Professor
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Birth place : Fukuoka, Japan, Oct. 21, 1960
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Curriculum Vitae

Education

1979 - 1983 Kyushu University: Faculty of Science
(Bachelor of Arts in Physics, March 1983)
1983 – 1985 Kyushu University: Graduate School of Engineering Science
(Master of Science in Engineering, March 1985)
1985 – 1988 Kyushu University: Graduate School of Engineering Science
(Doctor of Engineering, March 1988 under the supervision of Prof. Masaru Matoba)
Thesis for doctorate: "Characteristics of a Position Sensitive Gas Proportional Counter in the Transition Region of a High Gas Gain".
The honorary degree of Doctor of Engineering (Energy and Material Engineering), Rajamangala University of Technology Thanyaburi (Thailand), 2023.09.27.

Profession

April 1988-March 1989: Researcher, Graduate School of Engineering Sciences, Kyushu University
April 1989-March 1997: Staff Scientist, National Institute of Advanced Industrial Science and Technology (former Electrotechnical Laboratory)
October 1994-Octorber 1995: Guest Researcher, Advanced Light Source, Lawrence Berkeley Laboratory
April 1997-April 2001: Group Leader, National Institute of Advanced Industrial Science and Technology (former Electrotechnical Laboratory)
November 1999-February 2000: Guest Researcher, Duke Free Electron Laser Laboratory, Duke University
April 1999-March 2001: Guest Associate Professor, Faculty of Science, Osaka University
May 2001 - Nov. 2007: Associate Professor, Institute of Advanced Energy, Kyoto University

Aug. 2006 – Sep. 2014: Program Officer of Strategic Research Promotion and International Division, Kyoto University

Oct.1 2008 – Sep.30 2012: Special Appointed Assistant for President, Kyoto University

Dec. 2007 - Present: Professor, Institute of Advanced Energy, Kyoto University

April 2008 – March 2018: Guest Professor, High Energy Accelerator Research Organization

April 2009 – March 2015: Guest Researcher, Japan Atomic Energy Agency

June 2016 – March 2019: Program Officer of Japan Science and Technology Agency

Research fields

1983-1989: Radiation Detection and Nuclear Physics: development of Position Sensitive Gas Detectors for Focal Plane Detector in Light Ion Nuclear Reactions

1989-2001: Accelerator Physics and Quantum Radiation: Development of Small Electron Storage Rings and Generation & Application of Laser Backscattered Gamma-rays

2001-present: Accelerator Physics and Quantum Radiation: Generation & Application Infrared Free Electron Lasers and Laser Backscattered Gamma-rays

2009-present: Development of Nuclear Security and Safety Technology by using Laser Backscattered Gamma-rays and Gamma-ray Detectors

2012-present: Application of MIR-FEL in Energy Materials

2014-2019: Effective Utilization of Coal and Biomass by Solvent Degradation Method (SATREPS/JST)

2015-present: Development of Compact THz radiation source

2016-present: Impact on QOL of Rural Villagers by Renewable Energy Implementation in ASEAN

2023-present: Human Resource Development for Science, Technology, and Innovation Coordinator bridging between ASEAN and Japan

Other international activity

Asian Committee for Future Accelerator, 2013-2021

International Program Committee member of FEL 2003, FEL2013, FEL2015, FEL2017, FEL2018 -FEL2024, FEL2025

Scientific Program Committee member of IPAC2010, IPAC2011, IPAC2012, IPAC2013, IPAC2014, IPAC2022, IPA2023, FLS2018, FLS2021, FLS2023

International Machine Advisory Committee of TARLA, Turkey, 2010-present

Consultant of COMPETENCE program, UNESCO, 2009-2015

ODA-UNESCO activity in Energy Science Education in Asia region, 2011-2014

Convener of Working Program of Industrial Application of ELI-NP, Romania, 2014-present
Coordinator of AUN/SEED-Net in Energy Engineering Field, 2014 – 2023
Representative of Japan Supporting University of AUN/SEED-net, 2023-present
Group Leader of Energy and Environment Joint Lab of Japan-ASEAN Science and Technology Innovation Platform (JASTIP), 2015-2024
Coordination between ASEA and Japan towards Grand Challenges", Japan-ASEAN Integration Fund (JAIF), 2024.12.9-2026.12.8

