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# Microorganisms as Radiation Sensors

**A novel radiation-sensing technology measures microorganism reaction outputs to quantify biologically relevant DNA damage, offering a superior alternative to current dosimetry methods for exposure treatment and laboratory use.**

Measuring radiation has been an ever-improving science since radiation became an important topic decades ago. While devices can measure radiation in quantitative fashion, measuring radiation dosages in organisms has been a harder case to solve. Current radiation sensing technologies cannot provide biologically relevant information regarding radiation exposure, which prohibits us from learning the level of radiation damage.

Researchers at Purdue University have developed a method of measuring radiation that correlates with the actual damage caused by radiation to DNA in organisms. By measuring the reaction outputs of microorganisms supplied by sugar, information can be gathered regarding the extent that radiation damaged the DNA of the cells. This method of measuring radiation in organisms can replace outdated film badges and similar sensors while providing better, more biologically relevant information.

**Advantages**:

-Simple design and easy to measure

-Provides information useful for biological purposes

-Correlates with DNA damage

Potential Applications:

-Radiation exposure treatment

-Laboratory experiments

**TRL:** 4

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