

*The Annual NASA Space Radiation Summer School
2010 Slide Competition
For The Health Risks of Extraterrestrial Environments (THREE)*

*Honorable Mention
Narongchai (Ping) Autsavapromporn
University of Medicine and Dentistry of New Jersey*

*Submission on
Bystander Effect
from
Eric Hall (2008)
Cellular Radiobiology: Biological Responses
to High LET Radiation*

Relative Biological Effectiveness (RBE)

- The RBE of some test radiation (r) compared with x-rays is defined by the ratio D_x/D_r , where D_x and D_r are, respectively, the doses of x-rays and the test radiation for equal biological effect.

Recently, the dogma of radiation biology that ionizing radiation-induced deposition of energy in the nucleus of an irradiated cells lead to all the adverse consequences has been challenged by observations in which effects of ionizing radiation arise in cells that are not themselves irradiated.

These effects are demonstrated as referring to the induction of biological effects in cells not directly hit, but in proximity to cells that are.