacific Graphics '99 (PG99)*, (October 5-7, 1999, Seoul, Korea), pp. 2-3 (IEEE Computer Society Press, Los Alamitos, California, U. S. A.).
7. "Homotopy Modeling as World Modeling", Toshiyasu L. Kunii, *Proceedings of Computer Graphics International '99 (CGI99)*, (June 7-11, 1999, Canmore, Alberta, Canada), pp. 130-141

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2. "Topological Modeling for Visualization", A. T. Fomenko and T. L. Kunii, Springer-Verlag (1997, Tokyo).
3. "Insight Through Computer Graphics, M. Gigante and T. L. Kunii (eds.) World Scientific (1996, Singapore).



Associate Professor
Jianhua MA

Jianhua MA was born in Xi'an, China on October 14, 1962. He received the B.S. and M.S. degrees of Communication Systems from National University of Defense Technology (NUDT), China, in 1982 and 1985, respectively, and the PhD degree of Information Engineering from Xidian University, China, in 1990. He has joined Hosei University since 2000, and is currently an associate professor at Faculty of Computer Information and Science. Previously, he had worked for 7 years at NUDT, 3 years at Xidian University, and 5 years at the University of Aizu in Japan, respectively.

From 1984 to 1990, his research fields were the error-control coding techniques applied to digital HF and mobile communications, and secure systems in computer data, audio and video transmissions. During 1991-1993, he was leading a project of an intelligent speech computing system, including speech analysis, recognition, synthesis, encryption, encoding, and decoding. In 1994-1996, he was devoted to multimedia synchronization modeling, hyper-world interface technology, and advanced bump-mapped shading algorithms and fuzzy-object generating algorithms for high performance graphics ASIC. Since 1997, his research has been focused on multimedia technologies, networks, intelligent agents and distributed collaborative systems, and their applications in virtual university, distance learning community and other e-business over the current and future Internet.

Dr. Ma is a member of IEEE. He is an editor of the International Journal of Computer Processing of Oriental Languages. He served the International Journal of Software Engineering and Knowledge Engineering as a guest editor. He organized the 6th International Conference on Distributed Multimedia Systems in 1999, and the International Workshop on Virtual University for Multilingual Education in 2000, respectively, as a program co-chair. He is a foundation member of the International Consortium of Macro University, a federation of virtual universities, in which there are currently more than 20 universities from the world, including Japan, USA, Australia, Taiwan, Germany, Korean, etc.

He received the Annual Excellent Paper Awards from China Information Theory Society, Electronics Society, and Association of Hunan Science and Technology in 1985, 1986 and 1991, respectively. He received the Best Paper Award from the 2000 International Conference on Information Society in the 21st Century: Emerging Technologies and New Challenges.

Message

Because of the Internet and Web, a networked and computerized digital world, called Cyberworld or Hyperworld, is coming. The world is still a mystery to us. We are not fully clear about what the new world is, what are its basic scientific and social laws, and how to live, work and learn in such world. However, it is sure that, no matter what the world is, a person needs collaborations with others and helps from other people, agents or tools. Therefore, it is important to study and develop corresponding techniques and systems to support effective computer based collaborations over networks among remote people and provide them efficient assistances from software intelligent agents in the world. Furthermore, current universities will be totally changed in the new world. It is necessary to investigate elements, architectures, styles, rules as well as techniques of the next generational university -Virtual University. As a fundamental unit in the cyberworld, research, developments, constructions and experiments of the virtual university will also help us to reveal the secrets of the new world. Based on the above philosophy, my current researches are focused on the following three fields: 1) Java based multimedia collaborative systems over the Internet, 2) software intelligent agents on the WWW, and 3) distance learning and virtual university through the Web.

My hobby is basketball, travel, skiing, cooking, and reading.

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Professor

Toshihisa NISHIJIMA

Toshihisa NISHIJIMA was born in Hiroshima, Japan on January 10, 1959. He received the B.E., M.E. and Ph.D. degrees in industrial engineering and management from Waseda University, Tokyo, Japan in 1983, 1985, 1991, respectively. From 1985 to 1987, he was with the Mitsubishi Electric Corporation, Kanagawa, Japan. He joined the Kanagawa Institute of Technology, Kanagawa, Japan as a Research Associate from 1987 to 1993 and the Faculty Engineering, Hosei University, Tokyo, Japan as an Associate Professor from 1993 to 2000. From 2000 to 2001, he was an Associate Professor at the Faculty of Computer and Information Sciences, Hosei University and then a Professor since April 2001.