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ResearcherID: J-4485-2018

Publications in recent 3 years (total 249 reviewed international journal paper)

1. R. Yamato, S. Kobayashi, T. Fujita, K. Nagaoka, K. Nagasaki, S. Inagaki, T. Kawate, H. Ohgaki, T. Kii; H. Zen, S. Kado, T. Minami; H. Okada, S. Ohshima, S. Konoshima,; T. Mizuuchi, Y. Mototake, "Measurement of X-ray bremsstrahlung radiation from high energy electrons by stochastic acceleration in Heliotron J", Rev. Sci. Instrum. 96, 033512 (2025) https://doi-org.kyoto-u.idm.oclc.org/10.1063/5.0231450
2. Norihiro Sei, Heishun Zen, Hideaki Ohgaki, Ryoichi Hajima, "Temporal evolution of electron-bunch length in macropulse of resonator-type free-electron lasers", iScience, ISCI 111402 (2024) https://doi.org/10.1016/j.isci.2024.111402
3. JU YOON HNIN BO, Heishun Zen and Hideaki Ohgaki, "Measurement of temporal evolution of antiferromagnetic domain change in nickel oxide driven by 2TO phonon mode excitation via pump-probe experiment", JJAP, vol.63, 11, 112001 (2024) DOI 10.35848/1347-4065/ad879c
4. Kawase, K; Zen, H; Sakai, T; Hayakawa, Y; Ohgaki, H; Hajima, R, "Beam characterization of mid-infrared free electron laser to drive high-harmonic generation", JAPANESE JOURNAL OF APPLIED PHYSICS, Volume 63, Issue 7, 072001 (2024) DOI10.35848/1347-4065/ad5425
5. Hajima, R; Kawase, K; Koga, JK; Zen, HS; Ohgaki, H, "Breakdown of argon by a train of high-repetition long-wave-infrared pulses from a free-electron laser oscillator", OPTICS EXPRESS, Volume 32, Issue 13, Page22722-22737 (2024) DOI10.1364/OE.524887
6. Soumya Basu, Khadija Usher, Tamiya Hiroyuki, Rei Akasegawa, Yang Hui, Qu Chen, Jordi Cravioto, Hideaki Ohgaki, "Synergies and trade-offs quantification from regional waste policy to sustainable development goals: The case of Kyoto City", Sustainable Development. 2024;1–21. DOI: 10.1002/sd.3001
7. Keisuke Sota , Kota Ando , Heishun Zen , Toshiteru Kii , Hideaki Ohgaki , Takashi Nakajima, "Morphological study of depth-controlled high quality holes and lines fabricated on a metal

substrate with a thin metal film by picosecond laser pulses", Optics & Laser Technology, Volume 175, August 2024, 110853, https://doi.org/10.1016/j.optlastec.2024.110853

