

Curriculum Vitae

NAME

Akira Ushiyama

CONTACT DETAILS

Department of Environmental Health,

National Institute of Public Health

2-3-6 Minami, Wako City, Saitama, Japan 351-0197

ushiyama.a.aa@niph.go.jp

tel +81-48-458-6254

DEGREES

1991 B.Sci. degree in Biochemistry from Saitama University, Japan

1993 M.Sci. degree in Bioscience from Tokyo Institute of Technology (TIT), Japan

1996 Ph.D. degree in Bioscience from Tokyo Institute of Technology (TIT), Japan

1997 MPH degree from National Institute of Public Health, Japan

CURRENT AND PRIOR POSITIONS

Apr. 1996 to Aug. 2000: Researcher in Department of Physiological Hygiene, National Institute of Public Health, Japan

Sep. 2000 to Aug. 2001: Visiting researcher in Edwin L. Steele Laboratory, Massachusetts General Hospital, Harvard Medical School, Boston, USA

Sep.2001 to Mar. 2007: Senior Researcher in Department of Environmental Health, National Institute of Public Health, Saitama, Japan

Apr. 2007 to Mar. 2019: Chief Senior Researcher in Department of Environmental Health, National Institute of Public Health, Saitama, Japan

Apr. 2019 to Mar. 2021: Research Managing Director, National Institute of Public Health, Saitama, Japan

Apr.2021 to current: Director, in Department of Environmental Health, National Institute of Public Health, Saitama, Japan

CURRENT SCIENTIFIC ACTIVITY RELATED ON BIOELECTROMAGNETICS

(1) Research

Project title: A feasibility study on the standardization of research designs to assess possible health hazards of exposure to EMF

Funding: Ministry of International Affairs and Communication

Principal Investigator: Yukihsa Suzuki

Co-Investigators: Masateru Ikehata, Kenji Hattori, **Akira Ushiyama**

(2) Contribution as Experts for National Authority

Committee member of Ministry of International Affairs and Communication

(3) Contribution as Experts for International Authority

Member of International Advisory Committee of WHO EMF project (representative of Japan)

Member of WHO task group on Radiofrequency Fields and Health Monograph

(4) Contribution to Society

Associate editor of "Bioelectromagnetics"

RELEVANT SCIENTIFIC PUBLICATIONS

Research article (*limited to the peer-review journal and the thesis of bioelectromagnetics research)

1. Ohtani S, **Ushiyama A**, Wada K, Suzuki Y, Hattori K. In vivo genotoxicity of high-intensity intermediate frequency magnetic fields in somatic cells and germ cells. *J Radiat Res.* 2023 Mar 23;64(2):250-260.
2. Wada K, Suzuki Y, **Ushiyama A**, Ohtani S, Hattori K, Saito A, Nakasono S, Miyawaki S, Yanagisawa T, Ohnuma Y. Design and Implementation of Magnetic Field Generator with 82 mT and 85 kHz Bandwidth Date of Evaluation. *IEICE Communications Express (ComEX)* 2022, 11(10), p661-665.
3. Saito, A., Ohtani, S., Wada, K., Suzuki, Y., Hattori, K., **Ushiyama, A.**, & Nakasono, S. Real-Time Detection of Neuronal Network Activity Under 85 kHz Band High-Intensity Intermediate Frequency-Magnetic Field Exposure. *URSI RADIO SCIENCE LETTERS, VOL. 4, 2022*
4. Ohtani S, **Ushiyama A**, Wada K, Suzuki Y, Hattori K, Ishii K. No evidence for genotoxicity in mice due to exposure to intermediate-frequency magnetic fields used for wireless power-transfer systems. *Mutation Research - Genetic Toxicology and Environmental Mutagenesis.* 2021 Mar-Apr 2021;863-864:503310.
5. Shimura T, Ando T, Narao M, Sasatani M, Kamiya K, **Ushiyama A.** Mechanism of turnover or persistence of radiation-induced myofibroblast in vitro. *Cell Cycle.* 2020 Dec;19(23):3375-3385.
6. Shimura T, Nakashiro C, Narao M, **Ushiyama A.** Induction of oxidative stress biomarkers following whole-body irradiation in mice. *PLoS One.* 2020; 15(10):e0240108.
7. Ohtani S, **Ushiyama A**, Maeda M, Wada K, Suzuki Y, Hattori K, Kunugita N, Ishii K. Global Analysis of Transcriptional Expression in Mice Exposed to Intermediate Frequency Magnetic Fields Utilized for Wireless Power Transfer Systems. *Int J Environ Res Public Health.* 2019; 25;16(10):1851.
8. Ohtani S, **Ushiyama A**, Maeda M, Hattori K, Kunugita N, Wang J, Ishii K. Exposure time-dependent thermal effects of radiofrequency electromagnetic field exposure on the whole body of rats. *J Toxicol Sci.*, 2016; 41(5), 655-666.