His current research areas include algebraic coding theory, error control systems, and information theory.

He is a member of the IEEE Information Theory Society, Communications Society, Computer Society, the Institute of Electronics, Information and Communication Engineerings of Japan, and the Society for Information Theory and Its Applications of Japan.

Message

I started my academic life in the theory of algebraic error-correcting codes and its applications, and have recently been interested also in information theory. For the past 15 years I have been studying on the asymptotic capability of algebraic error-correcting codes, which are able to prove Shannon's fundamental theorem for noisy channel not by random coding technique but by constructive coding. Now I would like to study on Shannon's channel coding theorem from the viewpoints of both the reliability function in information theory and the asymptotic distance ratio in coding theory. As the final purpose (dream) in my academic life, I will try to challenge the fundamental problems to determine the reliability function for low rates and to clarify relationship between the reliability function and the asymptotic distance ratio.

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15. T. Nishijima and Y. Araya, "On approximately good calculation method of the probability of undetected codes," *Proceedings of the 1996 IEEE Information Theory Workshop*, June 1996.



Professor

Alexander PASKO

Alexander PASKO was born in Krasnoyarsk, Russia, on December 18, 1960. He received M.Sc. and Ph.D. degrees in computer science from Moscow Engineering Physics Institute (MEPI, Russia) in 1983 and 1988. He was a researcher at MEPI from 1983 to 1992 and an assistant professor at the University of Aizu (Japan) from 1993 to 1999. His research interests include solid and volume modeling, animation, multidimensional visualization, multimedia, and computer art.

He is a member of ACM SIGGRAPH, IEEE and Eurographics Association. He took part in organizing several international conferences and in running academic journals:

- Program committee co-chair of Shape Modeling International '2001 (Genova, Italy)
- Computer graphics session co-chair of Libre Software Meeting (Bordeaux, France), 2000
- Program committee chair of conferences Shape Modeling International '97 and '99 (Japan)
- Program committee co-chair of CSG'98 "Set-theoretic Solid Modeling: Techniques and Applications" (UK)
- Guest editor of International Journal of Shape Modeling, 1997 and 1999
- Editorial board member of Computer Graphics and Geometry journal

Alexander Pasko received the following international awards:

- Bronze Prize of Computer Graphics Grand Prix in STEC (Tokyo, Japan, 1996)
- Best WWW Award Eurographics'96 (Poitiers, France, 1996)
- Prize of Dream Centenary CG Grand Prix (Aizu-Wakamatsu, Japan, 1999).

Message

Geometric images are probably the eldest product of the human brain. In modern logically-oriented life it is extremely important to keep and develop this ability. I am convinced that outstanding achievements in science and technology can only be attained in the balance of logic and geometric reasoning.

There are many ways of modeling geometry by means of computer. In research with my colleagues and students we try to find an approach dealing with geometric objects in the most simple and uniform style. Thus, function representation (F-rep) of geometric objects has been introduced with set-theoretic operations based on the theory of R-functions developed by Russian mathematicians. This representation is independent of the space dimension. That is why time-dependent or animated objects can be described in the same manner, with time being considered as one of the coordinates of space-time. Many unusual geometric operations like blending, metamorphosis and even "hair growing" can be functionally described. Sometimes it seems that we now have "experimental geometry" by analogy with experimental physics, where new results usually have to be explained from the theoretical point of view. This becomes even more complex when dealing with volumetric and multidimensional models. By using more powerful parallel computers and by adding intellect to artificial actors we will get an instrument for future creative work in art and design, medicine and industry. Details on the research and software development can be found at

