

제20회 정기총회 및 2022 추계학술발표회

2022. 10. 26(수) - 28(금)
제주 신화월드 랜딩컨벤션센터

2022

KOREAN
RADIOACTIVE WASTE
SOCIETY



사단 한국방사성폐기물학회
법인 Korean Radioactive Waste Society

주최/주관

한국방사성폐기물학회

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(주)큐라켄

주식회사 라드솔

(주)아이티켄

본 사업은 기획재정부의 복권기금 및
과학기술정보 통신부의 과학기술진흥기금으로
추진되어 사회적 가치 실현과 국가 과학기술 발전에
기여합니다.



한국방사성폐기물학회

T. 042 861 5851 F. 042 861 5852 www.krs.or.kr

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사단 한국방사성폐기물학회
법인 Korean Radioactive Waste Society

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학회장 인사말

존경하는 회원여러분,

올 여름 유난했던 폭우와 태풍도 지나가고 이제 가을의 상쾌한 공기가 느껴지는 계절입니다. 한국방사성폐기물학회는 제 20회 정기총회와 2022 추계 학술발표회를 제주에서 개최합니다. 새정부의 시작과 더불어 원자력과 관련한 많은 정책에 변화가 생겼고 원자력계의 여러 현안들이 매일 같이 언론에 보도되고 있습니다. 이러한 과정 중에 회원 여러분들이 곳곳에 참여하고 계시리라 생각되며 이제는 차근차근 진전을 이루고 성과를 내야 할 것으로 생각하고 있습니다.

우리 학회에서는 지난 5월 춘계 학술발표회에서 사용후핵연료와 고준위 방사성폐기물 관리에 관한 기초강연과 워크숍을 통해 정책 제언 및 전문가들의 열띤 토론이 있었고 정부와 언론의 높은 관심을 받은 바 있습니다. 지금은 국정과제에 포함된 고준위방사성폐기물 특별법 제정을 위한 정책 활동을 계속하고 있습니다. 최근 EU 총회에서 원자력을 ‘그린 텍소노미’에 추가하면서 고준위방사성폐기물 처분시설을 2050년까지 마련하여 운영한다는 문서화된 계획을 제출할 것을 요건으로 삼고 있어 이와 관련한 일들이 속도감 있게 이행될 것으로 기대됩니다.

이번 추계 학술발표회에서는 같은 기간 및 장소에서 EAFORM 2022가 함께 개최됩니다. EAFORM(East Asia Forum On Radwaste Management)은 한국, 대만, 일본, 중국, 미국 5개국의 전문가들이 참여하는 동아시아 방사성폐기물 기술협력 협의체로 2006년 첫 번째 포럼 이후 2년 주기로 개최하였으나 지난 2017년 이후 코로나19 팬데믹으로 순연되었다가 우리 학회의 주관으로 관련 분야 전문가들이 모여 국제적인 기술협력을 하게 되었습니다. 이에, 학회에서는 회원 여러분들이 다양한 국내·외 기술 정보를 교류할 수 있도록 최선의 다해 준비를 하겠습니다.

아무쪼록 회원님들께서도 적극적으로 참여하셔서 소중한 학술 교류의 시간을 가지시기를 바랍니다.

감사합니다.

한국방사성폐기물학회장 강문자

조직위원회

회 장 강문재[한국원자력연구원]

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핵주기정책·규제 및 비확산 분과

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위원장 이상훈[계명대학교] 간사 조상순[한국원자력연구원]

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위원장 김종진[한국원자력연구원] 간사 채산[한국원자력연구원]

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방사화학 분과

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◆ 학회 임원 (조직위원회 제외)

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특 임 이 사 채병곤[한국지질자원연구원], 김낙점[한전KPS㈜],

박홍준[사용후핵연료관리핵심기술개발사업단]

오정석[한국방사능분석협회], 이명재[㈜지오그린21]

주요일정

10. 26. EAFORM 2022

WED

10. 27. 14:00-16:00 KRS 2022 추계학술발표회 개회식 및 제20회 정기총회, 시상식

THUR

16:00-18:30 **Technical Session – 구두 I**
제1분과 핵주기정책·규제 및 비확산 / 제5분과 제염해체
/ 제7분과 방사화학

17:00-18:00 **Technical Session – 포스터 (Group A)**
제2분과 사용후핵연료 처분전관리 / 제3분과 고준위폐기물 처분
/ 제4분과 중저준위폐기물관리 / 제6분과 방사선환경 및 안전

18:30-20:00 **만찬**

10. 28. 09:00-12:00 Technical Session – 구두 II
FRI 제2분과 사용후핵연료 처분전관리 / 제3분과 고준위폐기물 처분 /
제4분과 중저준위폐기물관리 / 제6분과 방사선환경 및 안전

10:00-11:00 **Technical Session – 포스터 (Group B)**
제1분과 핵주기정책·규제 및 비확산 / 제5분과 제염해체
/ 제7분과 방사화학

