

IEEE COMPSAC2021 CS Presidents Panel



Hironori Kasahara, Ph.D., IEEE Fellow, IPSJ Fellow
Senior Executive Vice President, Waseda University
IEEE Computer Society President 2018
URL: <http://www.kasahara.cs.waseda.ac.jp/>



1980 BS, 82 MS, 85 Ph.D. , Dept. EE, **Waseda Univ.**
1985 Visiting Scholar: U. of California, Berkeley,
1986 Assistant Prof., 1988 Associate Prof., 1989-90
Research Scholar: U. of Illinois, Urbana-Champaign,
Center for Supercomputing R&D, 1997 Prof.,
2004 Director, Advanced Multicore Research Institute,
2017member: the Engineering Academy of Japan (2020
Board Mem) and the Science Council of Japan
2018 IEEE Computer Society President
Nov. Senior Vice President, Waseda Univ.

AWARD: 1987 IFAC World Congress Young Author Prize
1997 IPSJ Sakai Special Research Award,
2005 STARC Academia-Industry Research Award,
2008 LSI of the Year Second Prize,
2008 Intel Asia Academic Forum Best Research Award,
2010 IEEE CS Golden Core Member Award
2014 Minister of Edu., Sci. & Tech. Research Prize
2015 IPSJ Fellow, 2017 IEEE Fellow, Eta Kappa Nu
2019 Spirit of IEEE Computer Society Award,
2020 IPSJ Contribution Award,

Reviewed Papers: 223, Invited Talks: 215,
Granted Patents: 62 (Japan, US, GB, China),
Articles in News Papers, Web News, TV etc.: 660

Committees in Societies and Government 263
IEEE Computer Society: President 2018, Executive
Committee(2017-2019), BoG(2009-14), Strategic
Planning Committee Chair 2018, Multicore STC Chair
(2012-), Japan Chair(2005-07),
IPSJ Chair: HG for Magazine. & J. Edit, Sig. on ARC.
【METI/NEDO】 Project Leaders: Multicore for
Consumer Electronics, Advanced Parallelizing
Compiler, Chair: Computer Strategy Committee
【Cabinet Office】 CSTP Supercomputer Strategic ICT
PT, Japan Prize Selection Committees, etc.
【MEXT】 Info. Sci. & Tech. Committee,
Supercomputers (Earth Simulator, HPCI Promo., Next
Gen. Supercomputer K) Committees
JST Moonshot Project G3 Robot & AI Vice Chair,
【COCN】 Board Member in Council of
Competitiveness Nippon, etc.

- How and why you became involved with the CS
- Your experience as a CS volunteer
- How that contributed to your career, the CS, and the profession
- Why should someone become a CS volunteer

Some of papers in and just after Ph.D. Course in Waseda U.

IEEE TRANSACTIONS ON COMPUTERS, VOL. C-33, NO. 11, NOVEMBER 1984

1023

Practical Multiprocessor Scheduling Algorithms for Efficient Parallel Processing

HIRONORI KASAHARA, MEMBER, IEEE, AND SEINOSUKE NARITA, SENIOR MEMBER, IEEE



Courtesy of dexchao - Fotolia.com

104

IEEE JOURNAL OF ROBOTICS AND AUTOMATION, VOL. RA-1, NO. 2, JUNE 1985

Parallel Processing of Robot-Arm Control Computation on a Multimicroprocessor System

HIRONORI KASAHARA MEMBER, IEEE, AND SEINOSUKE NARITA, SENIOR MEMBER, IEEE



1 of 10

2nd International Conference on Superecomputing
Santa Clara, CA, USA May 3-8, 1987

A PARALLEL PROCESSING SCHEME FOR THE SOLUTION OF SPARSE LINEAR EQUATIONS USING STATIC OPTIMAL-MULTIPROCESSOR-SCHEDULING ALGORITHMS

H. Kasahara*, T. Fujii*, H. Nakayama*, S. Narita*, and Leon O. Chua**

* Dept. of Electrical Eng., Waseda University, Tokyo, 160, Japan

** Dept. of Electrical Eng. and Computer Sciences,
University of California, Berkeley, CA 94720, U.S.A.

Copyright © IFAC 10th Triennial World Congress,
Munich, FRG, 1987

PARALLEL PROCESSING OF ROBOT MOTION SIMULATION

H. Kasahara, H. Fujii and M. Iwata

Department of Electrical Engineering, Waseda University, 3-4-1 Ohkubo
Shinjuku-ku, Tokyo 160, Japan



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PT, Japan Prize Selection Committees, etc.
【MEXT】 Info. Sci. & Tech. Committee,
Supercomputers (Earth Simulator, HPCI Promo., Next
Gen. Supercomputer K) Committees
JST Moonshot Project G3 Robot & AI Vice Chair,
【COCN】 Board Member in Council of
Competitiveness Nippon, etc.

MULTICORE VIDEO SERIES

Practical Innovation

Multicore processors have become pervasive, but most organizations struggle to use them efficiently. That's why we brought together renowned experts in the field for this video series to examine the innovative techniques they use to improve reliability and performance while reducing costs, time, and power consumption.