F-rep site <http://wwwcis.k.hosei.ac.jp/~F-rep/>

HyperFun site <http://www.hyperfun.org>

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Professor

Yukiko SASAKI ALAM

Yukiko SASAKI ALAM was born in Aichi, Japan on July 20, 1946. She received a B.A. in English and American Studies from Aichi Prefecture University in 1970, an M.A. in English Literature from Ochanomizu University in 1973 and a Ph.D. in Linguistics in 1986 from the University of Texas at Austin. She was Assistant Professor of Japanese at Dakka University, Bangladesh in 1976-1978. She was Research Associate and later a consultant at Linguistics Research Center, University of Austin at Austin in 1984-1987, where she carried out research on various linguistic problems of Machine Translation. In 1986-1989 she was Lecturer in Japanese, and Coordinator of the Lower-Division of the Japanese Program at the University of Texas at Austin. She was Assistant Professor of Japanese at Towson State University, Baltimore, Maryland and at Texas A & M University in 1989-1991 and 1991-1996 respectively. She was a Japan Foundation Fellow in 1996-1997, teaching and conducting research on Japanese Linguistics and Linguistics at San Francisco State University, where she later took the position of assistant professor and taught Linguistics-related courses to undergraduate and graduate students in 1997-2000. Since April, 2000, she has been Professor of English and Linguistics at the Faculty of Computer and Information Sciences, Hosei University.

Her current research interests are in the areas of Argument Structure, Aspect, Tense and Lexical Structure of Japanese and English, Linguistic Theories, linguistically sophisticated Machine Translation and Computer-Aided Language Learning (CALL).

She is a member of the Linguistic Society of America (LSA), and the Association of Computational Linguistics (ACL).

She was Program Chair of the First International Conference on Practical Linguistics of Japanese, held in May, 1998 in San Francisco. (The conference was her brainchild.) She was Co-chair of the Second International Conference on Practical Linguistics of Japanese, held in April, 2000 in San Francisco.

Message

My personal interests include playing tennis, traveling and programming. I am a mother of five children, three daughters and two sons. I lived in Bangladesh, Saudi Arabia and the United States in 1976-1978, 1978-1981, and 1981-1999 respectively.

Publications (January 1996 ~ December 2000)

1. Yukiko Sasaki Alam, "Moyashita keredo Moenakatta' no wa Naze: Yowai Tassei Dooshi to Tsuyoi Tassei Dooshi ('Why does the Japanese language accept such an expression as "I burnt it, but it didn't burn.": Weak Accomplishment Verbs and Strong Accomplishment Verbs", in *Gengogaku to Nihongo Kyoiku 2: New Directions in Applied Linguistics of Japanese*, Kurosio, Tokyo, (in print).
2. Masahiko Minami and Yukiko Sasaki Alam (Editors), *Gengogaku to Nihongo Kyoiku 2: New Directions in Applied Linguistics of Japanese*, Kurosio, Tokyo, (in print).
3. Yukiko Sasaki Alam, "Idoo Hookoo no Hatsuwa Jookyoo Izon-sei – 'tekuru/teiku' niyoru Idoo Hookoo to Hatsuwa Jookyoo Chuushinten to no Kankei no Shiji ('Direction Deixis in Japanese: Reference to the Deictic Center in Motional Direction')", in *Gengogaku to Nihongo Kyoiku: Jitsuyooteki Gengo Riron no Koochiku o Mezashite* ('Linguistics and Teaching of Japanese: Aiming to Build Practical Linguistic Theories'), pp. 177-196, Kurosio, Tokyo 1999.
4. Yukiko Sasaki Alam (Editor), *Gengogaku to Nihongo Kyoiku: Jitsuyooteki Gengo Riron no Koochiku o Mezashite* ('Linguistics and Teaching of Japanese: Aiming to Build Practical Linguistic Theories'), Kurosio, Tokyo 1999.
5. Yukiko Sasaki Alam, "Online Grammar Tutor in Java", in the Proceedings of Computer Assisted System for Teaching and Learning/Japanese (CASTEL/J), pp. 157-161, August, 1999.
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7. Yukiko Sasaki Alam, "Deixis and Implicit Argument of Japanese Verbs of Giving," in *the Papers from the 4th International Meeting of the Southeast Asian Linguistics Society*, ed. by Udom Warotamasikkhadit and Thanyarat Panakul, pp. 213-228, Program for Southeast Asian Studies, Arizona State University, Tempe, Arizona, 1998.
8. Yukiko Sasaki Alam, "Numerical Classifiers as Adverbs of Quantification", *Japanese/Korean Linguistics* Vol. 6, pp. 381-397, CSLI Publications, Stanford (distributed by Cambridge University Press), 1997.



