



International Academic Conference
on Radiation Health Risk Management
in Fukushima, 25-27, February, 2013

A training program for radiation
biologists of the next generation.

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Radiation Biology at a glance (current version)



Biology

Molecular biology

Animal model

repair cell death
mutation

transformation

radiation



min hour day month year decade

Acute symptoms

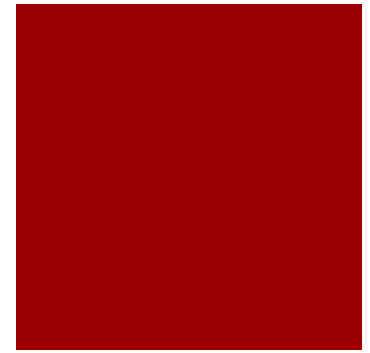
cancer

Medicine

Emergency medicine
Dosimetry

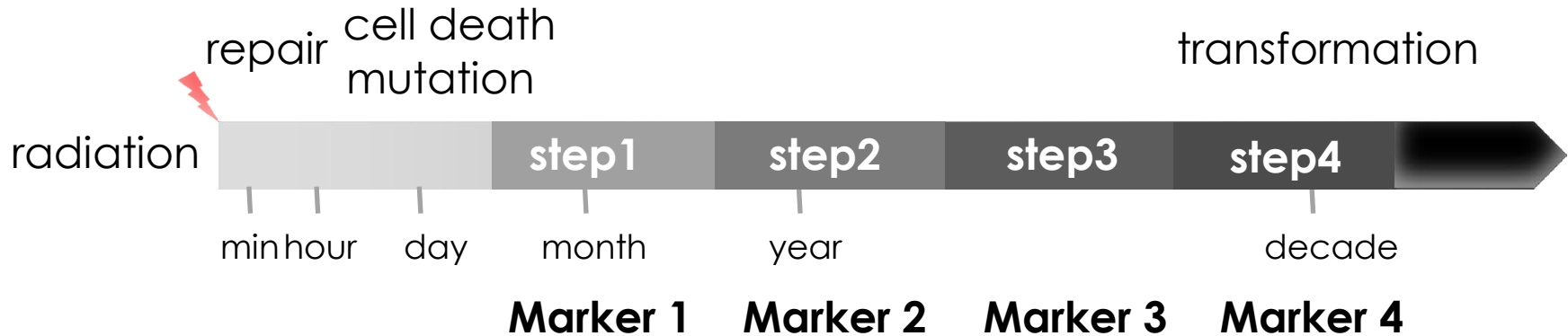
Epidemiology
Cancer therapy

Radiation Biology at a glance (future version)



