一般社団法人情報処理学会創立60周年記念パネル討論
～これからの学会のデザイン　～

IEEE Computer Society President 2018
早稲田大学　副総長（研究推進）笠原博徳

1980 早大電気工学科卒，1982同修士了
1985 早大大学院博士課程了　工学博士
　　カリフォルニア大学バークレー客員研究員
1986 早大理工専任講師，1988年 助教授
1997 教授、現在 理工学術院情報理工学科
1989～1990 イリノイ大学Center for
　　Supercomputing　R&D客員研究員
2004　アドバンストマルチコア研究所所長
2017 日本工学アカデミー会員（2020より理事），
　日本学術会議連携会員
2018　IEEE Computer Society President，早大副総長

1987 IFAC World Congress Young Author Prize
1997 情報処理学会坂井記念特別賞
2005 半導体理工学研究センタ共同研究賞
2008 LSI・オブ・ザ・イヤー 2008 準グランプリ，
Intel Asia Academic Forum Best Research Award
2010 IEEE CS Golden Core　Member Award
2014 文部科学大臣表彰科学技術賞研究部門
2015 情報処理学会フェロー，
2017 IEEE Fellow，2017 IEEE Eta-Kappa-Nu
2019 IEEE CS　Spirit of Computer Society Award
2020　情報処理学会功績賞

査読付き論文221件，招待講演190件，
特許取得54件（日本・米国・英国・中国等），
新聞・Web記事・TV等メディア掲載 625件

政府・学会委員等歴任数　263件
IEEE Computer Society President 2018, Executive Committee委員長，理事(2009-14)，戦略計画委員会委員長，Nomination Committee委員長，Multicore STC 委員長，IEEE CS Japan 委員長（2005-07），IEEE技術委員会 等
【経済産業省・NEDO】 情報家電用マルチコア・アドバンスト並列化コンパイラ・グリーンコンピューティング・プロジェクトリーダ，NEDOコンピュータ戦略委員長等
【内閣府】スーパーコンピュータ戦略委員，政府調達苦情検討委員，総合科学技術会議情報通信PT　研究開発基盤領域&セキュリティ・ソフト検討委員，日本国際賞選定委
【文部科学省・海洋研】地球シミュレータ（ES）中間評価委員、情報科学技術委員，HPCI計画推進委員,次世代スパコン（京）中間評価委員・概念設計評価委員，地球シミュレータES2導入技術アドバイザイリー委員長等，
JST ムーンショット G3 ロボット & AI Vice Chair，
【COCN】産業競争力懇談会理事,等

2020年10月30日（金）15:30-16:30

情報処理学会60周年おめでとうございます。

長期にわたる友情に感謝致します。引き続き、共に世界の技術の発展・持続的社会の実現に向け協力していけることを願っております。

IEEE Computer Society

Leila De Floriani
2020 President
2020 Executive
Committee

IEEE Computer Society

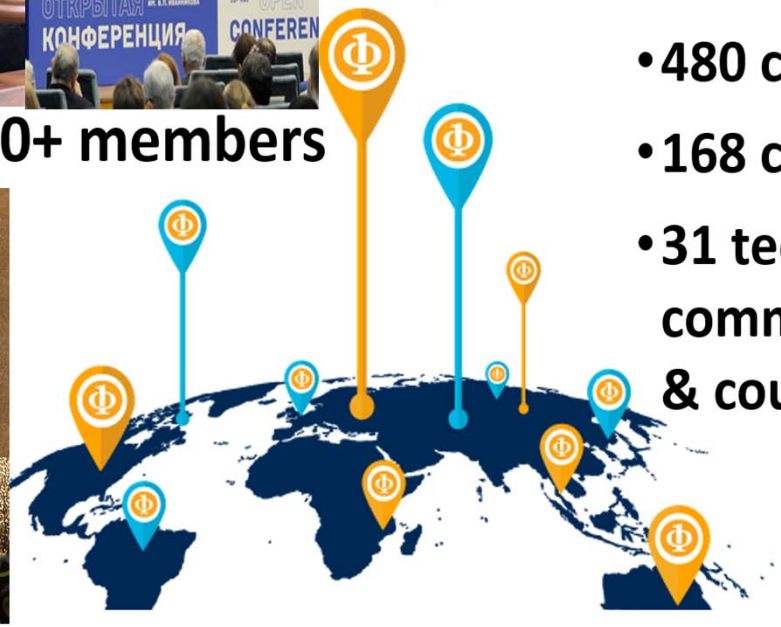
IEEE CS (1946年設立)72年の歴史の中で初めて、北米以外から会長に選出