Professor

Vladimir SAVCHENKO

Vladimir SAVCHENKO was born in Taganrog city, Russia, May 15, 1947. He came to Hosei University from the University of Aizu (Japan) where he was a head of Shape Modeling Lab and undergraduate/graduate teacher. Before 1993 he was deputy director and a head of Computational Mechanics Lab at the Scientific Institute of System Analysis of the Russian Academy of Sciences (Moscow). Up to 1987 he was senior research assistant at the Institute of Applied Mathematics of Russian Academy of Sciences.

Education: Institute of Applied Mathematics, Moscow, Russia
Ph.D., Theoretical Mechanics, 1982-1985
Moscow Aviation Institute, Department "Space crafts",
Moscow, Russia MS, Mechanical Engineering, 1965, Sept.,
1971, Feb.

His research interests: Geometric Modeling, Computer Graphics, Physically based simulation, Artificial Life, Parallel processing, Haptic Visualization.

He is a member of the IEEE Computer Society

He received the awards:
Bronze Prize Computer Graphics Grand Prix in STEC,
Tokyo, Japan, 1996
Best WWW Award EUROGRAPHICS'96, Poitiers, 1996
Government order "Znak Pocheta", 1985
Government medal "Za Trudovoe Otlichie", 1975

Message

Shape modeling is an interdisciplinary area composing theoretical and experimental results from mathematics, physics, computer graphics, computer-aided design, computer animation, and others fields. Shape modeling and mathematical simulation stand side by side, and one upholds the other. The heart of my work was solving applied problems of mathematical simulation. In general, I am interested in a problem of mathematical simulation which includes three main parts: mathematical model, numerical method and programming realization.

Now I am involved in a number of projects, such as Applications of genetic algorithms in shape modeling, Converting elevation contours to a grid, Java implementation of Turtle Graphics in 3-D, Designing client/server applications dealing with geometric modeling.

This projects has been initiated by previous investigations in the field of computer graphics, shape modeling and by recent advance in Java programming. Some of the motivation for this projects can be ascribed to general good sense and the recognition of the Java technology whose time has come. Java provides the right programming paradigm to make use of the distributed machines to speed up calculations. Designing client/server applications may lure students into writing very sophisticated programs, development of collaborative Internet-based computer graphics and shape modeling applications.

Hobbies Classic music (Tchaikovsky, Beethoven). American country music. Japanese music (Kitaro) and songs (Tanimura). Water and alpine skiing

Publications (January 1996 ~ December 2000)

1. Sourin A., Pasko A., Savchenko V., Hair modeling by real functions Computers and Graphics, Vol. 20, No 1, 1996, 11-19
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6. K. Myszkowski, V. Savchenko, T. Kunii , Computer modeling for the occlusal surface of teeth, Computer Graphics International '96, June 24-28, Pohang, Korea, 1996, 191-198
6. A. Pasko, A. Savchenko, V. Savchenko , Polygon-to-function conversion for sweeping, Implicit Surfaces '96, A Eurographics Workshop, Oct. 7-8, Eindhoven, the Netherlands, 1996, 163-171
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8. A. Pasko., Okunev, V. Savchenko, Minkowski sums of solids defined by real functions, The International Workshop on Differential/Topological Techniques in Geometric Modeling and Processing, POSTECH, Pohang, Korea, April 7-8, 1998, 129-139
9. A. Pasko, V. Savchenko, A. Sourin , Computer-aided synthetic carving, The International Conference Visual Computing'98, Mexico City, April 20-24, 1998, chapter 5.
10. V. Savchenko, 2D sample based interpolation: Visualization of particle clouds and function-to-volume conversion, The International Conference Computer Systems and Applications, Irbid, Jordan,