8. H. Ohgaki, K. Ali, T. Kii, H. Zen, T. Hayakawa, T. Shizuma, M. Fujimoto, Y. Taira, "Generation of flat-laser Compton scattering γ-ray beam", Physical Review Accelerators and Beams vol. 26, 093402 (2023) DOI：10.1103/PhysRevAccelBeams.26.093402
9. H. Zen, R. Hajima, H. Ohgaki, "Full characterization of superradiant pulses generated from a free-electron laser oscillator", Scientific Reports vol.13, 6350, 2023, DOI：10.1038/s41598-023-33550-z
10. H. Zen, R. Hajima, H. Ohgaki, "Nonlinear compression of naturally down-chirped superradiance pulses from a free-electron laser oscillator by thick germanium plates", Optics Express, vol. 31, No. 24, 40928-40936 (2023), DOI：10.1364/OE.503090
11. Yuhao Zhao, Heishun Zen and Hideaki Ohgaki, "The Particle-Tracking Simulation of a New Photocathode RF Gun in the Free-Electron Laser Facility, KU-FEL", Particles 2023, 6(2), 638-646; https://doi.org/10.3390/particles6020037 - 06 Jun 2023
12. Anugerah Yuka Asmara, AR. Rohman Taufiq Hidayat, B. Kurniawan, H. Ohgaki, T. Mitsufuji, J. Cravioto, "Building a Sustainable Photovoltaic Innovation System in Indonesia Through Network Governance Perspective", Environment & Policy, Environmental Governance in Indonesia, A. Triyanti et al. (eds.), 61, 463-485, 2023
13. Y. Uozumi, T. Furuta, Y. Yamaguchi, H. Zen, T. Kii, H. Ohgaki, E. Velicheva, V. Kalinnikow, Z. Tsamalaidze, P. Evtoukhovitch, "Study of crystalline scintillator response with development of single-electron beam of 2–6 MeV at KU-FEL", Journal of Nuclear Science and Technology, 2023, https://doi.org/10.1080/00223131.2023.2172087
14. N. Sei, H. Zen, and H. Ohgaki, "Deformation of an electronic bunch caused by free-electron lasers", Physica Scripta, vol.98, 025510, 2023, DOI：10.1088/1402-4896/acb253
15. V. Vai, S. Eng, C. Chhlonh, H. Ohgaki, "Economic Analysis of a Grid-Connected Rooftop PV System for a Factory in Phnom Penh", Regional Conference in Mechanical Manufacturing Engineering, 1177-1186, 2022
16. Zul Ilham, Indrani Subramaniam, Adi Ainurzaman Jamaludin, Wan Abd Al Qadr Imad Wan-Mohtar, Sarina Abdul Halim-Lim, Hideaki Ohgaki, Keiichi Ishihara, Mohd Radzi Abu Mansor, "Analysing dimensions and indicators to design energy education framework in Malaysia using the analytic hierarchy process (AHP)", Energy Reports, vol. 8, pp.1013-1024, 2022, DOI：10.1016/j.egyr.2022.07.126
17. N. Sei, H. Zen, H. Ohgaki, "Peak Shift of Coherent Edge Radiation Spectrum Depending on Radio Frequency Field Phase of Accelerator", Applied Sciences, vol.12, No.2, 626 (2022) DOI：10.3390/app12020626

18. T. Shizuma, F. Minato, M. Omer, T. Hayakawa, H. Ohgaki, S. Miyamoto, “Low-lying electric and magnetic dipole strengths in Pb-207”, Physical Review C, vol.103, No.2, 024309 (2021).
19. V. Vai, L. Bun, H. Ohgaki, “Integrated Battery Energy Storage into an Optimal Low Voltage Distribution System with PV Production for an Urban Village”, International Journal on Advanced Science, Engineering and Information Technology, vol.10, no.6, pp.2458-2464 (2021).

Prof. Hideaki OHGAKI (Dr.Eng) is professor of Institute of Advanced Energy, Kyoto University. He was engaged at National Institute of Advanced Industrial Science and Technology till 2001, and was a visiting researcher at Lawrence Berkeley Laboratory, USA, in 1994-1995 and Duke University, USA, in 1999-2000. His interests are electron accelerators and quantum radiations, such as free electron lasers and laser Compton backscattering gamma-rays. One of the application research of LCS gamma-rays, he has been working on Nuclear Resonance Fluorescence experiment which has been applied to detect hidden special nuclear materials, as well.

On the other hand, he has an interest in the new and renewable energy system and implementation toward sustainable development in ASEAN.

So far, he published more than 200 international reviewed papers, 15-patents, and 97-invited talks.

Dr. Hideaki Ohgaki
Professor, Institute of Advanced Energy, Kyoto University

Dr. Hideaki Ohgaki is a professor at Kyoto University.
He was engaged at National Institute of Advanced Industrial Science and Technology from 1989 to 2001, and was a visiting researcher at Lawrence Berkeley Laboratory, USA, in 1994-1995 and Duke University, USA, in 1999-2000. His Ph. D research was Nuclear Engineering field, especially in a radiation measurement. He has been developing electron accelerators and quantum radiations. One of his scientific achievements is generation and application of "Laser Compton Backscattering Gamma-rays" which have been applied to Nuclear Physics research, Nuclear Security and Safety.

On the other hand, he has an interest in an implementation of renewable energy in ASEAN region and the social aspect of the electrification in rural area has been investigated by collaborative research with ITC researchers in Cambodia.

During his academic carrier, he served as a member of planning office in METI, a program officer of JST and Kyoto University, as well as an advisor of president of Kyoto University.

So far, he published more than 200 international reviewed papers, 15-patents, and 88-invited talks.