Biographic information of Yuji SANO

November 9, 2023

Background

Dr. Yuji Sano's professional career spans three fields, namely,
37 years in industry, 1977-2014, Toshiba Corporation,
5 years in government, 2014-2019, Japan Science and Technology Agency (JST), and
4.5 years in academia, 2019-present.

Educational record

Bachelor	Physics, Tokyo Institute of Technology, 1971-1975
Master	Nuclear Engineering, Tokyo Institute of Technology ,1975-1977
Ph.D.	Engineering, Osaka university, 2002 (by submitting a doctor thesis)

Professional / vocational record

1977-2006	Research engineer, Toshiba Corporation
2006-2014	Senior fellow, Toshiba Corporation
2008-2014	Program Officer (PO) of Photon Frontier Network, the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan.
2014-2019	Program Manager (PM), ImPACT (Impulsing Paradigm Change through Disruptive Technologies) program, the Council for Science, Technology and Innovation (CSTI), the Cabinet Office, the Government of Japan
2019-	Program Manager (PM), the Institute for Molecular Science (IMS), National Institutes of Natural Sciences (NINS), Japan
2019-	Specially-appointed Professor, SANKEN (former ISIR; Institute of Scientific and Industrial Research), Osaka university, Japan
2019-	Technical Advisor, Toshiba Energy Systems & Solutions Corporation, Japan
2019-	Representative Director, LAcubed Co., Ltd. (The first NINS venture), Japan
2021-	Advisor, Nagoya Industrial Science Research Institute (NISRI), Japan
2021-	Guest Researcher, RIKEN SPring-8 Center, Japan
2021-	Program Manager (PM), Mirai program of JST supported by MEXT, Japan

He is a member of the advisory board for several Japanese laser-related projects. From April 2021, he is serving as a PM of Mirai program of JST (Japan Science and Technology Agency) supported by MEXT (Ministry of Education, Culture, Sports, Science and Technology). In the Mirai program, his team is developing laser plasma acceleration technologies of electrons for XFELs (X-ray Free Electron Lasers) and ions for cancer therapy. https://www.jst.go.jp/mirai/en/program/large-scale-type/theme01.html

He has been a member of the Japan Society of Shot Peening Technology since 2007. Currently, he is working on the development of laser peening technology using ultra-compact power lasers. In 2008, he founded the International Conference on Laser Peening and Related Phenomena (ICLPRP) with his collaborators and continues to serve as a committee member.

Until March 2019, he was the PM of ImPACT (Impulsing Paradigm Change through Disruptive Technologies) program under the Council for Science, Technology and Innovation (CSTI) of the Cabinet Office, the Government of Japan, where he directed R&Ds of laser plasma acceleration of electrons and ultra-compact high-power solid-state pulsed lasers. Before the assignment to the ImPACT's PM in 2014, he had served Toshiba

Corporation for 37 years as a research engineer and developed laser application technologies for industries. From 2008 to 2014, he partially served as a Program Officer (PO) of Photon Frontier Network supported by MEXT.

Contributions to the field of shot Peening

He has been a member of the Japan Society of Shot Peening Technology (JSSP) since 2007, and served as a board member of JSSP from 2007 to 2014. At Toshiba, he has developed application technologies of various peening processes since the 1990s. His major achievements include the application of shot peening and laser peening to various components of nuclear power plants since the mid-1990s, contributing to the prevention of stress corrosion cracking (SCC) and fatigue failure. Currently, he is working on the development of laser peening technologies, mainly using ultra-compact microchip lasers. In 2008, together with his collaborators, he founded the International Conference on Laser Peening and Related Phenomena (ICLPRP), of which he is still a board member.

Publications

He has authored and co-authored over 140 refereed journal papers and 600 conference papers:
https://scholar.google.co.jp/citations?hl=ja&user=Z9MjGOcAAAAJ&view_op=list_works
https://www.researchgate.net/profile/Yuji_Sano
https://researchmap.jp/yujisano
He has been awarded a few dozens of Japanese and foreign patents. He received the Commendation for Science and Technology by MEXT and more than a dozen of awards from academic societies in Japan and abroad.

Most significant contributions to the field of shot peening

Dr. Yuji Sano has been a member of the Japan Society of Shot Peening Technology (JSSP) since 2007, and served as a board member of JSSP from 2007 to 2014. Since ICSP5 in Oxford in 1993, he has written papers contributing to ICSP (International Conference on Shot Peening) events with foreign collaborators such as Dr. Lothar Wagner, Dr. Igor Altenberger, Dr. Berthor Scholtes and Japanese colleagues.

At Toshiba, he has developed various surface technologies such as shot peening and laser peening to enhance mechanical properties of power plants components since the 1990s. His major achievements include the applications of shot peening and laser peening to nuclear components in aged nuclear power plants since the mid-1990s, preventing stress corrosion cracking (SCC) and fatigue fractures, and contributing to the stable supply of electricity in Japan.

From 2021, he is serving as a Program Manager (PM) of Mirai program of JST, and managing research activities on laser plasma acceleration technologies of electrons for XFELs (X-ray Free Electron Lasers) and ions for cancer therapy. However, concurrently, he is actively working on the development of laser peening technology and contributing international voluntary activities, such as:

Chair of ICLPRP (International Conference on Laser Peening and Related Phenomena) since 2008
Chair of LAC (Laser Applications Conference) of OPTICA (former OSA) since 2017
Technical Organizing Committee of Photonics ASIA and Conference Chair of Advanced Laser Processing and Manufacturing since 2018
Program committee of Laser 3D Manufacturing in Photonics WEST from 2018 to 2022