

RADIATION AND THE IMMUNE SYSTEM

BMSIS NIGHT OF SCIENCE 2018



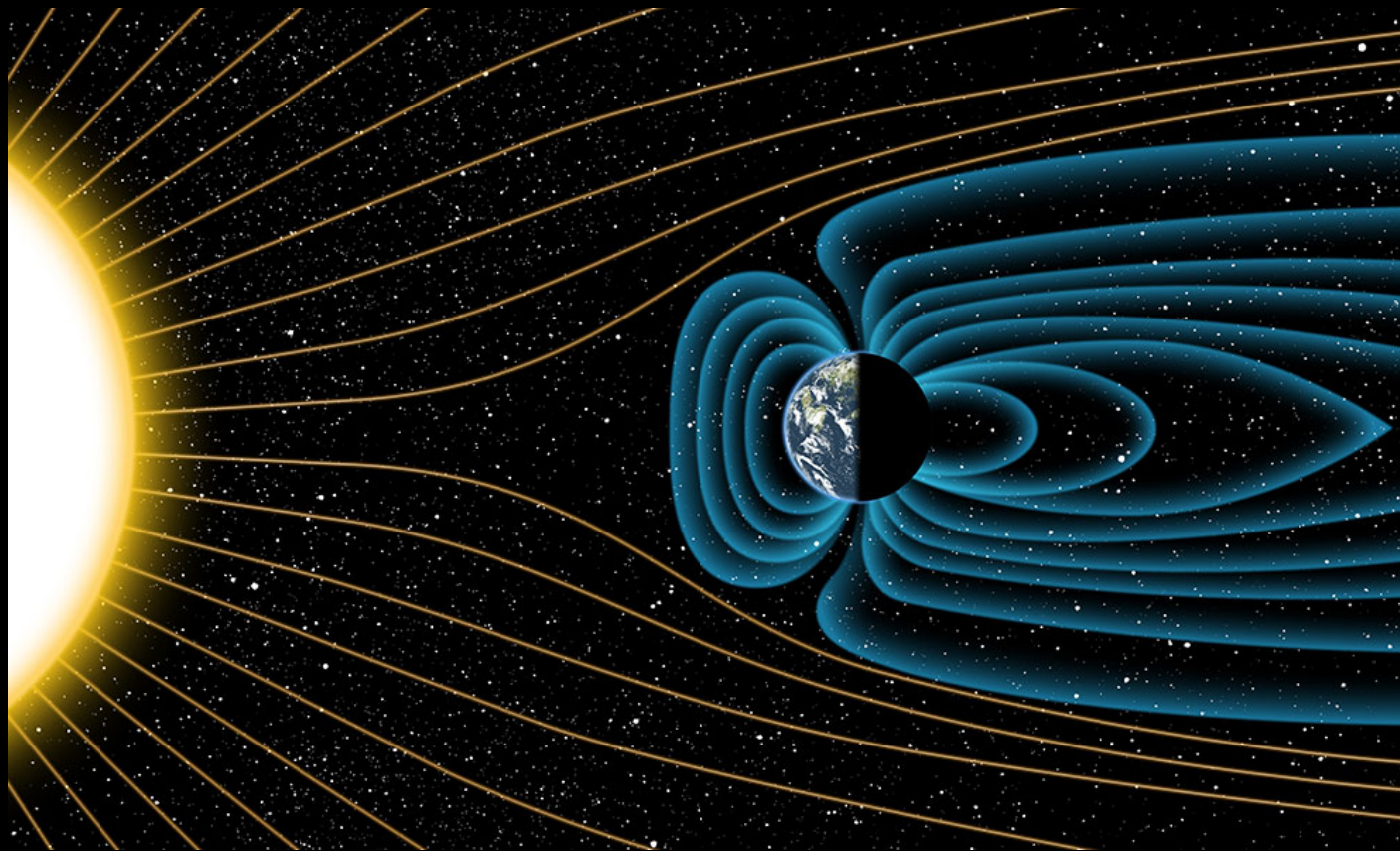
<https://nutritionfacts.org>

A BLESSING AND A CURSE

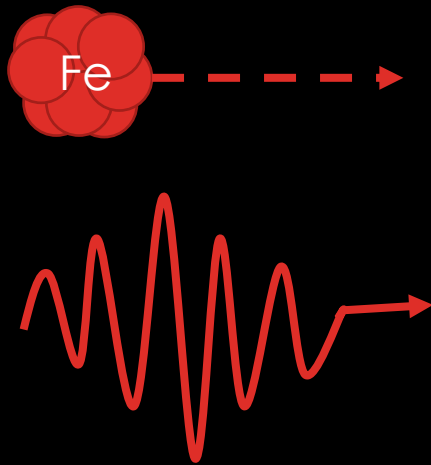


<https://www.fresherslive.com>
<https://www.istockphoto.com>

EARTH'S MAGNETIC FIELD



DIFFERENTIAL EFFECTS OF RADIATION



TYPE



AMOUNT

