Radiation Research Center of Osaka Prefecture University has large-scale radiation facilities such as cobalt-60 γ-ray sources, a 16 MeV electron linear accelerator, and laboratories for handling radioisotopes. This center has a long history and is one of the largest radiation research centers in Japanese universities. Those are open for many users in universities and industries.

1959 Radiation Center of Osaka Prefecture (RCOP)
1962 Installation of RCOP electron linear accelerator
1990 Research Institute of Osaka Prefecture Univ. (OPU)
1995 Research Institute for Advanced Science and Technology
2005 Radiation Research Center of Organization of U-I-G Cooperation
2011 Radiation Research Center in Research Organization for University-Community Collaborations
**Gamma rays**

**Cobalt 60 γ-ray irradiation facilities**
(for high dose rate, multi-purposes)

- **[Testing, examination]**
  - electronic parts and devices
  - devices in nuclear power plants
  - robots, optical parts, detectors and cables
  - electronic devices in artificial satellites

- **[Biological effects]**
  - mutation, sterilization

- **Cherenkov radiation from γ-ray sources**

- **[Examination]**
  - radiation detectors
  - radiation dosimeters

- **[Coloring, excitation]**
  - coloring of glass, pearl, jewel
  - chronological applications

- **[Accelerator technology]**
  - development of accelerator components

- **[Ultra–low intensity electron beams]**
  - development and applications to highly-sensitive radiation dosimeters, advanced measurement and biology

- **[ns–ms pulse radiolysis]**
  - transient phenomena induced by radiation

- **[Intense THz light source]**
  - THz radiation from electron beams

- **[Electron radiography]**
  - non-destructive inspection
  - ozone explosion in liquid nitrogen

- **[Low-energy electron irradiation]**
  - surface reformation
  - electrification of nano-particles
  - introduction of color centers
  - defect introduction near the threshold energies

- **[Radiation effects]**
  - development of radiation tolerable materials

**Electron beams**
Radioisotopes

[Radiation measurement]
- Elementary analysis
- Age dating
- Examination of radiation detectors

[Tracer experiments]
- Labeled compounds
- Autoradiography
- Metabolic research

[Positrons]
- Radiation damage in materials
- Methods for analysis

Radiation sources
- Co 60 γ-ray sources (4 × 10¹⁵ Bq, 10⁵ Ci)
- 4 irradiation rooms and a water pool

Electron accelerators
- 16 MeV electron linear accelerator (OPU linac)
- 600 keV Cockroft-Walton electron accelerator
- 100 keV electron accelerator

Ion accelerator
- 3 MeV tandem ion accelerator

Radioisotope handling facilities
- Devices for analyses and measurements

Accelerator and γ-ray irradiation facilities