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

July 26, 2018, Keynote,
Hitotsubashi Hall

July 25, 2018 Award Ceremony
Rihga Royal Hotel Tokyo

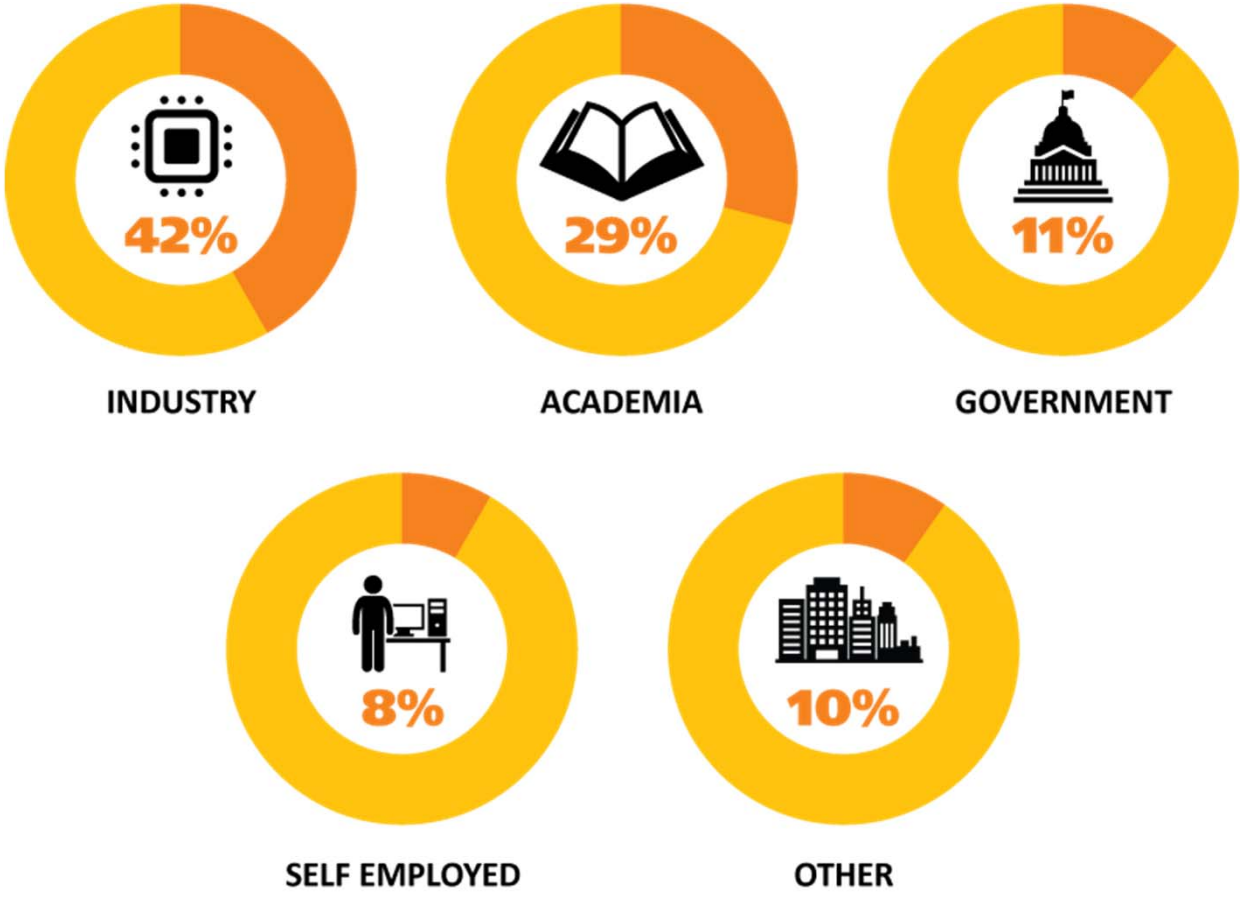
- 84,000+ members



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

IEEE

IEEE Computer Society Members



IPSJ & IEEE CS Collaboration（全国大会･BoG）

IPSJ/ IEEE Computer Society Young Computer Researcher Award

- IPSJ/ IEEE Computer Society Young Computer Researcher Award
  - The IPSJ and IEEE Computer Society (IEEE-CS) established a joint award in 2018
  - Aims to recognize outstanding young scientist(s) and/or engineer(s) who have contributed to theory, technologies, and/or applications advancing a new research field and/or novel transformative computing service or system.
- 2018 Winners were awarded at COMPSAC 2018 Award Banquet in Tokyo.