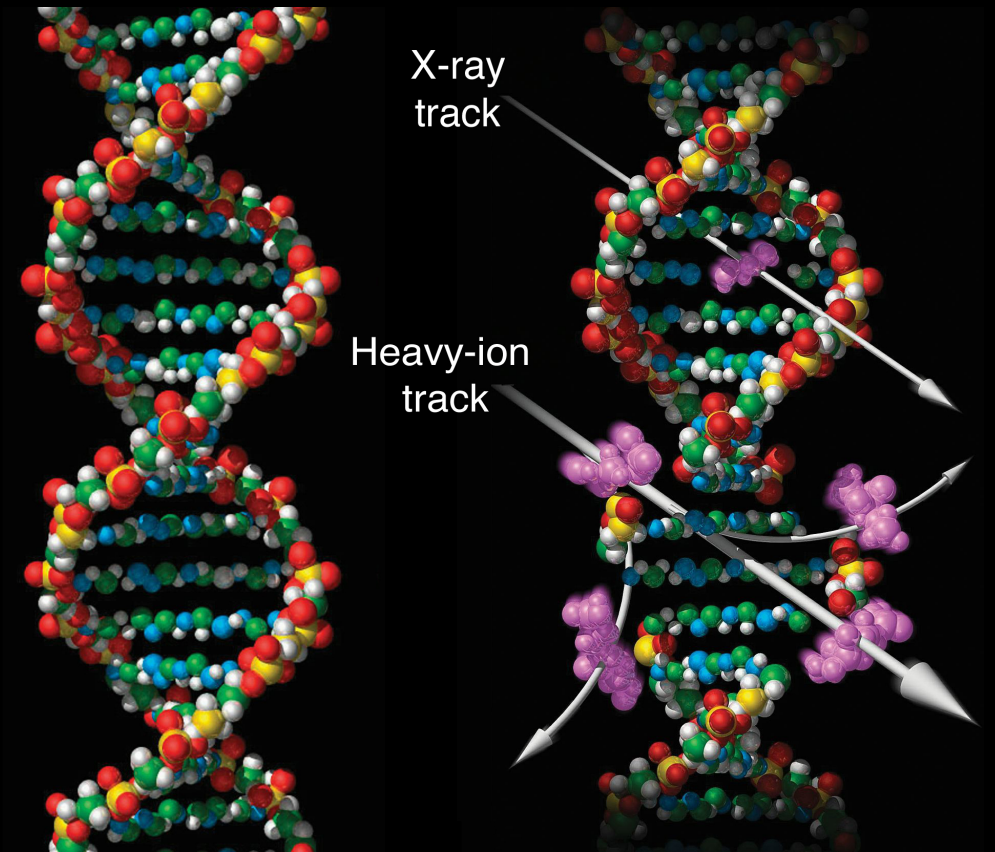


TARGET

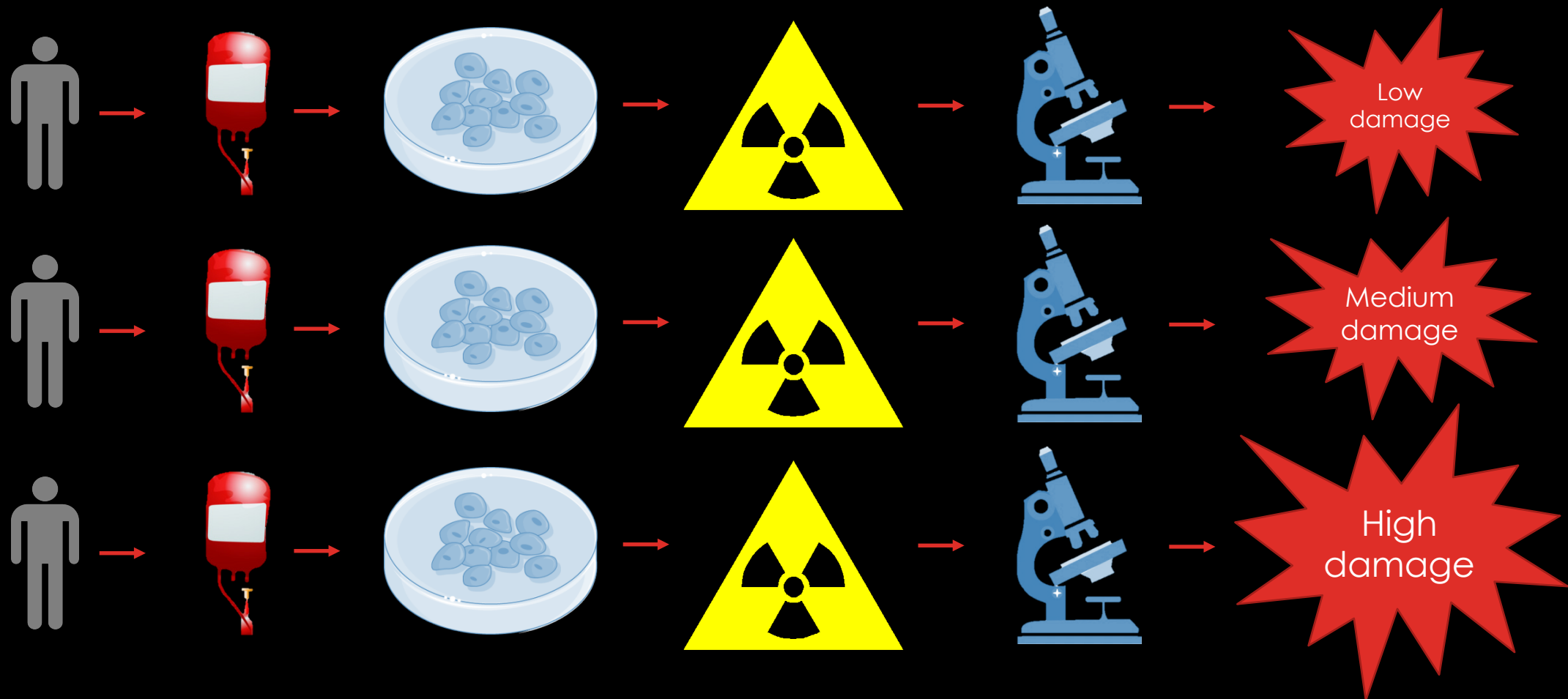
DNA DAMAGE

Radiation affects the immune system...but **how**?

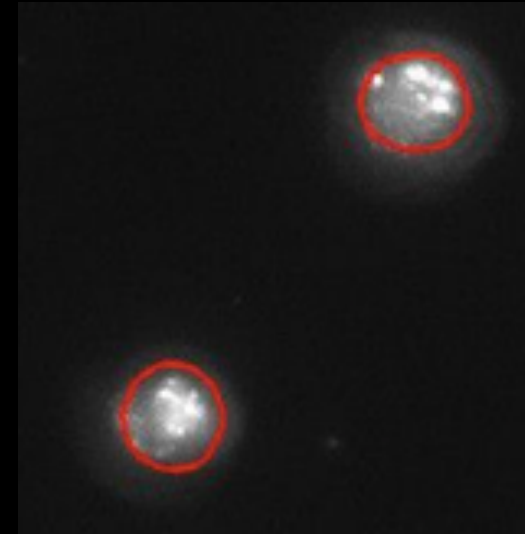
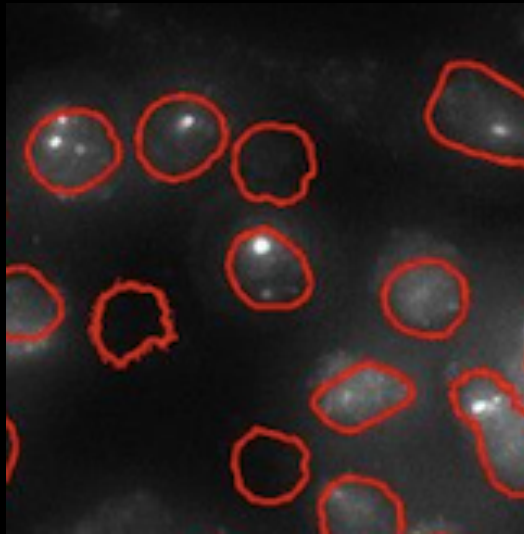
- extent?
- mechanisms?
- which immune cells?
- genetic markers?



STUDYING HUMAN IMMUNE RESPONSES

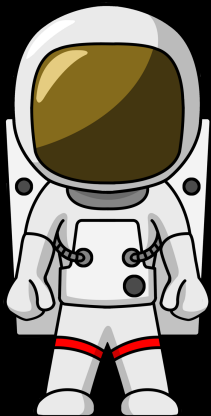


QUANTIFYING SENSITIVITY



PROTECTING ASTRONAUTS AND CIVILIANS

Genetic based risk
assessment for
astronauts



Personalized
medical radiation
treatments



Drugs to protect
most susceptible
immune cells





SPECIAL THANK YOU

Dr. Egle Cekanaviciute

Dr. Sylvain Costes

Sanjoy Som

YSP Program Coordinators