프로그램

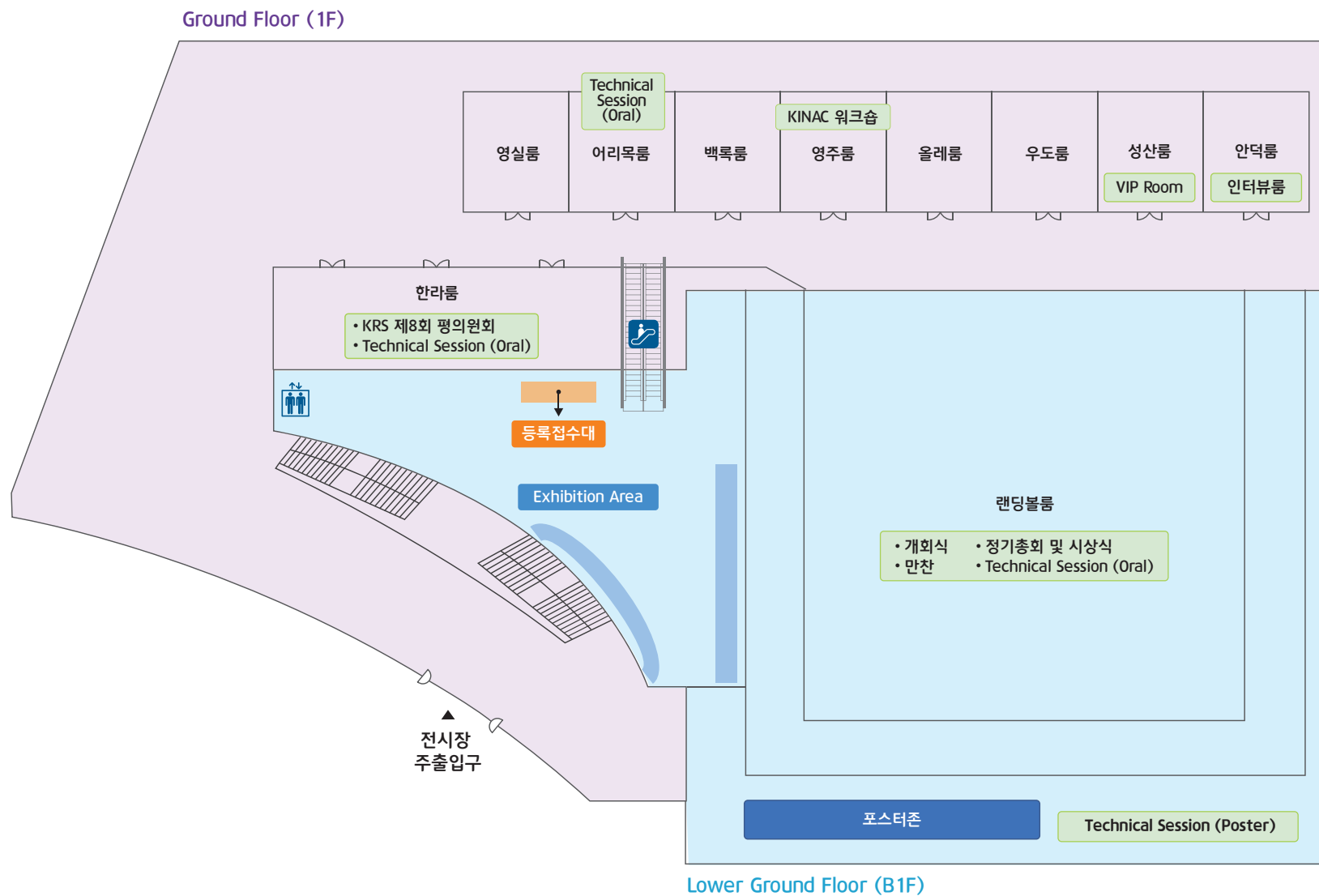
일정		LGF (B1F)				GF (1F)				
		Landing Ballroom A	Landing Ballroom B	Landing Ballroom C	Foyer	Halla Room A	Halla Room B	Halla Room C	어린이목	영주룸
10. 27 (목)	09:00~10:00									KINAC 국제규제 물자 계량 관리제도이행 워크숍
	10:00~11:00									
	11:00~12:00									
	12:00~12:30									
	12:30~13:00	KRS 제8회 평의원회								
	13:00~13:30									
	13:30~14:00									
	14:00~14:30	KRS 2022 추계학술발표회 개회식 및 제20회 정기총회, 시상식				Poster 전시 (Group A)				
	14:30~15:00									
	15:00~15:30									
	15:30~16:00									
	16:00~16:30					구두발표 제5분과 제염해체	구두발표 제7분과 방사화학	구두발표 제1분과 핵주기정책 · 규제 및 비확산		
	16:30~17:00									
	17:00~17:30					발표 · 심사	Break Time			
	17:30~18:00									
	18:00~18:30					구두발표 제5분과 제염해체	구두발표 제7분과 방사화학	구두발표 제1분과 핵주기정책 · 규제 및 비확산		
	18:30~19:00	Banquet Sponsored by SeAH 세아베스틸								
	19:00~19:30									
	19:30~20:00									
10. 28 (금)	09:00~09:30	구두발표 제3분과 고준위폐기물 처분	구두발표 제4분과 중저준위 폐기물관리	구두발표 제2분과 사용후핵연료 처분전관리	Poster 전시 (Group B)	구두발표 제6분과 방사선환경 및 안전				
	09:30~10:00									
	10:00~10:30	Break Time				발표 · 심사	Break Time			
	10:30~11:00									
	11:00~11:30	구두발표 제3분과 고준위폐기물 처분	구두발표 제4분과 중저준위 폐기물관리	구두발표 제2분과 사용후핵연료 처분전관리	Poster 전시 (Group B)	구두발표 제6분과 방사선환경 및 안전				
	11:30~12:00									

