



Okino Lab.

Development of atmospheric temperature-controllable plasma and application to medical/material/agricultural field

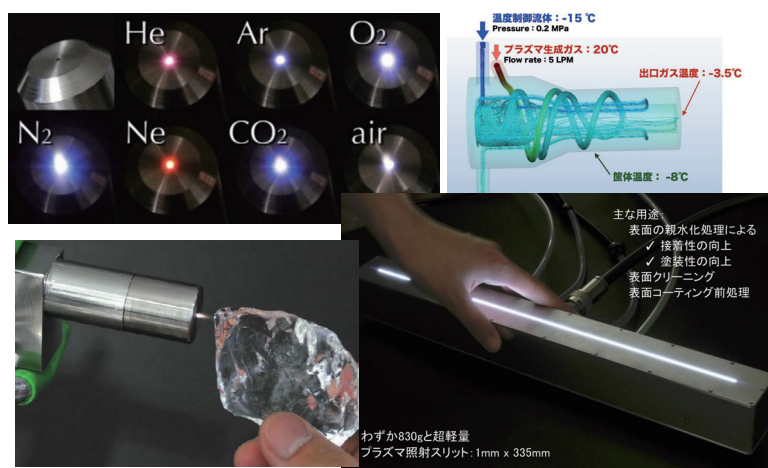
Applied Electronics Research Core, FIRST

<http://ap.first.iir.titech.ac.jp>

- New atmospheric plasma source/Power supply for plasma generation
- Sterilization/Hemostasis/Surface treatment with low temperature plasma
- Development mass spectrometer for single iPS/cancer cell
- Genome editing of plants, Plasma agriculture

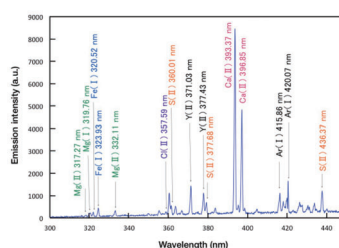
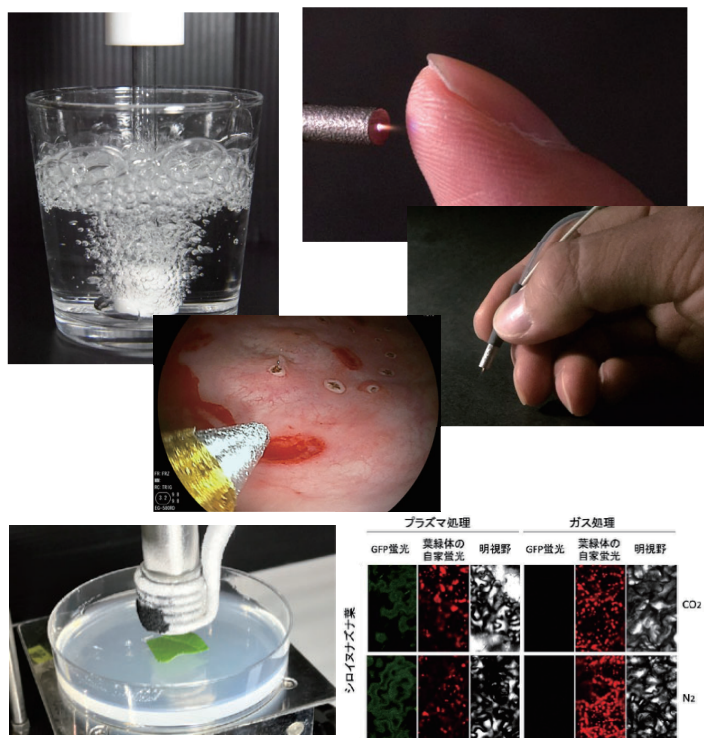
In Okino lab., advanced atmospheric pressure plasma sources including multi-gas temperature-controllable plasma have been developed.

Research and development on plasma application devices that can contribute to medical, life science, materials, and environmental fields are conducted.



Multi-gas temperature-controllable plasma

- Various gas plasma such as nitrogen, oxygen, air
- From below-zero degree to high temperature plasma
- Various sizes and shapes plasma from μ -TAS to meters



Pseudococcomyxa simplex

Element	Absolute amount (fg)
Fe	360



Medical/material/agricultural applications

- Sterilization/Bonding/Surface modification
- Ultra small plasma jet for endoscopic haemostasis
- Genome editing of plants

Development of high-sensitive analysis system

- Mapping analysis system for materials on skin surface
- Trace elemental analysis system for single cell
- Micro plasma emission/ionization source for μ -TAS