Hear about some of the most advanced power-reduction, parallelization, and vectorization technologies used in a range of industry applications, including automobiles, big data, cloud computing, cluster computing, medical image processing, multimedia, smartphones, and supercomputing.

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educational
content**

Learn from the World's Leading Multicore Compiler Experts



Automatic Parallelization
David Padua



**Dependences and
Dependence Analysis**
Utpal Banerjee



**Instruction Level
Parallelization**
Alexandru Nicolae



**The Polyhedral
Model**
Paul Feautrier



Vectorization
P. Sadayappan



**Vectorization/Parallelization
in the Intel Compiler**
Peng Tu



**Autoparallelization
for GPUs**
Wen-mei Hwu



Dynamic Parallelization
Rudolf Eigenmann



**Multigrain Parallelization
and Power Reduction**
Hironori Kasahara



**Vector
Computation**
David Kuck



**Vectorization/Parallelization
in the IBM Compiler**
Yaoqing Gao



Roundtable Discussion
All Presenters

Who Should Watch these Videos?

Professionals in any industry that demands real-time processing, high performance, and speed will find these videos an important tool for getting better results from their multicore processing systems and future-proofing their applications.

Educators and graduate students will also find inspiration from this window into the minds of some of the most accomplished experts in multicore.

www.computer.org/multicore-video

Prof. David J Kuck (Univ. Illinois, Intel)

IEEE Computer Pioneer Award 2011

Ms. Diane B. Greene (VMware Cofounder & CEO)

IEEE Computer Society Computer Entrepreneur Award 2011



2018.03.08 Waseda Univ. Symposium on Future of High Performance Green Computing 2018 (HPGC2018)



IEEE Computer Society

The first President from the outside of USA and Canada in 72 years history of IEEE CS

Bjarne Stroustrup: Morgan Stanley & Columbia Univ.
2018 IEEE Computer Society Computer Pioneer Award
IEEE COMPSAC2018 Keynote & Award Ceremony



**MoU with UN ITU
in AI for Good,
May, Geneva**



**July 25, 2018 Award Ceremony
Rihga Royal Hotel Tokyo**



• 84,000+ members

- 480 chapters**
- 168 countries**
- 31 technical committees & councils**

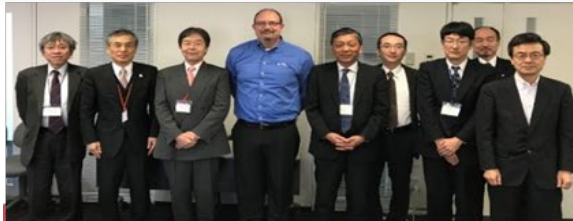


ACM/IEEE SC (SuperComputing) 19, Denver, Nov.17-22, 2019



Cornel Univ. Prof. Steven Squyres: Mars Exploration, Caltech. Dr. Katie Bouman: Visualization of Blackhole

Cooperation with International Organizations in 2018



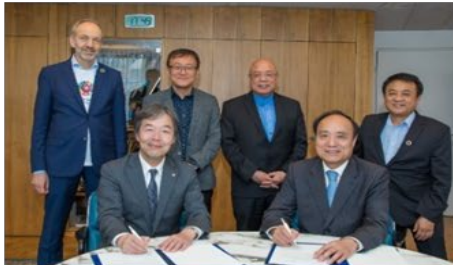
**IPJSJ Leaders, March,
IPJSJ Convention, Tokyo**



**Japan (IPJSJ), China(CCF),
Korea(KIISE) in March,
Waseda U., Tokyo**



**Okawa Foundation, CS Japan
Chapter, Multicore STC &
Japanese Government Symp.**



**MoU with UN ITU
in AI for Good,
May, Geneva**



**CCF China National Computer
Congress, Oct., Hangzhou**



**MoU with Baidu, July,
Green Comp. C., Tokyo**



**IEEE CS China Office
moderated Tencent-
Waseda Univ. Joint
Symposium, Nov.,
Waseda U., Tokyo**



**Russian Academy of Science:
Russian Computer Science 70th
Anniversary, Nov., Moscow**

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WASEDA University - 早稲田大学 -

Number of International Students

7,942*

from 125* countries and territories
(Undergraduate and Graduate)

Alumni CEOs in Japan

10,606

8 Prime Ministers

Founder Shigenobu OKUMA



Graduate Employability

#1

in private university of Japan
(#2 in Japan, #27 in the world)
QS Graduate Employability Rankings, 2019

ENROLLMENT
[学生数]

49,436

ALUMNI
[卒業生]

630,000

FACULTY
[教員]

5,468

World Business
5 Palms in Eduniversal Business



Masaru IBUKA



Tadashi YANAI



PARTNER INSTITUTIONS
[協定大学・機関]

848 (93 countries)

NUMBER OF BOOKS
[図書館蔵書]

5,800,000

GRADUATE STUDENTS
[大学院生]

