



Prof. Toshiro Kaneko

Department of Electronic Engineering,
Tohoku University, Japan

Education

- 1994.4-1997.3 [Ph.D.] in Plasma Physics and Application, Tohoku University.
1992.4-1994.3 [M.E.] in Plasma Physics and Application, Tohoku University.
1988.4-1992.3 [B.E.] in Plasma Physics and Application, Tohoku University.

Professional Background

- 2012 - present Professor, Tohoku University.
2004 – 2012 Associate Professor, Tohoku University.
1997 – 2003 Assistant Professor, Tohoku University.

Publication

1. T. Kaneko, K. Baba, and R. Hatakeyama: Static gas-liquid interfacial direct current discharge plasmas using ionic liquid cathode, *J. Appl. Phys.*, 105, 103306 (2009).
2. T. Kaneko, Q. Chen, T. Harada, and R. Hatakeyama: Structural and reactive kinetics in gas-liquid interfacial plasmas, *Plasma Sources Sci. Technol.*, 20, 034014 (2011).
3. S. Sasaki, M. Kanzaki, and T. Kaneko: Highly efficient and minimally invasive transfection using time-controlled irradiation of atmospheric-pressure plasma, *Appl. Phys. Express*, 7, 026202 (2014).
4. T. Kaneko, S. Sasaki, Y. Hokari, S. Horiuchi, R. Honda, and M. Kanzaki: Improvement of cell membrane permeability using a cell-solution electrode for generating atmospheric-pressure plasma, *Biointerphases*, 10, 029521 (2015).
5. S. Sasaki, R. Honda, Y. Hokari, K. Takashima, M. Kanzaki, and T. Kaneko: Characterization of plasma-induced cell membrane permeabilization: focus on OH radical distribution, *J. Phys. D*, 49, 334002 (2016).
6. S. Sasaki, M. Kanzaki, and T. Kaneko: Calcium influx through TRP channels induced by short-lived reactive species in plasma-irradiated solution, *Sci. Rep.*, 6, 25728 (2016).
7. T. Kaneko, S. Sasaki, K. Takashima, and M. Kanzaki: Gas-liquid interfacial plasmas producing reactive species for cell membrane permeabilization, *J. Clin. Biochem. Nutr.*, 60, 3 (2017).
8. S. Sasaki, Y. Hokari, A. Kumada, M. Kanzaki, and T. Kaneko: Direct plasma stimuli including electrostimulation and OH radical induce transient increase in intracellular Ca²⁺ and uptake of a middle-size membrane-impermeable molecule, *Plasma Process. Polym.*, 15, e1700077 (2018).