Yutaka Arakawa
(Nara Institute of Science and Technology)
Outstanding Research on Human Behavior Change by Information Technology

Akira Kawai
(Shiga University)
Outstanding Research on Intelligent Car Navigation System for Multilevel Parking Facilities

Yukihiko Shigesada
(Hosei University)
Outstanding Achievements on International AI Programming Contest "SamurAI Coding"

アジアのリーダとしての情報処理学会

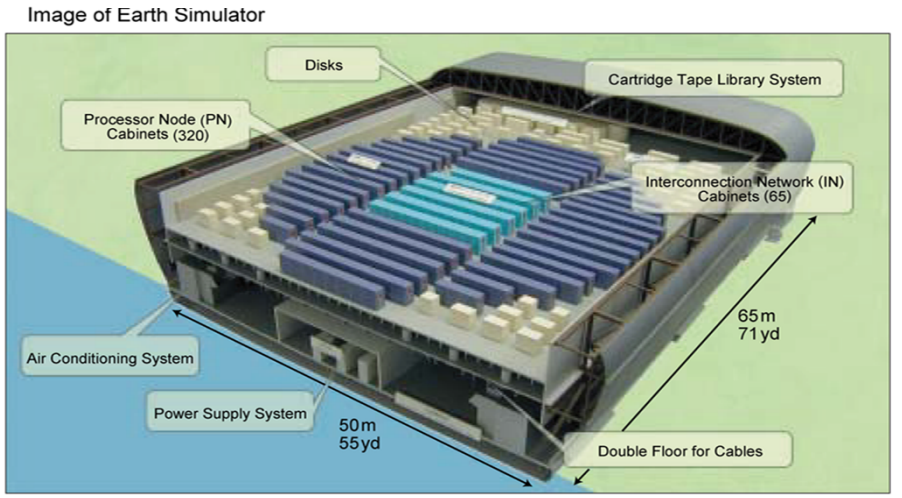
情報処理学会主催
中国　CCF
韓国　KIISE
IEEE Computer Society
Presidents Meeting

情報処理学会の活動（例：編集企画・イベント企画）は世界レベル

JSPP2000@Waseda　スーパーパネルPFLOPSへの道

1993年 スーパーコンピュータ数値風洞(NWT)

2002年 スーパーコンピュータ数値風洞(NWT)



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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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David Padua

Dependences and Dependence Analysis
Utpal Banerjee

Instruction Level Parallelization
Alexandru Nicolau

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

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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

IEEE computer society

IEEE

IEEE Computer, Oct. 2020号 (Open Access Article)
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Computer Education in the Age of COVID-19

Jean-Luc Gaudiot, University of California, Irvine
Hironori Kasahara, Waseda University

COVID-19 has been devastating across the globe, forcing profound changes in most human interactions. Through an informal survey of numerous educators worldwide, we explore some of the disease's effects on the education community and how the online delivery of educational materials can meet these challenges.

As many in the world continue to suffer from the devastating effects of the COVID-19 pandemic, solutions are continuously being sought for dealing with its consequences and the need to reduce opportunities for infection. Stores of all kinds have adapted by encouraging social distancing, requiring face masks, installing Plexiglas partitions in

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We have therefore endeavored to find out how our colleague educators in computer science and engineering have approached this dramatic situation, what fruit their efforts have borne, and what support (or resistance) they have met with the student population, their own colleagues, and their administration. Indeed, most universities and schools worldwide have had to quickly retool and turn to long-distance education to continue fulfilling their educational mission when faced with the pandemic emergency and the resulting stay-at-home orders. This has caused many teething problems, from needing to educate instructors, to deciding how lab classes could be handled, all the way to designing secure environments for exams. It is thus the goal of this column to describe the reactions of educators globally. We offer a small sample of how our international colleagues have dealt with the crisis, what they regret, how they will improve; in short, they relate their experiences to the community, perhaps providing some guidance to us all for the future.

