

Example on how Nuclear Engineering & Science International Networks Collaborate Successfully when Building on their Mutual Strengths

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Nuclear Engineering & Science International Networks: Example of a Successful Collaboration

- The Need for Safety Culture Collaboration
- The University of Utah Nuclear Engineering Program (UNEP)
- Okayama University, Center for Safe and Disaster –Resistant Society (CSDRS)
- International Collaboration



The Need for Safety Culture Collaboration

- Different Cultures in Different Areas and Countries.
- Societies view of nuclear technology and recent incidents.
- Need for Engineers, Scientist and Technicians with a strong basis in safety culture.



Utah Nuclear Engineering Program (UNEP)

- ☢ Utah's Flagship University
- ☢ Campus - 1,534 acres
- ☢ 3 Faculty
- ☢ 3 Staff Members
- ☢ 33 Graduate Students
- ☢ 35 Nuclear Eng. Minor Students
- ☢ Merrill Engineering Bldg.



University of Utah Campus, SLC, UT



Our Recent History

Adjusting the Development of Nuclear Education to New Technical and Social Realities

2009: Facility Cleanup/Renovation
& New Operator Training

2010: New education curricula & new lab
protocols establishing safety culture
elements

**2011: Relicensed TRIGA
for the next 20 years**

2012: Operation under DevonWay
CAP system

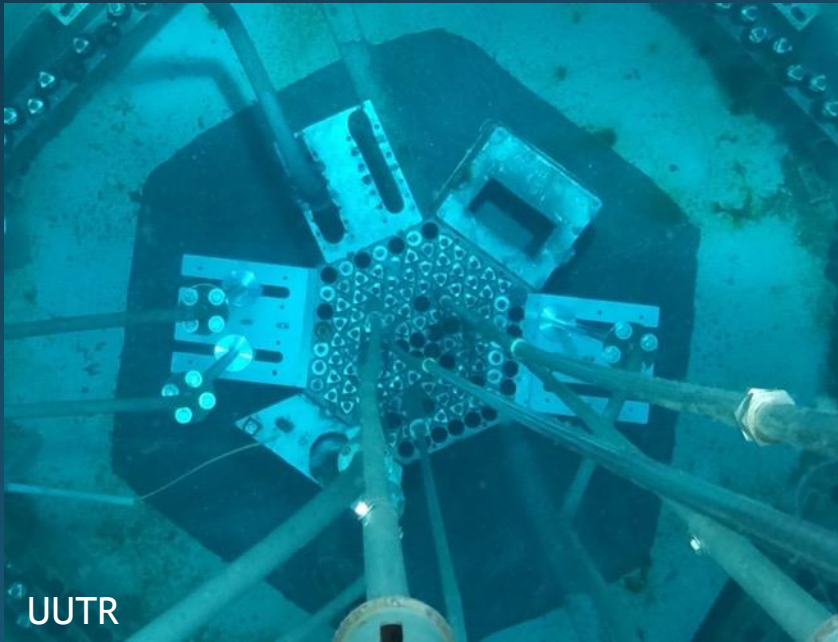


UUTR

2015: Replacement of Fission Counter and
complete overhaul and cleanup of control



- ❖ University of Utah TRIGA Reactor (UUTR)
- ❖ 100 kW Mark I TRIGA Open Pool
- ❖ Located in the Merrill Engineering Building (MEB)
- ❖ In operation since 1975, relicensed in 2011 for the next 20 years



UUTR



UUTR Control Rod Bridge & Students



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Utah Nuclear Engineering Program (UNEP)