* Poster Group A 제2분과 사용후핵연료 처분전관리 / 제3분과 고준위폐기물 처분 / 제4분과 중저준위폐기물관리 / 제6분과 방사선환경 및 안전

* Poster Group B 제1분과 핵주기정책 · 규제 및 비확산 / 제5분과 제염해체 / 제7분과 방사화학

행사장 안내

신화월드 랜딩컨벤션센터 평면도



학술발표회 정보



01 학술발표회 참가 안내

- ◆ 일 자 2022. 10. 26(수) ~ 28(금)
- ◆ 장 소 제주 신화월드 랜딩컨벤션센터
- ◆ 참가등록비 안내

학술발표회

사전등록(10.17 까지)

평생회원, 정회원 A 13만원
정회원 B 18만원
정회원 C 19만원
학생회원 7만원
비회원 일반 20만원
비회원 학생 8만원

일반등록(10.18 부터)

평생회원, 정회원 A 15만원
정회원 B 20만원
정회원 C 21만원
학생회원 9만원
비회원 일반 22만원
비회원 학생 10만원

★ 정회원 구분

- 정회원 A: 2022년도 연회비 납부자
- 정회원 B: 2022년도 연회비 미납자
- 정회원 C: 2021~2022년도 연속 연회비 미납자
- ★ 논문발표자는 발표유형 및 참석여부에 관계없이 등록비를 필수로 납부하여야 합니다.
(논문발표자는 제1저자 기준이며, 제1저자와 실제 발표자가 다른 경우 2인 모두 등록비를 납부하여야 합니다)
- ★ 취소 및 환불 기간 안내: 행사 시작일 이전(~10. 25) 취소시 100% 환불
행사 시작일 이후(10. 26~) 등록 취소시 환불 불가

02 논문 발표 안내

◆ 구두발표

- 구두발표자는 발표분과 및 발표장소·시간을 미리 확인하신 후, 세션 시작 전 해당 발표장에 입장하여 주시기 바랍니다.
- 구두발표자는 각 세션별 발표장에 도착 후 Staff에게 도착을 알리고, 준비된 발표자료에 이상이 없는지 확인하여 주시기 바랍니다. (발표자료는 미리 사무국에 제출한 자료로 준비됩니다. 다만, 부득이하게 현장에서 발표자료의 교체를 원하실 경우 반드시 세션 시작 전에 세션장에 도착하여 주시기 바랍니다.)
- 발표시간은 편당 20분(질의응답시간 포함)으로 좌장의 진행에 따라 발표를 시작/종료해 주시기 바랍니다.

분과별 발표일정 및 장소

제1분과 핵주기정책·규제 및 비확산	10. 27(목) 16:00 ~ 18:30	어리목룸
제2분과 사용후핵연료 처분전관리	10. 28(금) 09:00 ~ 12:00	Landing Ballroom C
제3분과 고준위폐기물 처분	10. 28(금) 09:00 ~ 12:00	Landing Ballroom A
제4분과 중저준위폐기물관리	10. 28(금) 09:00 ~ 12:00	Landing Ballroom B
제5분과 제염해체	10. 27(목) 16:00 ~ 18:30	Halla Room A+B
제6분과 방사선환경 및 안전	10. 28(금) 09:00 ~ 12:00	Halla Room A+B
제7분과 방사화학	10. 27(목) 16:00 ~ 18:30	Halla Room C

◆ 포스터발표

- 포스터발표자는 안내된 사이즈(가로 90cm X 세로 120cm)에 맞게 포스터를 제작준비하여 주시기 바랍니다. (포스터 판넬부착의 용이성을 위해 종이 재질의 포스터 제작을 권장합니다.)
- 포스터발표는 두 개의 그룹으로 나뉘어 전시·발표하므로 반드시 전시 및 발표 일정을 미리 확인하신 후 그룹별 전시 일정에 맞게 판넬에 전시하여 주시고, 해당 발표시간에 포스터 앞에 자리해 주시기 바랍니다. (발표는 그룹별 각 1시간씩 진행되며 발표시간에 '우수포스터' 심사가 이루어집니다.)
- 공지된 전시일정에 포스터를 전시하지 않은 논문은 발표가 취소되며, 실적증명서 등의 증빙자료 발급이 불가합니다.

분과별 발표일정 및 장소

제1분과 핵주기정책·규제 및 비확산	10. 28(금) <전시> 09:00 ~ 12:00	Poster Zone
	<발표> 10:00 ~ 11:00	
제2분과 사용후핵연료 처분전관리	10. 27(목) <전시> 14:00 ~ 18:00	
	<발표> 17:00 ~ 18:00	
제3분과 고준위폐기물 처분	10. 27(목) <전시> 14:00 ~ 18:00	
	<발표> 17:00 ~ 18:00	
제4분과 중저준위폐기물관리	10. 27(목) <전시> 14:00 ~ 18:00	
	<발표> 17:00 ~ 18:00	
제5분과 제염해체	10. 28(금) <전시> 09:00 ~ 12:00	
	<발표> 10:00 ~ 11:00	
제6분과 방사선환경 및 안전	10. 27(목) <전시> 14:00 ~ 18:00	
	<발표> 17:00 ~ 18:00	
제7분과 방사화학	10. 28(금) <전시> 09:00 ~ 12:00	
	<발표> 10:00 ~ 11:00	

03 식사 제공 안내

커피 쿠폰

대 상 자 : KRS 추계학술발표회 등록자
장 소 : 스타벅스 모든 지점
이용방법 : 등록자에게 제공된 커피쿠폰 사용

만찬 ☞세아베스틸 후원

대 상 자 : 학술발표회 등록자
일 시 : 10.27(목) 18:30~20:00
장 소 : Landing Ballroom
이용방법 : 등록자 명찰의 바코드로 인증 후 입장

* 10.27(목) 중식 제공 없음.