THE SURVEY

We contacted a small sample of colleagues from a number of countries around the world and presented them with the a set of 10 questions.

Question 1

What classes did you teach during the pandemic (undergraduate/graduate/lab)? How many students?

We received reports for 24 computer science and engineering-related classes for 10–400 graduate and undergraduate classes from 14 universities in nine countries, including the United States, United Kingdom, Brazil, Russia, Australia, Spain, Japan, China, Taiwan, and Iran in addition to a report for 18,000 classes for 50,000 undergraduate and graduate students from Waseda University, Japan.

Question 2

Did any one topic lend itself better/worse to remote teaching?

Most respondents (with some exceptions) are satisfied with online teaching, and there appears to be no specific topic for which online teaching presents any disadvantages. On the contrary, a number of respondents felt that it allowed the students to better concentrate. Some even cited programming courses as easier to manage online. On the negative side, some people deplored the obvious lack of teacher–student interaction. Lab classes can also take advantage of many online teaching platforms with recording or playback functions, which allow the students to review difficult steps or verify procedures beforehand.

> The problem is particularly acute for educators, who have long relied upon face-to-face interactions and interpersonal feedback to tailor the delivery of high-quality knowledge.

Question 3

What tools did you use? How much ramp-up effort was needed? What kind of support did your home institution provide? What kind would you have liked?

The following tools were reportedly used:

- learning management systems (LMSs): Moodle, Canvas, etc.
- plagiarism detection: iThenticate, Turnitin, Ejudge, etc.
- on-demand video creation and/or delivery, including
  - massive open online courses, YouTube, etc.
  - for self-on-demand video content creation in professors' homes and content delivery: Panopto, Contents Creation Studio, Open Broadcaster Software with a Vimeo platform, etc.
  - for assisted content creation on campus and content delivery, Millvi, etc. were utilized
- for real-time online lectures and meetings with recording: Zoom, Blackboard Collaborate, Microsoft Teams, Cisco Webex, Google Meet, Skype, Tencent Meeting, Rain Classroom, Jitsi, etc.; most universities provided enough licenses for faculty members and staff
- reporting and analytics for LMSs: IntelliBoard, etc.
- smartphone scanner generating PDFs for handwritten answers: Microsoft Office Lens, etc.
- exam proctors.

Universities offered the following support to prepare and operate online classes:

- "Teaching Anywhere" sites for teachers, providing information on how to prepare and operate online education with the lecturers' experiences during classes
- webinars to explain how to prepare online lectures, including on-demand video lectures and real-time online lectures (these were very helpful to educators who had not used network meeting systems or prepared on-demand video materials from their homes)
- "Learning Anywhere" sites for students, offering information on how to prepare and receive online lectures, including the prevention of server overload as a result of simultaneous logins in the morning and after lunch.

As an additional data point, we note that the following additional support to cope with COVID-19 was provided at Waseda University:

- free lending of Wi-Fi routers and PCs to students with financial issues stemming from the pandemic
- specially discounted ¥1 smartphones with tethering functionality and one-year free data communication for all students, faculty members, and staff who needed to reduce home network bandwidth problems
- negotiation with major smartphone companies for the purpose of discounting data communication fees for all students in Japan during the spring semester
- access to a help desk for faculty and students to prepare, operate, and/or participate in online classes from their homes. The help desks were operated by using "home-based call center systems" so that staff and teaching assistants (TAs). could answer from their own homes.

The University of California, Irvine (UCI) also proactively assisted in the transition:

- online classes for the lecturers and TAs prior to the quarter; these classes were aimed at lecturers with content creation and delivery, website design, etc.

Collaboration for the Future

Hironori Kasahara, 2018 IEEE Computer Society President

In 2018, the IEEE Computer Society (CS) leaders, volunteers, and staff collaborated to improve both the satisfaction of CS members and the sustainability of the Society. This joint effort dramatically improved CS finances to the extent that they are now healthy.

