

## **ATTACHMENT 1: Profile and Detailed Achievements of the Group A Recipient of the 2020 C&C Prize**

**Prof. Jun Murai**

### **Current position:**

Distinguished Professor, Keio University

### **Personal History (born in 1955):**

- 1979 BS, Department of Mathematics, Faculty of Science and Technology, Keio University
- 1984 Completed Doctorial Programs of Mathematics, Graduate School of Science and Technology, Keio University
- 1984 Research Assistant, Computer Center, Tokyo Institute of Technology
- 1987 PhD, Engineering, Keio University
- 1987 Research Assistant, Computer Centre, The University of Tokyo
- 1990 Assistant Professor, Faculty of Environment and Information Studies, Keio University
- 1997 Professor, Faculty of Environment and Information Studies, Keio University
- 1999 Executive Director, Keio Research Institute at SFC, Keio University
- 2005 Vice-President, Keio University
- 2009 Dean, Faculty of Environment and Information Studies, Keio University
- 2017 Dean, Graduate School of Media and Governance, Keio University
- 2018-Present Co-Director, Cyber Civilization Research Center, Keio University
- 2020-Present Distinguished Professor, Keio University
- 2020-Present Dean and API Senior Fellow, API Institute of Geo-economic Studies, Asia Pacific Initiatives

### **Major Awards:**

- 1986 Motooka Award
- 1999 Okawa Publications Prize, The Okawa Foundation for Information and Telecommunications
- 2001 Info-communications Promotion Month Commendations from the Minister for Internal Affairs and Communications
- 2002 Award for Individual Contributors to Promotion of Informatization from the Minister of Economy, Trade and Industry
- 2002 Commendations for Organizations for Their Contribution to

	Promotion of Computerization from the Minister for Internal Affairs and Communications
2004	Commendations from the Minister for Internal Affairs and Communications in the Forum for International Cooperation in Telecommunications and Broadcasting
2005	ISOC Jonathan B. Postel Service Award
2005	Fellow, Information Processing Society of Japan
2007	Funai Achievement Award in the Forum on Information Technology 2007 (FIT2007)
2011	IEEE Internet Award
2012	Okawa Prize, The Okawa Foundation for Information and Telecommunications
2013	Internet Hall of Fame Pioneer
2017	Telecommunication Technology Commendations from the Minister for Internal Affairs and Communications
2019	Legion of Honour: Chevaliers, French Republic
2019	Fukuzawa Award, Keio University

### **Major Professional Contributions:**

Founder, WIDE Project

Adviser, Japan Networking Information Center (JNIC)

Chief Director, IPTV Forum Japan

20<sup>th</sup> Term Member, Science Council of Japan

Member, Cybersecurity Strategic Headquarters, National Center of Incident Readiness and Strategy for Cybersecurity

Member, the Strategic Headquarters for the Promotion of an Advanced Information and Telecommunications Network Society (IT Strategic Headquarters)

Director, Internet Corporation for Assigned Names and Numbers (ICANN)

Member, the Board of Trustees, Internet Society (ISOC)

Member, Internet Architecture Board (IAB)

### **Achievements**

Not a day goes by that we do not use the Internet, whether it is accessing social media and doing online shopping or looking up information online. Nowadays, we are connected to others all around the world through the Internet and enjoy a convenient and enriched life using all kinds of services made possible by the Internet.

The Internet has had a major impact on not only our day-to-day lives and work but also our culture. For example, if there's something we need an answer to, we simply look it up online. We also read the news on our smartphones and have come to form online communities by connecting with others on social media. There are even influencers now who have the

power to sway public opinion and affect tendencies in society. We do our shopping online, enjoy movies and music through online streaming, and raise money through crowdfunding online. Now, with the sudden emergence of COVID-19 and the subsequent limitations on movement and travel it entails, we are adapting by using the Internet to work from home, conduct online meetings, and remotely participate in classes. The Internet has become an indispensable social infrastructure in modern-day society, functioning as a basic framework that allows anyone the freedom to tackle emerging issues and take part in the creation of something new, without the costs and time required with traditional methods.

Professor Jun Murai is a pioneer of the Internet in Japan. Not only has he worked with a large number of like-minded individuals to develop and propagate the Internet network, create the availability of the Internet in different languages, including Japanese, and establish technical standards to ensure the stable operation and development of the Internet, he has also played an active role in propagating the Internet internationally.

In 1984, Professor Murai founded JUNET, which is considered the true origin of the Internet in Japan, with which he connected academic organizations throughout Japan to create a domestic network and in turn connected these organizations internationally to academic networks overseas. Hallmarks of JUNET include achievements such as facilitating the use of Japanese and the creation of a system where users send emails to other users using addresses in the "User ID@Domain Name" format, now considered a norm in the context of the Internet. JUNET contributed not only to the progress of Internet technology but also to the spread of Internet culture with practices such as information sharing, collaborative work, and open source software, and it has provided a space where people and organizations using the Internet can connect.

Professor Murai believes that computers are tools that exist to be used by humans and must be modified to become more user-friendly. In 1988, he launched the WIDE project with the goal of creating an environment where computers around the world are connected to aid the work of the humans using them. Japan was able to play an important role in the development of the Internet through the connection of Japan-based organizations via the Internet protocol, and then through the international connection of the WIDE Internet. Professor Murai also took part in the internationalization of the email system, the adaptation of the Internet into Japanese, and the preparation for the standardization of IPv6 by the IETF. In part based on Professor Murai's ideas, IPv6 source codes were implemented in operating systems and released using open source software, contributing greatly to the rise of IPv6. In 1997, the WIDE project was entrusted with the operation of one of the 13 DNS root servers available in the world, and in

this way, Japan continues to play an important role in bringing the Internet to the world. The WIDE project established an Internet research and development community in Japan and has produced a large number of researchers.

Professor Murai has long been convinced of the importance of the Internet in Asia. In order to promote long-term Internet development in the Asia-Pacific region, in the early 1990s, he established APNIC as an extension of JPNIC, of which he was the chairman, to allocate and manage IP addresses in the Asia-Pacific region. In the area of human resource development, the Professor has not only actively contributed to human resource development through the WIDE project since the early days of its founding but has also made significant contributions to the development of both IT and Internet human resources in Asian countries through the establishment of SOI-Asia and the satellite-based Asia Internet infrastructure (AI3).

Professor Murai contributes to the maintenance and further development of the Internet through various activities as a member of the IAB, which discusses the architecture of Internet technologies and the direction in which these technologies are going; a member of the board of directors of ISOC, which works to resolve and discuss issues and problems related to standards, education, and policy within the context of Internet technologies and systems; and a member of the board of directors of ICANN, which was established to manage Internet resources such as IP addresses, domain names, and so on. He is also taking part in the creation of a system for examining and enforcing the rules and mechanisms necessary for the stable operation of the Internet. The Internet, which allows anyone to freely share and exchange data with people all around the world, invigorates the common people's efforts to create and contribute to the advancement of society. In 2018, the Professor was appointed co-director of the Keio University Cyber Civilization Research Center, where he is currently researching the impact of the emergence of new cyber civilizations on humanity.

Cloud storage, big data, IoT, sensor networks, and many other technologies have been made possible with the Internet at their foundation, and all kinds of services have been created using these technologies to enrich our lives and make things more convenient. Since the early days of the Internet, Professor Murai has led many collaborators in the construction and dissemination of the Internet and the promotion of its stable operation, the cultivation of human resources, and the generation of Internet culture. Because Professor Jun Murai has made achievements such as these that are extremely significant to our world today, we believe he is a worthy recipient for the C&C Prize.