Biology

Molecular biology in animal model

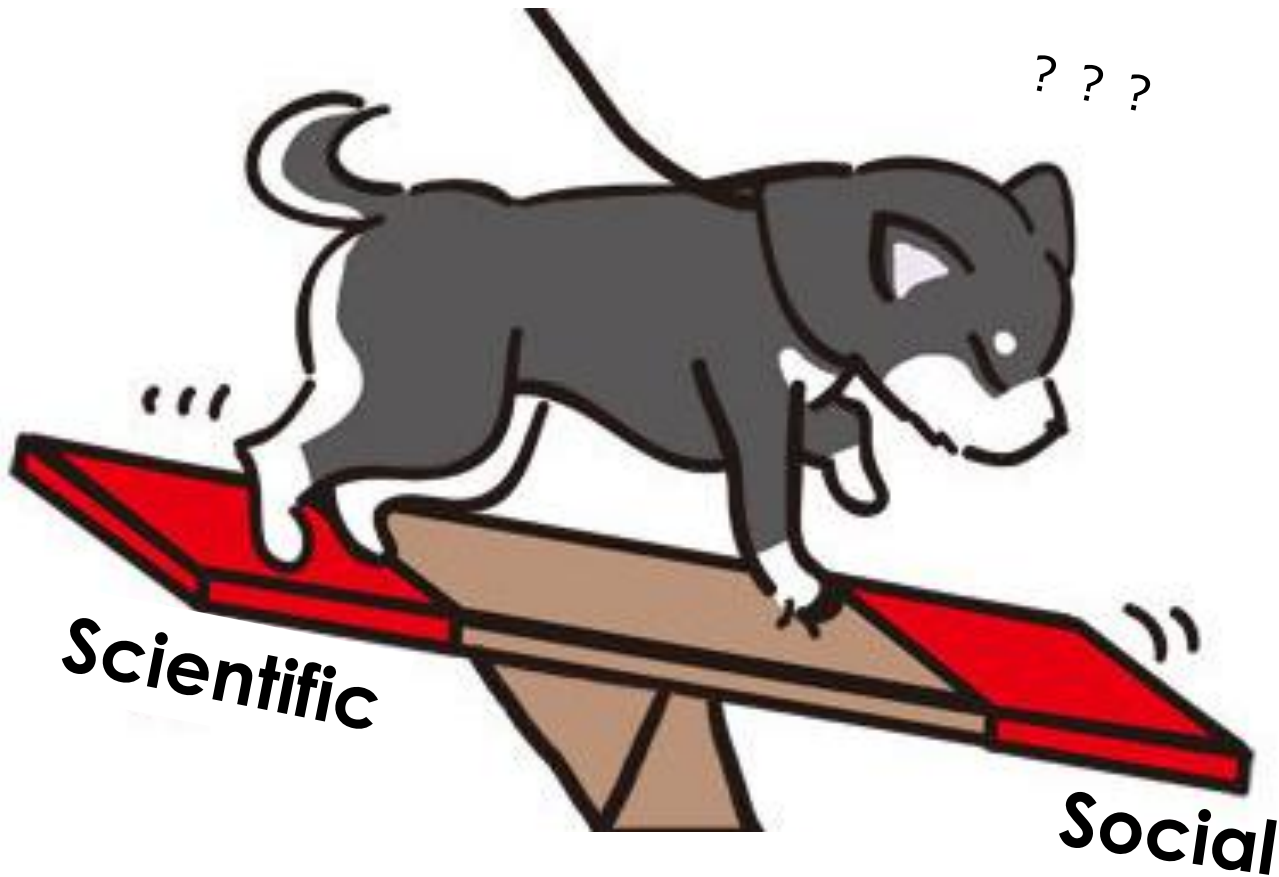


Medicine

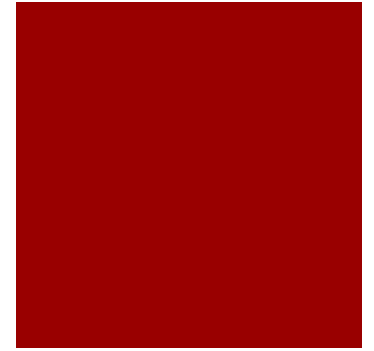
Biodosimetry (for low dose, long term)
Cancer prediction

To understand the radiation-induced carcinogenesis in a step-wise manner
To use the step-markers on site

Both sides are important.



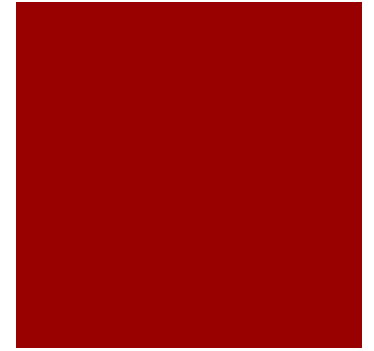
The Qs we (= molecular biologists) got after 311



- What is going on in the reactors?
- Shall we escape?
- How is the number (mSv) determined?
- Tell us the real story!
- I am expecting. What shall I do?