The IEEE Computer Society (CS) started 2018 by implementing various action items to address financial challenges, most of which were approved in the November 2017 Board of Governors (BoG) meeting, with the Executive Committee (ExCom) and BoG members and staff. These include

- reducing the number of BoG members from 21 to 18 by changing the rules to elect six new members every year, which was applied starting with the 2018 election
- reducing the number of in-person BoG meetings from three to two in 2018 by having online BoG meetings, which allows us to make prompt decisions
- simplifying the June 2018 CS annual awards ceremony without professional support while maintaining the greatest respect for the award winners through posting their articles on the CS homepage and CS social network sites Twitter, Facebook, Instagram, and LinkedIn and inviting some of the winners to CS conferences, which attracted more participants to these gatherings
- considering extending the length of the presidential term to two years, which was discussed in meetings of the Constitution and Bylaw Committee and Ad Hoc Committee
- changing all in-person program board meetings to online from 2018, although the CS would still support expenses for meetings without travel expenses, for example, meetings during conferences
- merging or sunsetting some CS publications
- instituting overlength page charges while relaxing conditions for authors and editorial boards, compared to the model that was approved in the November 2017 BoG meeting, to foster special issues in transactions collaborating with conferences
- starting a new surplus distribution system for conferences that improved their financial condition and flexibility

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FIGURE 4. Examples of CS cooperation with international organizations in 2018: (a) a meeting with leaders of the Information Processing Society of Japan (IPSJ) in March at the IPSJ convention in Tokyo; (b) participants from Japan (IPSJ), China (Chinese Computer Federation), and Korea (Korean Institute of Information Scientists and Engineers) meeting in March at Waseda University, Tokyo; (c) members of a symposium involving the Okawa Foundation, CS Japan Chapter, Special Technical Community on MultiCore, and the Japanese government; (d) signing a memorandum of understanding in May with the International Telecommunication Union for the AI for Good Foundation; (e) after signing a memorandum of understanding with Baidu in July in Tokyo; (f) participants in a Tencent/Waseda University symposium in November, moderated by the CS China office at Waseda University, Tokyo; and (g) a panel at the Russian Academy of Sciences in Moscow last November, celebrating 70 years of computer science in Russia.

Russian Academy of Sciences, which recently celebrated 70 years of computer science in Russia.

Other efforts have also continued, such as a point accumulation system for volunteers, who can accumulate points from the voluntary activities they contribute to Societies, committees, conferences, publications, education, membership, and standards in any IEEE Society. And we have proposed to the IEEE that these volunteers be given annual and/or lifetime honors for such service. A related activities concept was already launched by the IEEE Young Professionals as a micro-volunteering initiative, with which the CS would like to join. Discussions with editors-in-chief and technical committees on collaboration with publications and conferences have also started. I hope these efforts will make a great deal of progress in the next generation of CS activities.

Finally, I would like to thank all CS members, volunteers, and people related with CS activities inside and outside the IEEE for their kind support. I am proud to pass the baton to 2019 CS President Cecilia Metra. This will be a good year for the CS with her and her strong leadership team.

HIRONORI KASAHARA is a senior executive vice president of Waseda University, Tokyo, where he is also a professor in the Department of Computer Science and Engineering. He is an IEEE Fellow, an Information Processing Society of Japan fellow, a Golden Core member of the IEEE Computer Society, a professional member of IEEE Eta Kappa Nu, and a member of the Engineering Academy of Japan and of the Science Council of Japan. Contact him at kasahara@waseda.jp.

A Strategic Initiative of Computing:Systems and Applications (SISA) --Integrating HPC, Big Data, AI and Beyond-- Jan. 18-19, 2017

Opening: Prof. Gao, Prof. Kasahara

Waseda VP Shuji Hashimoto,

I. Architecture and Applications

Keynote: **William J. Dally**,
NVIDIA and Stanford University, USA

- Kimihiko Hirao, RIKEN, Japan
- G. W. Yang, Tsinghua Univ. China
- J. Sexton, IBM, USA

II . System Software and Applications

Keynote: **Rick. Stevens ANL, USA**

- S. Mikhail Smelyanskiy Intel USA
- Fred. Streitz, LLNL USA
- R. Govind, IIS, India
- H. Hironori Kasahara, Waseda Univ,

III. Extreme Scale and Beyond

Keynote: Paul Messina ANL, USA

- Motoaki Saito, PEZY, Japan
- Eiji Ishida, MEXT, Japan
- Depei Qian, BUAA, China
- Toshiyuki Shimizu, Fujitsu, Japan

IV. Integration of HPC, Big Data, and AI

Keynote: Thomas Sterling, Indiana Univ., USA

- Masaru Kitsuregawa, NII and Univ. of Tokyo, Japan
- Thomas Schulthess, ETH, Swiss
- Moriyuki Takamura/Toshiaki Kitamura, Oscar Tech, Japan