March 30 -April 2, 1998, 163-169

11. V.V. Savchenko, A.A. Pasko, A.I. Sourin, T.L. Kunii, Volume modeling: Representations and advanced operations, Computer Graphics International Conference, Edited by F. Wolter and N.M. Patrikalakis, Published IEEE Computer Society, June 22-26, Hannover, Germany, 1998, 4-13
12. A. Pasko, V. Savchenko, Applications of R-functions in shape modeling, International Conference Systems, Signals, Control, Computers (SSCC'98), Edited By V.B. Bajic, Published by IAAMSAD, September 22-24, Durban, South Africa, Vol. 2, 1998, 1-4
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15. A. Pasko, V. Savchenko, A. Sourin, Advanced techniques of functionally based shape modeling with applications in Computer Art, The 8-th International Conference on Computer Graphics and Visualization GRAPHICON-98, September 7-11, 1998, 25-30
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23. Pasko A., Savchenko V., Sourin A., Synthetic carving with implicit surface primitives, Computer Aided Design, Elsevier, 2000, (to appear)



Professor

Toru WAKAHARA

Toru WAKAHARA was born in Gifu, Japan, on January 30, 1952. He received the B.E. and M.E. degrees in applied physics and the Ph.D. degree in mathematical engineering and information physics from the University of Tokyo, Tokyo, Japan, in 1975, 1977, and 1986, respectively. From 1977 to 1986, he was with the Basic Research Laboratories, Nippon Telegraph and Telephone Corporation (NTT), Tokyo, Japan, where he was engaged in research of on-line handwriting recognition. From 1987 to 2000, he was with the Human Interface Laboratories, Cyber Space Laboratories, and Cyber Solutions Laboratories, NTT, Kanagawa, Japan, where he was engaged in research and development of machine-printed multi-font character recognition system, advanced handwritten character recognition system, pen-based interface, and biometric person authentication system. From 1991 to 1993, he was posted to the Institute for Posts and Telecommunications Policy (IPTP), Ministry of Posts and Telecommunications, Japan, where he conducted the first, second, and third IPTP character recognition competitions and studies on multi-expert system for handwritten 3-digit postcode and postal address recognition. Since April 2001, he has been a professor of the Faculty of Computer and Information Sciences, Hosei University.

His research interests include learning and generalization in pattern recognition, intelligent image processing, human visual perception, and human-machine interaction.

He is a member of the IEEE Computer Society and the Institute of Electronics, Information and Communication Engineers of Japan (IEICE).

He received a Special Achievement Award in 1994 from the Institute for Posts and Telecommunications Policy (IPTP), Ministry of Posts and Telecommunications, Japan.

Message

Having a lively intellectual curiosity in your study and research is most essential to taking a genuine delight in your academic life. In order to activate such curiosity, you have to think over what is an important problem worthy to be focused your energy on. In other words, finding a good problem is most valuable, and its solution is another thing.

Publications (January 1996 ~ December 2000)

1. Y. Kimura, T. Wakahara, and A. Tomono, "Combination of Statistical and Neural Classifiers for a High-Accuracy Recognition of Large Character Sets", *The Transactions of the IEICE*, Vol. J83-D-II, No. 10, pp. 1986-1994, October 2000 (in Japanese).
2. Y. Kimura, T. Wakahara, and M. Sano, "The Proposal of Growing Neural Networks and Its Application to Handwritten Kanji Character Recognition," *The Journal of the IIEEJ*, Vol. 29, No. 5, pp. 600-609, September 2000.
3. T. Wakahara and Y. Kimura, "Affine-Invariant Gray-Scale Character Recognition Using GAT Correlation," *Proc. of 15th International Conference on Pattern Recognition (ICPR2000)*, Vol. 4, pp. 417-421, Barcelona, September 2000.
4. Y. Kimura, T. Akiyama, M. Mori, N. Miyamoto, T. Wakahara, and K. Ogura, "Hybrid Recognition Method for Handwritten Kanji/Non-Kanji Characters Using Extended Peripheral Direction Contributivity Features and Contour Features," *The Transactions of the IEICE*, Vol. J82-D-II, No. 12, pp. 2271-2279, December 1999 (in Japanese).
5. T. Wakahara and Y. Kimura, "Toward Robust Handwritten Kanji Character Recognition," *Pattern Recognition Letters*, Vol. 20, No. 10, pp. 979-990, November 1999.
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7. T. Wakahara and K. Odaka, "Adaptive Normalization of Handwritten Characters Using Global/Local Affine Transformation," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 20, No. 12, pp. 1332-1341, December 1998.
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11. T. Wakahara and K. Odaka, "On-Line Cursive Kanji Character Recognition Using Stroke-Based Affine Transformation," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 19, No. 12, pp. 1381-1385, December 1997.
12. T. Wakahara, "Toward Robust Handwritten Kanji Character Recognition," *Proc. of International Workshop on Human Interface Technology '97 (IWHIT'97)*, pp. 25-34, Aizu-Wakamatsu, November 1997.