04

개회식·정기총회

◆ 일 시 2022. 10. 27(목) 14:00

◆ 장 소 제주 신화월드 랜딩컨벤션센터 Landing Ballroom

프로그램

14:00 개회사 [강문자 회장]

14:05 축 사 [김철희 ㈜세아베스틸 대표이사]

14:10 초청강연

기후는 온실가스에 얼마나 민감한가?

[최용상 이화여대 기후·에너지시스템공학전공 교수]

15:00 기념촬영

15:10 정기총회

- 보고안건

- 의결안건

의안 1호. 2021년도 결산(안) 승인의 건

의안 2호. 2022년도 추정결산(안) 승인의 건

의안 3호. 2023년도 사업계획 및 예산(안) 승인의 건

의안 4호. 정관변경(안) 승인의 건

05 시상식 일정

◆ 일 시 2022. 10. 27(목) 15:40

◆ 장 소 제주 신화월드 랜딩컨벤션센터 Landing Ballroom

프로그램

15:40 시상식 [전체사회 : 조혜륜 총무이사]

- 기술상 및 신진연구자상 [사회 : 서경석 포상위원장]
- 저널 우수논문상 [사회 : 이한수 편집위원장]
- 학술발표회 우수논문상 [사회 : 엄우용 학술이사]

수상자 명단

제5회 기술상

이성기[한전원자력연구(주)] 함영환[한수원(주) 중앙연구원]

제4회 신진연구자상 (주)네오시스코리아 후원

윤달성[한국원자력연구원] 최성열[서울대학교]

2022 저널 우수논문상

<연구논문부문>

이채훈 [한국원자력연구원] 김범규[(주)미래와도전] 홍석주[포항공과대학교]

<기술논문부문>

권미진 [한국원자력환경공단]

학술발표회 우수발표논문상

핵주기정책·규제 및 비확산 분과
사용후핵연료 처분전관리 분과
고준위폐기물처분 분과
중저준위폐기물관리 분과
제염해체 분과
방사선환경 및 안전 분과
방사화학 분과

양성민[경희대학교]
권도훈[경희대학교]
채낙규[서울대학교]
이준영[한양대학교]
양원석[한국과학기술원]
김진홍[중앙대학교]
은현진[한국과학기술원]

학술발표회 우수포스터상

핵주기정책·규제 및 비확산 분과
사용후핵연료 처분전관리 분과
고준위폐기물처분 분과
중저준위폐기물관리 분과
제염해체 분과
방사선환경 및 안전 분과
방사화학 분과

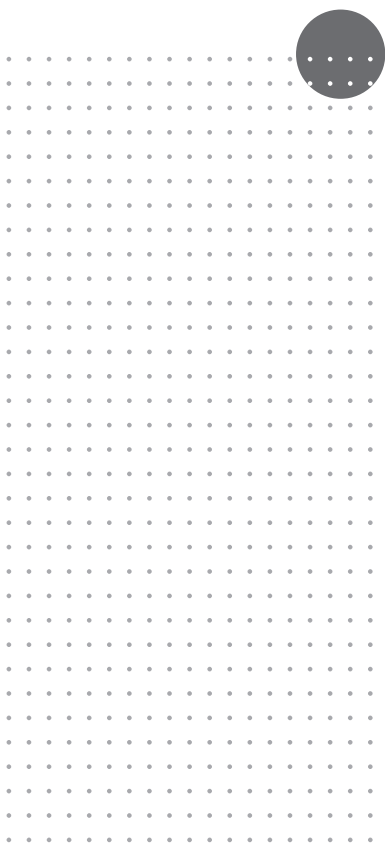
최호성[한국원자력통제기술원]
서가람[울산과학기술원]
윤원우[연세대학교]
이유림[울산과학기술원]
장나운[한국원자력연구원]
문지훈[한국원자력통제기술원]
하정민[영남대학교]

학술발표회 인기포스터상

제염해체 분과

이세근[경희대학교]

연 계 행 사



Workshop

국제규제물자 계량관리 제도이행 워크숍

- ◆ 일 시 2022. 10. 27(목) 09:00
- ◆ 장 소 제주 신화월드 랜딩컨벤션센터 영주룸
- ◆ 주 관 한국원자력통제기술원

◆ 일정 및 내용

전체사회 : 김재산 [KINAC]

09:20	워크숍 개요 및 프로그램 소개	
09:30	안전조치 관련 법령 및 규제체계	안승호 [KINAC]
10:10	SLA에 따른 IAEA사찰 및 대응	신익현 [KINAC]
10:50	IAEA 추가의정서 확대신고서 보고 관련 주요개념 및 이슈	김재산 [KINAC]
11:30	양자협정 연례보고 의무이행 및 개선 필요사항	송원종 [KINAC]
12:10	사용후핵연료 건식저장시설의 설계단계 안전조치 적용방안	이승민 [KINAC]

분과별 논제 및 발표자



Nuclear Fuel Cycle Policy, Regulation and Non- Proliferation

제1분과. 핵주기정책·규제 및 비확산 **구두**

10. 27(목) 16:00~18:30 / 랜딩컨벤션센터 GF(1F) 어리목룸

좌장: 조성연 [KINAC], 김호동 [KAERI]

16:00~16:20 A Study on North Korea's Denuclearization Policy Suggestion
Through Ukraine-Russia War Analysis
Sungmin Yang, Gyunyoung Heo [Kyung Hee Univ.]