9. Masuda H, Hirota S, **Ushiyama A**, Hirata A, Arima T, Kawai H, Wake K, Watanabe S, Taki M, Nagai A, Ohkubo C. No Dynamic Changes in Inflammation-related Microcirculatory Parameters in Developing Rats During Local Cortex Exposure to Microwaves. *In Vivo*, 2015; 29(3):351-7.
10. Masuda H, Hirota S, **Ushiyama A**, Hirata A, Arima T, Watanabe H, Wake K, Watanabe S, Taki M, Nagai A, Ohkubo C. No Dynamic Changes in Blood-brain Barrier Permeability Occur in Developing Rats During Local Cortex Exposure to Microwaves. *In Vivo*, 2015; 29(2):207-15.
11. Win-Shwe TT, Ohtani S, **Ushiyama A**, Kunugita N. Early exposure to intermediate-frequency magnetic fields alters brain biomarkers without histopathological changes in adult mice. *Int J Environ Res Public Health.*, 2015;12(4):4406-21.
12. Ohtani S, **Ushiyama A**, Maeda M, Ogasawara Y, Wang J, Kunugita N, Ishii K. The effects of radio-frequency electromagnetic fields on T cell function during development. *J Radiat Res.*, 2015; 56(3):467-74.
13. Masuda H, Hirota S, **Ushiyama A**, Hirata A, Arima T, Watanabe H, Wake K, Watanabe S, Taki M, Nagai A, Ohkubo C. No changes in cerebral microcirculatory parameters in rat during local cortex exposure to microwaves. *In vivo*, 2015; 29(2):207-15.
14. **Ushiyama A**, Ohtani S, Suzuki Y, Wada K, Kunugita N, Ohkubo C. Effects of 21-kHz intermediate frequency magnetic fields on blood properties and immune systems of juvenile rats. *Int J Radiat Biol.*, 2014; 90(12):1211-7.
15. Ohtani S, **Ushiyama A**, Ootsuyama A, Kunugita N. Persistence of red blood cells with Pig-a mutation in p53 knockout mice exposed to X-irradiation. *J Toxicol Sci.*, 2014; 39(1):7-14
16. Nakatani-Enomoto S, Furubayashi T, **Ushiyama A**, Groiss SJ, Ueshima K, Sokejima S, Simba AY, Wake K, Watanabe S, Nishikawa M, Miyawaki K, Taki M, Ugawa Y. Effects of electromagnetic fields emitted from W-CDMA-like mobile phones on sleep in humans. *Bioelectromagnetics*, 2013;34(8):589-98.
17. Win-Shwe TT, Ohtani S, **Ushiyama A**, Fujimaki H, Kunugita N. Can intermediate-frequency magnetic fields affect memory function-related gene expressions in hippocampus of C57BL/6J mice? *J Toxicol Sci.*, 2013; 38(2):169-76.
18. Ohtani S, Unno A, **Ushiyama A**, Kimoto T, Miura D, Kunugita N. The in vivo Pig-a gene mutation assay is useful for evaluating the genotoxicity of ionizing radiation in mice. *Environ Mol Mutagen.*, 2012; 53(8):579-88.
19. Hirota S, Matsuura M, Masuda H, **Ushiyama A**, Wake K, Watanabe S, Taki M, Ohkubo C Direct observation of microcirculatory parameters in rat brain after local exposure to radio-frequency electromagnetic field. *Environmentalist*, 2009; 29, 186–189.
20. Masuda H, **Ushiyama A**, Takahashi M, Wang J, Fujiwara O, Hikage T, Nojima T, Fujita K, Kudo M, Ohkubo C. Effects of 915 MHz electromagnetic-field radiation in TEM cell on the blood-brain barrier and neurons in the rat brain. *Radiat Res.*, 2009; 172(1):66-73.
21. Furubayashi T, **Ushiyama A**, Terao Y, Mizuno Y, Shirasawa K, Pongpaibool P, SimbaAY, Wake K, Nishikawa M, Miyawaki K, Yasuda A, Uchiyama M, Yamashita HK, Masuda H, Hirota S, Takahashi M, Okano T, Inomata-Terada S, Sokejima S, Maruyama E, Watanabe S, Taki M, Ohkubo C, Ugawa Y. Effects of short - term W - CDMA mobile phone base station exposure on women with or without mobile phone related symptoms. *Bioelectromagnetics*, 2009; 30:100-113.