13. T. Wakahara and K. Odaka, "Adaptive Normalization of Handwritten Characters Using Global/Local Affine Transformation," *Proc. of 4th International Conference on Document Analysis and Recognition (ICDAR'97)*, Vol. 1, pp. 28-33, Ulm, August 1997.
14. Y. Kimura, T. Wakahara, and K. Odaka, "Combining Statistical Pattern Recognition Approach with Neural Networks for Recognition of Large-Set Categories," *Proc. International Conference on Neural Networks (ICNN'97)*, Vol. 3, pp. 1429-1432, Houston, June 1997.
15. H. Aizawa, T. Wakahara, and K. Odaka, "Real-Time Handwritten Character String Segmentation Using Multiple Stroke Features," *The Transactions of the IEICE*, Vol. J80-D-II, No. 5, pp. 1178-1185, May 1997 (in Japanese).
16. N. Nakajima, S. Miyahara, T. Wakahara, and K. Odaka, "Development of Handwritten Character Input Interface for Multimedia Terminal and Its Applications," *Systems and Computers in Japan*, Vol. 28, No. 3, pp. 82-90, March 1997.
17. T. Wakahara, "History of My Researches on Character Recognition," *The Journal of the ITE*, Vol. 51, No. 2, pp. 183-186, February 1997.
18. T. Tsutsumida, F. Kawamata, S. Yamaguchi, K. Nagata, and T. Wakahara, "The Third IPTP Character Recognition Competition and Study on Multi-Expert System for Handwritten Kanji Recognition," *Proc. of 5th International Workshop in Frontiers on Handwriting Recognition (IWFHR'96)*, pp. 479-482, Colchester, September 1996.
19. T. Wakahara, N. Nakajima, S. Miyahara, and K. Odaka, "On-Line Cursive Kanji Character Recognition Using Stroke-Based Affine Transformation," *Proc. of 13th International Conference on Pattern Recognition (ICPR'96)*, Vol. 3, pp. 204-209, Vienna, August 1996.
20. T. Wakahara, A. Suzuki, N. Nakajima, S. Miyahara, and K. Odaka, "Stroke-Number and Stroke-Order Free On-Line Kanji Character Recognition as One-to-One Stroke Correspondence Problem," *IEICE Transactions on Information and Systems*, Vol. E79-D, No. 5, pp. 529-534, May 1996.
21. T. Tsutsumida, T. Matsui, T. Noumi, and T. Wakahara, "Results of IPTP Character Recognition Competitions and Studies on Multi-Expert System for Handprinted Numeral Recognition," *IEICE Transactions on Information and Systems*, Vol. E79-D, No. 5, pp. 429-435, May 1996.
22. N. Nakajima, S. Miyahara, T. Wakahara, and K. Odaka, "Development of Handwriting Character Input Interface for Multimedia Terminal and Its Applications," *The Transactions of the IEICE*, Vol. J79-D-II, No. 4, pp. 592-599, April 1996 (in Japanese).



Professor

Kenji YOSHIDA

Kenji YOSHIDA was born in Fukui, Japan on November 11, 1954. He received the B.A. degree in the faculty of science and engineering from Science University of Tokyo. After graduated from Science University of Tokyo, he entered Taisei construction, Inc. where he engaged in study & development of CG simulation technology for landscape design. He acquired the degree of Dr. of Engineering at Nihon University in 1992. Established Visual Science Laboratory in 1991 and got to start more research & development about CG/VR technology. Since then, he produced and developed many advanced digital contents such as virtual reality idol "DK-96: Kyoko Date", Daiei film "Gamera 3" and etc.. In Apr. 1992 he was invited as a lecture at Tokyo Zokei University and next year he promoted to be an assistant professor. In Oct. 1994 he opened the world's biggest multimedia school, "Digital Hollywood". Recently, he established a network engineering school "int" in Nov. 1998 to train engineers who deal in network system and strategic information system. From April 2000, he holds concurrently a professor at Faculty of Computer and Information Science, Hosei University.