UUTR Control Room



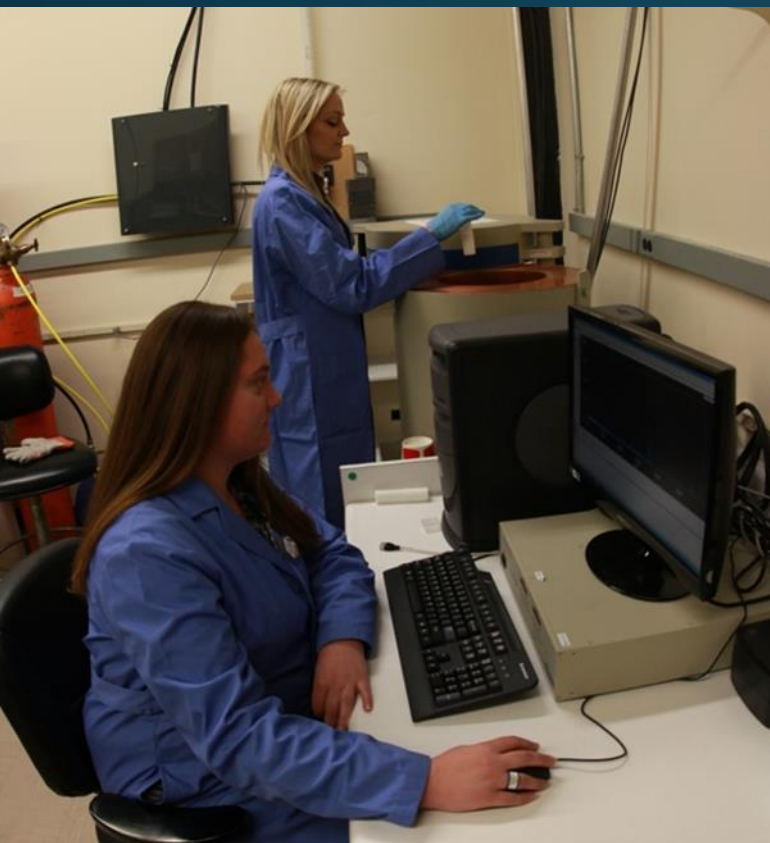
Microscopy Lab



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Utah Nuclear Engineering Program (UNEP)



Neutron Activation Analysis Lab



Trace Actinide Analysis Lab



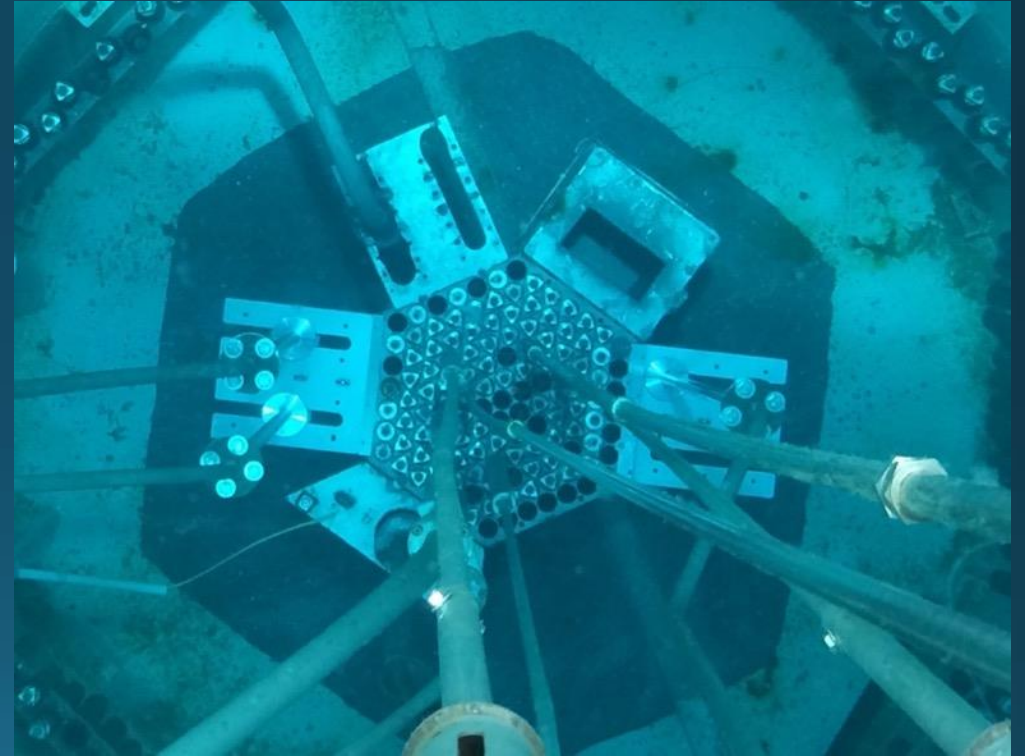
Radiochemistry Lab



Safety Culture Factors

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1. Management commitment to safety
2. Willingness to raise safety concerns
3. Decision-making
4. Supervisor responsibility for safety
5. Questioning attitude
6. Safety communication
7. Personal responsibility for safety
8. Prioritizing safety
9. Training quality



Okayama University is one of the leading universities in Japan. We established **a research and education center** in 2014.



Okayama University
Center for Safe and Disaster-Resistant Society

Center for Safe and Disaster-Resistant Society



Ningyo-toge Environmental
Technology Center, JAEA



Mizushima Industrial Complex

About Okayama



Okayama University



Okayama Castle

Center for Safe and Disaster-Resistant Society

Since 2008, Okayama University have run a research and education project related to nuclear engineering and radiation health problems.