22. Masuda H, **Ushiyama A**, Hirota S, Wake K, Watanabe S, Yamanaka Y, Taki M, Ohkubo C. Effects of subchronic exposure to a 1439 MHz electromagnetic field on the microcirculatory parameters in rat brain. *In Vivo*, 2007; 21(4):563-70 .
23. Masuda H, **Ushiyama A**, Hirota S, Wake K, Watanabe S, Yamanaka Y, Taki M, Ohkubo C. Effects of acute exposure to a 1439 MHz electromagnetic field on the microcirculatory parameters in rat brain. *In Vivo*, 2007; 21(4):555-62 .
24. Jia F, **Ushiyama A**, Masuda H, Lawlor GF, Ohkubo C. Role of blood flow on RFexposure induced skin temperature elevations in rabbit ears. *Bioelectromagnetics*, 2007; 28(3):163-72.
25. Traikov L, **Ushiyama A**, Lawlor G, Sasaki R, Ohkubo C. Subcutaneous Arteriolar Vasomotion Changes During and After ELF-EMF Exposure in Mice in Vivo. *The Environmentalist*, 2005; 25, 93–101
26. Ohkubo C, Okano H, **Ushiyama A**, Masuda H EMF effects on microcirculatory system. *The Environmentalist*, 2007; 27(4), 395-402
27. **Ushiyama A**, Masuda H, Hirota S, Wake K, Kawai H, Watanabe S, Taki M, Ohkubo C. Biological Effect on blood cerebrospinal fluid barrier due to radio frequency electromagnetic fields exposure of the rat brain in vivo *Environmentalist*, 2007; 27(4), 489-492
28. **Ushiyama A**, Masuda H, Hirota S, Ohkubo C. Subchronic effects on leukocyte-endothelial interactions in mice by whole body exposure to extremely low frequency electromagnetic fields *In Vivo*, 2004; 18(4):425-32.
29. **Ushiyama A**, Yamada S, Ohkubo C. Microcirculatory parameters measured in subcutaneous tissue of the mouse using a novel dorsal skinfold chamber. *Microvasc Res.*, 2004; 68 (2) 147-52.
30. **Ushiyama A**, Ohkubo C. Acute effects of low-frequency electromagnetic fields on leukocyte-endothelial interactions in vivo. *In Vivo*, 2004; 18(2):125-32