Message

New creation is always born by keeping go on challenging.

My hobby is scuba diving and ski.

Publications (January 1996 ~ December 2000)

1. K. Yoshida and T Sugiyama, "The works of Digital-Challenging for Digital Hollywood," New media, inc., 1996.
2. K. Yoshida, "An idea of enterprise," The Nikkei Sangyo, May 1997.
3. K. Yoshida, "About Multimedia business," Recruit, December 1997.
4. K. Yoshida, "Possibility for new movie industry," Ryucyunippou-sha, April 1998.
5. K. Yoshida, "DK-96: Kyoko Date in world conference in Germany," The Nikkei Sangyo paper, April 1998.
6. K. Yoshida, "The basic of CG creation and the latest CG technology," Multimedia center of Aizu University, September 1998.
7. K. Yoshida, "Practical use of IT," The Nikkei Sangyo, June. 2000.
8. K. Yoshida, "IPO research," The Nikkei Sangyo, Sep. 2000.



Professor

Shuichi YUKITA

Shuichi YUKITA was born in Chiba, Japan on January 12, 1954. He received the B.S. degree in physics, M.S. degree in mathematics from the University of Tokyo, Tokyo, Japan in 1976 and 1978, respectively. He received the Ph.D. degree in information science from Tohoku University, Sendai, Japan in 2000. From 1983 to 1987, he was with Toyo University, Saitama, Japan. From 1987 to 1993, he was with Wakkanai-Hokusei junior college, Hokkaido, Japan. From 1993 to March/2000, he was with the University of Aizu, Fukushima, Japan. In April 2000, he joined the Faculty of Computer and Information Sciences at Hosei University, Japan, as an Associate Professor, and then a Professor since April 2001.

His current research areas include cellular automata theory, algorithmic mathematics, and mathematical visualization.

He is a member of the IEEE Computer Society, IEICE, IPSJ, Mathematical Society of Japan, and JSIAM.

Message

Find your own winning way in the game of theoretical thinking that involves lots of mathematics and scientific discovery. While playing this game, we apply the dialogue engineering (or dialectical) technique. Dialogue may be sometimes monologue, where dialogue occurs between one and oneself, and, of course, dialogue may be actual dialogue in seminar talks and other presentations. My main research theme can be termed as dialogue engineering.

Publications (January 1996 ~ December 2000)

1. S. Yukita, "Progress in Cellular Automata Theory," *Proceedings of 2000 International Conference on Information Society in the 21st century (IS2000)*, pp.419-424, November 2000.
2. S. Yukita, "Linear cellular automata on groups," *Japan J. Indust. Appl. Math.* Vol.19, (to appear) 2001.
3. S. Miura and S. Yukita, "A Gentle User Interface to Mathematica Distributed Computing," *The Journal of Three Dimensional Images*, Vol.14, No.1, pp.139-144, March 1999.
4. S. Yukita, "Cellular automata on groups with asymptotic boundary conditions," *Trans. Inform. Processing Soc. Japan*, Vol.40, No.12, pp.4151-4158, December 1999.
5. S. Yukita, "Dynamics of cellular automata on groups," *IEICE Trans. Inf. & Syst.*, Vol. E82-D, No.10, pp.1316-1323, October 1999.
6. K. Watanabe and S. Yukita, "A Knot Diagram Editor and Reidemeister Moves," *The Journal of Three Dimensional Images*, Vol.13, No.3, pp.123-128, September 1999.
7. S. Yukita, Y. Ohtake, and K. Watanabe, "Visual Legacy Basic - A platform independent intuitive programming environment for learners," *The Journal of Three Dimensional Images*, Vol.13, No.3, pp.25-30, September 1999.
8. S. Yukita, "The Moore-Myhill pseudo tiling for the Heisenberg Tessellation Automata," *Japan Journal of Industrial and Applied Mathematics*, Vol.16 No.1, pp.47-63, January 1999.
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