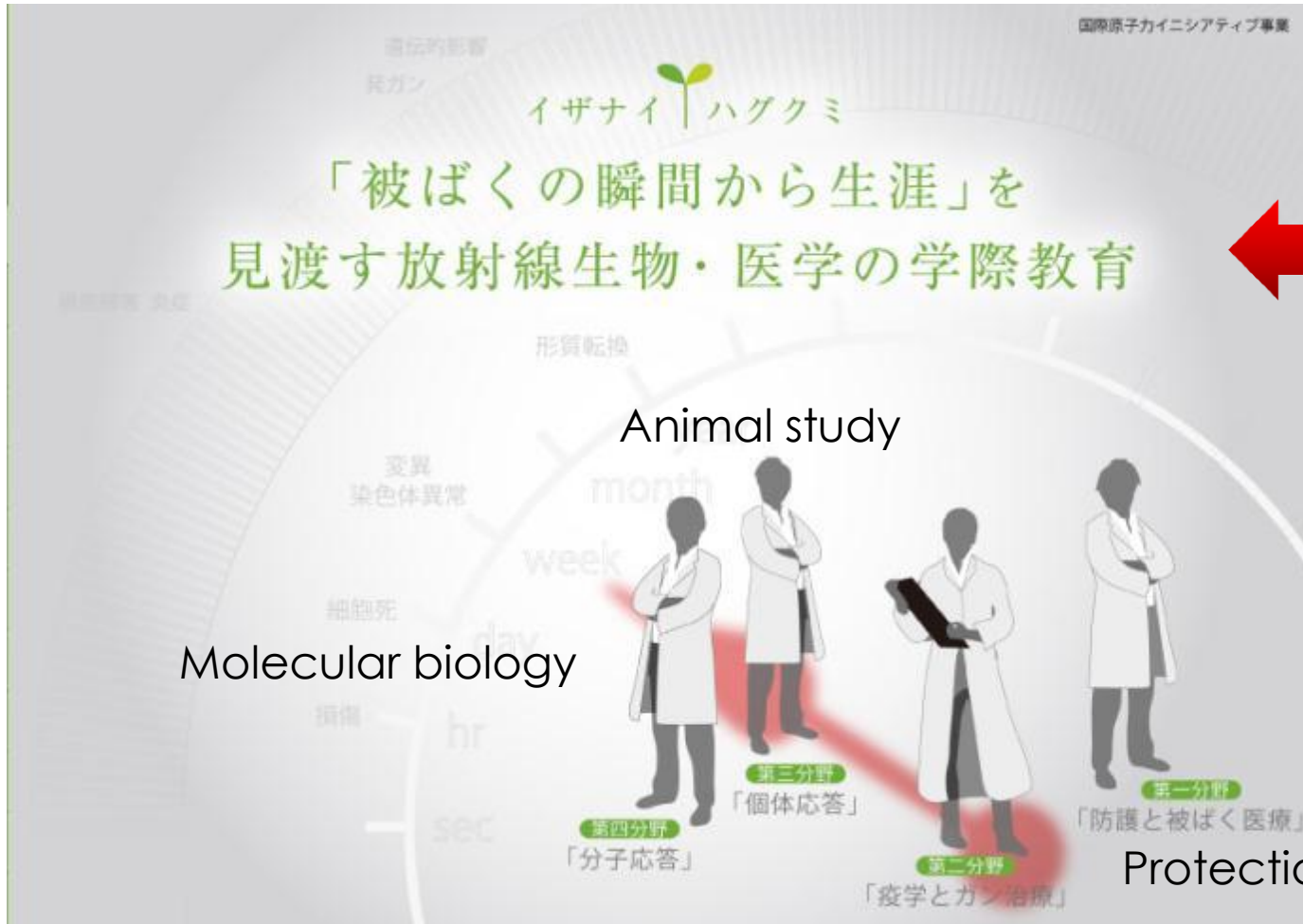


Ideal Radiation Biologists



- Bridge molecular and animal biology
- Think and do the real application on site
- Have broad knowledge in physics, chemistry, medicine, environment & food science, , , , ,
- Communicate with society

Our approach



Interdisciplinary training for radiation biologists who can take care from the moment of exposure for life time

Participating Institutes

supported by MEXT



Institute for Environmental Sciences



Establishing a Global Identity Creating with the Community

Hirosaki University



東北大学

TOHOKU UNIVERSITY



FUKUSHIMA MEDICAL UNIVERSITY



Radiation Effects Research Foundation

A Cooperative Japan-US Research Organization



National Institute of Radiological Sciences

独立行政法人 放射線医学総合研究所



国立大学法人

長崎大学

NAGASAKI UNIVERSITY



東京工業大学

Tokyo Institute of Technology



Our activities

■ Guidance for undergraduate students

3-day experience
in basic radiation biology
at NIRS



Left: Live-cell imaging analysis
(Dr. K. Suzuki, Nagasaki Univ.)

Right: Biodosimetry with chromosomes
(M. Yoshida, Hirosaki Univ.)

Bottom: Analysis of yeast checkpoint mutants
(Dr. K. Furuya, Kyoto Univ.)

■ Interdisciplinary training for Ph.D students & postdocs

2-day Lectures

10-day practice
at outside institutes

Coming soon

<http://house.rbc.kyoto-u.ac.jp/hito8996/index.html>

マウスを用いた低線量(率) 放射線影響研究

日時:平成25年3月5日(火)
場所:東京都内京都大学オフィス
(〒108-6027東京都港区港南2-15-1
品川インターシティA棟27階)

Low dose effects to animals

原爆被ばく者の 長期追跡調査

日時:平成25年3月18日(月)~19日(火)
場所:放射線影響研究所
(〒732-0815 広島市南区比治山公園5-2)

Epidemiology of atomic-b survivors

ICRP Publication 111 を読み解く

日時:平成25年3月21日(木)~22日(金)
場所:放射線医学総合研究所
(〒263-8555千葉市稲毛区穴川4-9-1)

The essence of ICRP Pub. 111

細胞の放射線初期応答 —DNA損傷と細胞周期制御—

日時:平成25年3月27日(水)~28日(木)
場所:岡山大学 創立50周年記念館
2階会議室(岡山県岡山市)

Initial response to radiation