16:20~16:40 Development of Energy Mix Simulation Model for 2050 Net-Zero
Carbon
Pilhyeon Ju, Sungyeol Choi, Jongho Lee [Seoul Natl. Univ.]

16:40~17:00 Development of Sample Size Calculation Code for Review of IAEA
Inspection
Byung Hee Won, Hyun-Jo Kim, Dae-Yong Song, Bong Young Kim,
Ju-Ang Jung [KAERI]

17:00~17:20 Development and Validation of Prototype Real-Time Verification
Sealing System
Jihyun Ahn, Hee Seo [JeonBuk Natl. Univ.]

17:20~17:30 Break Time

17:30~17:50 Study on the Applicability of Event Tree and Fault Tree Analyses to
the Systematic Generation of Diversion Paths
Seong-Kyu Ahn, Bong Young Kim, Dea-Yong Song,
Ho-Dong Kim [KAERI]

17:50~18:10 An Analysis on Security Activities of the NuScale Standard Design Review

Kookheui Kwon, Seongyoun Jo [KINAC]

18:10~18:30 A Review on the DBT and Nuclear Damage Compensation Act

Sangcheol Hyung, Jaeyeong Jang [KINAC]

Nuclear Fuel Cycle Policy, Regulation and Non- Proliferation

제1분과. 핵주기정책·규제 및 비확산 **포스터**

- 전시 10. 28(금) 09:00~12:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone
- 발표 10. 28(금) 10:00~11:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone

심사위원. 안성규 [KAERI], 임동혁 [KINAC]

- 1-P-01 **A Study on the Analysis of Design Features of SMART to Apply Safeguards-By-Design**
Joo Hyung Moon [KAERI], Donghyuk Lim [KINAC]
- 1-P-02 **Investigation of Physical Protection System Design on United States Standards and Practices**
Jihawn Cha [KINAC]
- 1-P-03 **Application of the Facility Safeguardability Assessment Process to the Decommissioning of Nuclear Facilities in the ROK**
Seungmin Lee, Donghyuk Lim [KINAC]
- 1-P-04 **Analysis of Cyber Security Regulatory Frameworks for EP CDAs in the U.S.**
In-hyo Lee [KINAC]
- 1-P-05 **A Study on the Changes of Safeguards Techniques and Equipment**
Inchul Kim, Hyunjo Kim, Byungdoo Lee, Sungho Lee, Jooang Jung, Jinha Choi, Munyung Ryu, Seongmi Han [KAERI]
- 1-P-06 **A Study on the Establishment of Integrated Database for Safeguards and Nuclear Export Control**
Sungho Yoon [KINAC]

- 1-P-07 **A Study on Identification of Vital Areas in Spent Fuel Storage Facilities to Protect Against Sabotage**
Minho Kang, Sundo Choi [KINAC]
- 1-P-08 **A Localization Strategic Study on the Export Control Programs of Sweden, Germany, France and the United Kingdom**
Jae Kwang Kim, Seunghyo Yang [KINAC]
- 1-P-09 **A Study on the Export Control Implementation in Korea Considering the Updated EU Regulation 821/2021 for Dual-use Items Transfer Control**
Jae Kwang Kim, Seunghyo Yang [KINAC]
- 1-P-10 **A Study on Supply Chain Control Regulation of Nuclear Facilities by SSEP Functions**
Seunghoon Park, Poe il Park, Kookheui Kwon, Chae-Chang Lee [KINAC]
- 1-P-11 **A Study on the Structure Response of Explosion Simulation Models for the Evaluation of Explosive Threats to Nuclear Power Plants**
Eojin Jeon, Wooseub Kim, Hyeseung Kim, Sundo Choi [KINAC]
- 1-P-12 **A Study on I&C System Decision Process for Cyber Security Test**
In-hyo Lee [KINAC]
- 1-P-13 **A Study on the Improvement of X-ray Security Search Education for Physical Protection Personnel**
Donghyun Kim [KINAC]
- 1-P-14 **A Study on the Development of the Curriculum for "Disguised Weapon Identification" and "Abnormal Behavior Detection Method"**
Donghyun Kim [KINAC]

- 1-P-15 A Methodology for Deriving Safety Boundaries of Nuclear Power Plants Against Unmanned Aerial Vehicle Attacks**
Seokwoo Sohn, Hyeseung Kim, Sundo Choi [KINAC]
- 1-P-16 A Study on the Export Control Policy of the U.S. on the Conditions of IAEA Additional Protocol for Nuclear Power Plant Export**
Seunghyo Yang [KINAC]
- 1-P-17 Analysis and Prospect of the Implementation of Random Inspection in ROK**
Chul Heo, Donghyuk Lim [KINAC]
- 1-P-18 A Study on the Measurement Uncertainty for Evaluation of Material Balance in Bulk Handling Facility**
Yewon Kim, Haneol Lee [KINAC]
- 1-P-19 Development of Evaluation Software for Security System Effectiveness**
Hyeseung Kim, Sundo Choi, Sung Soon Jang [KINAC]
- 1-P-20 Study on Measures to Improve the Quality of Nuclear Regulation by Regulatory Authority**
Jaeyeong Jang [KINAC]
- 1-P-21 Analysis of North Korea's Foreign Trade and Logistics Infrastructure**
Han-sol Ko, Chan-suh Lee, Seung-hyo Yang [KINAC]
- 1-P-22 A Review on the Interpretation of EDP Term for Trigger List Items**
Chansuh Lee, Hansol Ko, Seunghyo Yang [KINAC]