Due to the Fukushima accident the political situation of the use of nuclear energy is truly confusing in Japan. In addition, we have several severe accidents in chemical plant.

Now the aim of previous project is to enhance the tolerance ability of our human society against severe natural disasters and accidents.

Center for Safe and Disaster-Resistant Society

Center for Safe and Disaster-Resistant Society

We provide special course for graduate school and intensive course for working people. “Toward a Safe and Disaster-Resistant Society” in



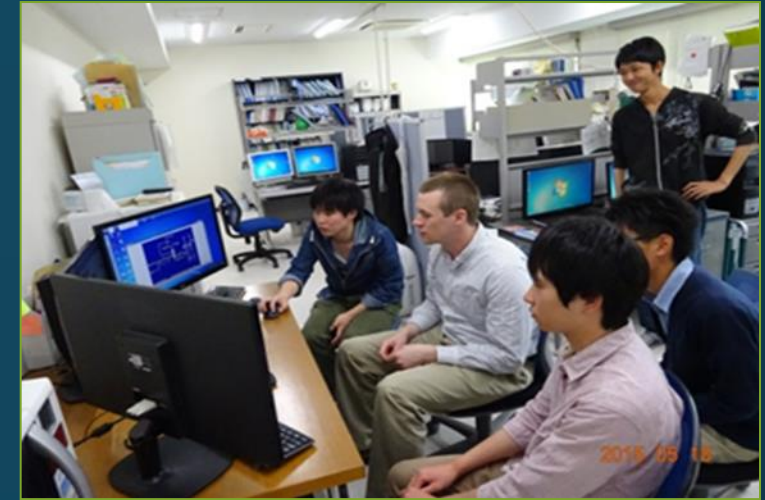
Our mission is to give a solution to the urgent requirement of human resources with high level skill and knowledge and ethics.

Center for Safe and Disaster-Resistant Society

Education network and cooperative work



Summer Lecture for JNEN



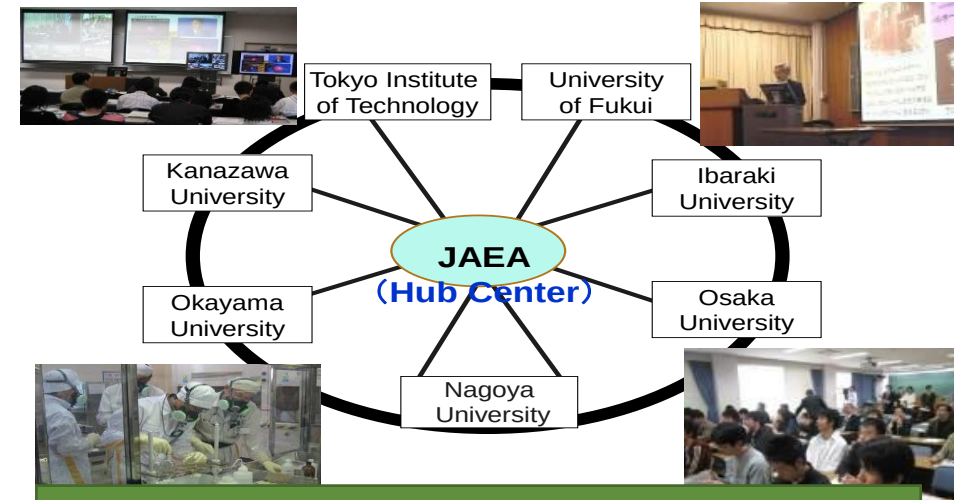
Research exchange with the University of Utah

IMPLEMENTATION OF PROCESS SAFETY MANAGEMENT IN THE STATE COMPANY OF OIL AND GAS INDONESIA

by Masjuli, SKM, MK3



Special Seminar cooperated with Balongan Oil and Gas Academy



JNEN; Japan nuclear education network

Center for Safe and Disaster-Resistant Society

Enhanced Stakeholder knowledge



Environment and Energy Symposium



On the Influence of Radiation to Human Health



International Workshop in TOKYO



Industrial Safety Seminar in Okayama



International Workshop in WCOGI2014

Center for Safe and Disaster-Resistant Society

International Collaboration

- Exchange of Students and Researchers
- Multidisciplinary Discussions
- Symposiums
- Building upon Strengths of each Organization
- International Collaboration of Safety Culture
- Cross-Pollination of Ideas and Thoughts

Questions?



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