8,385

UNDERGRADUATE STUDENTS
[学部生]

41,051



Hiroshi YAMAUCHI

Prime Ministers

- 8th Shigenobu Okuma
- 17th Shigenobu Okuma
- 55th Tanzan Ishibashi
- 74th Noboru Takeshita
- 76th Toshiki Kaifu
- 84th Keizo Obuchi
- 85th Yoshiro Mori
- 91st Yasuo Fukuda
- 95th Yoshihiko Noda

Business Leaders

Founders of global companies

- Sony
- Samsung
- Casio
- LOTTE

Business Leaders

CEOs of global companies

- ANA (All Nippon Airways)
- HONDA
- Nintendo
- UNIQLO
- Shiseido
- Nomura Securities Co., Ltd.
- Tokio Marine & Nichido Fire Insurance Co., Ltd.
- Olympus Corporation

Aiji TANAKA



President International Political Science Association (IPSA) President 2016

Hironori KASAHARA



Senior Executive Vice President IEEE Computer Society President 2018. The first president from outside USA and Canada in 72 years CS history. CS has 84,000 members from 168 countries.



Toshio FUKUDA



The University Professor Waseda, Waseda Alumnus, Prof. Emeritus Nagoya Univ., Prof. Meijo Univ. IEEE President 2020. The first from Asia in 135 years history. IEEE has 420,000 members.

Haruki MURAKAMI



Hirokazu KOREEDA



Yuzuru HANYU

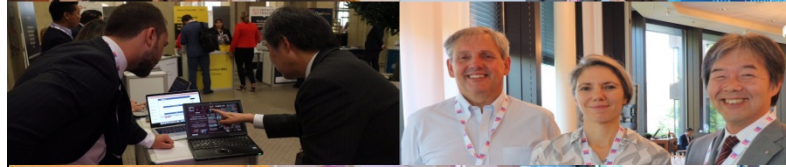
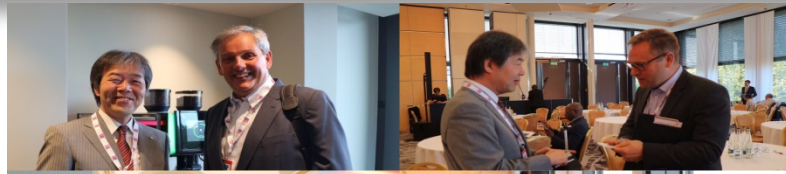


Daia SETO



S. ARAKAWA

THE World Academic Summit, ETH, 2019.9.10



World Leading University Presidents Panel



Oxford University, 11/12-13,2019(CSでの招待講演及び連携協議)

Vice Chancellor Prof. Louise Richardson
(WOI 2020で基調講演)

Head of Astrophysics: Prof. Rob Fender

Dept. of Physics: Prof. Ian Shipsey

Astrophysics: Prof. H.Falche, et. al.

Merton College

Warden: Prof. Irene Tracy (2020年1月に来学)

Fellow: Dr. Peter Braam

Sub Warden: Prof. Judy Armitage

CS: Prof. Jeremy Gibbons



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1987 OSCAR(Optimally Scheduled Advanced Multiprocessor) **Co-design of Compiler and Architecture**

Looking at various applications, design a parallelizing compiler and design a multiprocessor/multicore-processor to support compiler optimization

Easy to Use, Collaboration of Software and Hardware, Useful for World People



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WOI'21

WASEDA OPEN INNOVATION FORUM 2021

Toward Realization of Waseda Open Innovation Ecosystem

International Collaboration

Industry-Academia Collaboration

Venture Startup & Acceleration

Development of Human Resource Understanding Social Needs

Social Sciences, Humanities, Science & Engineering Cooperation

Research Promotion (Including Patents Creation & Licensing)

Matching among people in Industry, Government, Academia, and Waseda



Hiromichi Shinohara
Vice Chair of Research
Chairman of the Board, MIT



Toshie Fukuda
IEEE President 2020
Professor, Waseda University



Dave West
President of Asia Pacific, Japan
and Greater China Business, Cisco



Richard Chen
CEO of Royal Mail Group Corporation



Louise Richardson
Vice-Chancellor,
University of Oxford



Phil Wickham
Executive Chairman of
Kassinet Finance
& Managing Director of
Seis Venture



Kengo Sakurada
Chairman of Rakai Doyu, Inc.
CEO of Sompo Holdings



Shintaro Yamada
Founder and CEO of Mercari



Peter Braam
Visiting Professor,
University of Oxford



Hironori Kasahara
SITP, Waseda University
IEEE CS President 2018



Hayato Yamana
W, Waseda University
IEEE CS Sec



Jeremy Gibbons
Professor of Computing,
University of Oxford



Nozomu Togawa
Dean, School/Graduate School of
Fundamental Science and
Engineering, Waseda University



Matt Perkins
CEO, Oxford University Innovation



Sir Nigel Shadbolt
Principal and
Professorial Research Fellow
in Computer Science,
University of Oxford