- 1-P-23 **Development of Semi-Automatic Satellite Imagery Analysis System to Support Monitoring of Potential Nuclear Activities**
Gayeon Ha, Jae-Jun Han, Minsoo Kim [KINAC]
- 1-P-24 **A Review on the Management System for Items Subject to a Nuclear Cooperation Agreement Owned by Nuclear Licensees**
Hee Su Choe, Seung-hyo Yang [KINAC]
- 1-P-25 **The Analysis of Major Proliferation Resistance Barriers in the Dry-processing of Spent Fuels for an Efficient Final Disposal**
Won Il Ko, Hyo On Nam, Yung-Jun Cho [KAERI]
- 1-P-26 **A Study on the Establishment and Utilization of National Nuclear Technology Information Collection and Analysis System**
Hyun-doo Kim, Seung-hyo Yang [KINAC]
- 1-P-27 **The Requirements Analysis and Concept Design for Development of Obligated Items Management System**
Mun-Young Ryu, In-Chul Kim, Seong-mi Han [KAERI]
- 1-P-28 **Development of Installation Standards and Evaluation Indicators for Passive Infrared Sensor in National Security Facilities**
Hyeseung Kim, Sundo Choi [KINAC]
- 1-P-29 **A Study on the Response for Drone Terrorism in Nuclear Facilities by Analyzing Statistical Data of Drone Incidents**
Sundo Choi, Hyeseung Kim, Seokwoo Sohn [KINAC]
- 1-P-30 **A Study on the Performance Test of Biometrics for Counterfeit Technology in Nuclear Facilities**
Sundo Choi, Hyeseung Kim [KINAC]

- 1-P-31 Using Textual Analysis of News Articles to Identify State's Nuclear Activity**
Hojung Do, Dongjin Kim, Minsoo Kim [KINAC]
- 1-P-32 A Study on the Effect of Frequency Scaling Factor on FBP**
Jisu Kim, Jihun Moon, Heejun Chung, Sung Woo Kwak [KINAC],
Kyung Taek Lim [Sejong Univ.]
- 1-P-33 A Study on the Analysis of Research Outputs of KINAC (2010-2021) and Support Methodology for Performance Diffusion**
Hyun Young Kim, Heejun Chung [KINAC]
- 1-P-34 The Necessity of Establishing a Management System for Obligated Items Subject to Bilateral Cooperation Agreement**
Seongmi Han, In-Chul Kim, Mun-Young Ryu [KAERI]
- 1-P-35 Monte Carlo Simulation for Designing a CZT-based Fork Detection System**
Wooseong Hong, Geehyun Kim [Seoul Natl. Univ.]
- 1-P-36 Analysis of Nuclear Material Distribution Behaviors Under the Abnormal Conditions of the Nuclide Management Technology**
Bong Young Kim, Young Eun Jung, Se-Hwan Park,
Seong-Kyu Ahn [KAERI]
- 1-P-37 A Study on the Application of Safeguards to Small Modular Reactor**
Jinha Choi, Hyun-Jo Kim, Byung-Doo Lee, Sung-Ho Lee,
Juang Jung [KAERI]

- 1-P-38 Development of Process Flow Simulator of Uranium Fuel Fabrication Facility for Material Balance Evaluation Analysis**
Byung Hee Won, Hee-Sung Shin, Ho-Dong Kim, Jinha Choi [KAERI]
- 1-P-39 Evaluation of Blast Loads on a Reinforced Concrete Wall Under Internal Explosion**
Wooseub Kim, Hyeseung Kim [KINAC]
- 1-P-40 A Study on Request of Governmental Assurance for the Export of Trigger List Items**
Su-Hyeon Kim, Seung-hyo Yang [KINAC]
- 1-P-41 A Study on the License for Intermediate Trade and Merchandising Trade of Trigger List Items**
Su-Hyeon Kim, Han-Sol Ko [KINAC]
- 1-P-42 Considerations for Nuclear Power Plant Cyber Security Contingency Plan**
Seungmin Kim [KINAC]
- 1-P-43 Estimation of U Ore Production Using Bayesian Network**
Yonhong Jeong, Hojung Do [KINAC]

Predisposal Management of Spent Nuclear Fuel

제2분과. 사용후핵연료 처분전관리 **구두**

10. 28(금) 09:00~12:00 / 랜딩컨벤션센터 LGF(B1F) Landing Ballroom C

좌장. 이성기 [KNF], 황영환 [KHNP-CRI]

09:00~09:20 Machine Learning Based Quality Control for Spent Fuel Safety Information
Ga-hee Sim, Moon-Ghu Park, Kyoong Ho Cha [Sejong Univ.]

09:20~09:40 Electrochemical Impedance Spectroscopy Study of Hastelloy N in Molten LiCl-KCl Salt at 500°C
Jun Woo Park, Jong-Il Yun [KAIST]

09:40~10:00 Separation of Sr From Simulated Oxide Fuel Using Molten Chloride Salts
Eun-Young Choi, Sang-Kwon Lee, Seungwoo Park, Hamin Choi, DongHyun Jeon, Chang Hwa Lee [KAERI], Minsu Lee [UST]

10:00~10:20 Investigation of Radial Hydride Effect on Mechanical Properties of Zircaloy Cladding Via Hydride Morphology Image Analysis
Dahyeon Woo, Youho Lee [Seoul Natl. Univ.]

10:20~10:40 Break Time

10:40~11:00 A Study on the Properties of B₄C/Al Composites for Absorbing Thermal Neutrons Manufactured by the Stir Casting Process
Donghyun Lee, Seungchan Cho, Junghwan Kim, Sang-bok Lee, Sang-kwan Lee [KIMS]

- 11:00~11:20 Evaluation of Physicochemical Characteristics of Group II Nuclide Ceramic Waste Form for Long-term Storage and Disposal**
Byeonggwon Lee [Kyungpook Natl. Univ.],
Jung-Hoon Choi, Ki Rak Lee, Hyun Woo Kang, Hwan-Seo Park [KAERI]
- 11:20~11:40 An Analysis of Neutron and Gamma Sources in Spent Fuels Using SCALE-ORIGEN ARP**
Sohee Cha, Kwangheon Park [Kyung Hee Univ.]
- 11:40~12:00 Development of Model to Evaluate Thermal Fluid Flow Around a Submerged Transport Cask of Spent Nuclear Fuel in the Deep Sea**
Guhyun Jeoung, Sunyeoun Kim, Sanghoon Lee [Keimyong Univ.]

Predisposal Management of Spent Nuclear Fuel

제2분과. 사용후핵연료처분전관리 포스터

- 전시 10. 27(목) 14:00~18:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone
- 발표 10. 27(목) 17:00~18:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone

심사위원. 이상훈 [계명대], 육대식 [KINS]

- 2-P-01 **Spent Fuel Characteristics of Small Modular Reactors and Its Management Implications**
Dahyeon Woo, Chansoo Lee, Youho Lee [Seoul Natl. Univ.]
- 2-P-02 **Analysis of Hydrogen Migration in Zircaloy Cladding During Dry Storage by Simulating Hydrogen Diffusion and Phase Change Kinetics**
Chansoo Lee, Youho Lee [Seoul Natl. Univ.]
- 2-P-03 **Development of a Radial Hydride Fraction Prediction Model and Experimental Validation**
Changhyun Jo, Youho Lee [Seoul Natl. Univ.]
- 2-P-04 **Comparison of Fire Test Using Slice Model and Half-scale Model of the KTC-360 Transport Cask**
Kyoung-sik Bang, Yun-Young Yang, Woo-Seok Choi [KAERI]
- 2-P-05 **Suggestion of Simple Rod Internal Pressure and Free Void Volume Correlations in Spent Fuel Rod**
Yongsik Yang, Donghak Kook [KAERI]
- 2-P-06 **Analysis of the Regulatory Processes for Spent Nuclear Fuel Transportation Cask**
Hyun Jun Na, Hyeok Jae Kim, Min Seong Kim,
Kwang Pyo Kim [Kyung Hee Univ.]

- 2-P-07 Decay Heat Estimation of Spent Fuel Assemblies for Decommissioning of Kori Units 3 and 4**
Wonjune Mah, Chang-Lak Kim, Sun-kee Lee [KINGS]
- 2-P-08 Examination for Evaluating Degradation of Guide Tubes in Spent Fuel Assembly**
Myungchul Park, Sunggeun Kim, Jaehan Kim, Sukwoo Hong, Hyojik Lee [KAERI]
- 2-P-09 Introduction of Spent Fuel Information Management Model Based on Semantic Web Technology**
Hong-jin Kim, Young-Chul Cho, Kyoan-Ho Cha [Sejong Univ.]
- 2-P-10 Effect of Li_2O Addition on Precipitation Behavior of Uranium in LiCl-KCl-UCl_3 Salt**
Taeho Kim, Su Jeong Heo, Dalsung Yoon, Seungwoo Paek, Chang Hwa Lee [KAERI]
- 2-P-11 Separation of Salt From Strontium Carbonate and Uranium Oxide Powders**
Sang Woon Kwon, Su Jeong Heo, Joon Bo Shim, Chang Hwa Lee [KAERI]
- 2-P-12 UO_2 and SIMFUEL Pellets Fabrication and Leaching Behavior Study for Stabilization Technology of Damaged Used Fuel**
Su Jeong Heo, Ju Ho Lee, Jae-Won Lee, Yung-Zun Cho [KAERI]
- 2-P-13 A Study on Optimization of UCl_3 Production by Reaction of Uranium Metal and Ammonium Chloride**
Dalsung Yoon, Seungwoo Paek, Sang-Kwon Lee, Ju Ho Lee, Taeho Kim, Chang Hwa Lee [KAERI]

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- 2-P-14 **Fluidization Bed Behaviors of Uranium Oxide Powder Using Surrogates**
Jae Won Lee, Ju Ho Lee, Sun Seok Hong, Yung zun Cho [KAERI]
- 2-P-15 **Solvent Effect on Properties of Ag-Containing Aluminosilicate for Capturing Iodine**
Jae Won Lee, Ju Ho Lee, Chang Hwa Lee, Yung Zun Cho [KAERI]
- 2-P-16 **Improvement of the Evaluation Method for the Radioactivity in Spent Nuclear Fuel**
Jongho Hong, Sangil Ahn, Jaechoon Lee [KHNP],
Kiyong Kim [KHNP-CRI]
- 2-P-17 **Discretization Uncertainty Estimation for Thermal Analysis of the Spent Fuel Transport Cask**
Sung-yong Lee, Dong-gyu Lee [KONES Corp.]
- 2-P-18 ~~Spent Fuel Pool Criticality Evaluation by Applying Boron Credits~~
~~Yun Sik Kim, Dong Gyu Lee [KONES Corp.], Ki Young Kim [KHNP-CRI]~~
- 2-P-19 **The Quantification of Residual Water by Using the Drying Process Data in Dry Storage System**
Geon-Hui Lee, Nam-Hui Lee, Kyung-Wook Shin,
Gyung-Sun Chae [SAE-AN Engineering Corp.],
Seung-Hwan Yu [KAERI]
- 2-P-20 **Criticality Impact Assessment of Fuel Rod Loss for the Development of Spent Fuel Acceptance Criteria**
Janghwan Lim, Seongki Lee, Jongsung Yoo [KEPCO NF]

Withdrawal

- 2-P-21 Assessment of Potential Degradation Mechanisms to Resolve Integrity Issues of CANDU Spent Fuel**
Kang Moon Lee, Nam Ho Lee, Seong Ki Lee, Jong Sung You [KEPCO NF]
- 2-P-22 Ring Tensile Test Material Properties Calibration Using Optimization Technique**
JaeYong Kim, HongRyoul Oh [KAERI], SungHoon Park [V-ENG]
- 2-P-23 Review on Non-Destructive Burnup Evaluation Method for Spent Nuclear Fuel**
Daegwon Eun, Jae-Hun Ko, Moonoh Kim, Dong-Gyu Lee [KONES Corp.]
- 2-P-24 Applicability Evaluation of Ramberg-Osgood Equation as New Cladding Plastic Material Model**
JaeYong Kim, YongSik Yang [KAERI], JuYeop Park [KINS]
- 2-P-25 Estimation Model of Residual Water Evaporation During Vacuum Drying**
Seunghwan Yu, Kyoung-sik Bang [KAERI]
- 2-P-26 Development of Damaged Fuel Canister for Dry Storage**
Seo-Jeong Lee, Kwang-Ho Lee, Eun-Ki Lee [KHNP-CRI]
- 2-P-27 Quantitative Analysis of Sr and Cs in LiCl-KCl Molten Salt by Laser-Induced Breakdown Spectroscopy (LIBS)**
Hyeongbin Kim, Wonseok Yang, Sungeol Choi [Seoul Natl. Univ.], Yunu Lee [KAIST]
- 2-P-28 Seismic Analysis of Concrete Pad in the Dry Storage Facilities According to Soil Properties**
Seungpil Kim, Sang Soon Cho [KAERI]

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- 2-P-29 **DeCART2D/MASTER Core Follow Calculation for Hanbit Unit 3 and Comparison With McCARD Single Fuel Assembly Burnup Analyses**
Jeong Woo Park, Seung-Ah Yang, Ho Jin Park [Kyung Hee Univ.]
- 2-P-30 **Thermal Performance Sensitivity Analysis for Modeling of Spent Fuel Assembly in Transport System**
Kun-ho Chun, Joung-yeul Lee, Seong-ki Lee [KEPCO NF]
- 2-P-31 **A Study on the Design Parameters of the Off-gas Trapping System**
Byungsook Park, Seokmin Hong, Juho Lee, Jaewon Lee, Changhwa Lee [KAERI]
- 2-P-32 **Lessons Learned in Improvement Work of Fuel Handling Equipment at Operating Nuclear Power Plants**
Sang-Gyoon Chang, Won-Bae Park, Min-Gyu Kim [KEPCO E&C], Dae-Hyuk Kwon [KHNP]
- 2-P-33 **A Preliminary Consideration to Categorize Classes of Major SSCs of a Dry Storage System for SNF Based on Importance to Safety**
Sang Hyeok Lee, Jae Hak Cheong [Kyung Hee Univ.]
- 2-P-34 **Effect of Salt Stirring on Phosphorylation of Uranium and Rare Earths in Molten Salt**
Joon-Bo Shim, Hansoo Lee, Chang Hwa Lee [KAERI]
- 2-P-35 **Experiment for a Collection Method of Phosphorylation Products From Molten Salt**
Joon-Bo Shim, Ju Ho Lee, Sang-Woon Kwon, Chang Hwa Lee [KAERI]
- 2-P-36 **Development of Code for Pressure Resistance Evaluation of Spent Nuclear Fuel Transport Cask Submerged in the Sea**
Jiyoung Park, Hakyong Jang, Sanghoon Lee [Keimyong Univ.]

- 2-P-37 A GoldSim Model for Evaluating the Effectiveness of Radionuclide Management Process on Environmental Burden Reduction**
Hong Jang, Hun Suk Im, Hyo On Nam, Won Il Ko, Yong Zun Cho [KAERI]
- 2-P-38 Strategic Study on Various Optional Treatment Processes for Disposal of Spent Nuclear Fuel**
Hun-Suk Im, Hong Jang, Hyo-On Nam, Won-Il Ko, Yong-Zun Cho [KAERI]
- 2-P-39 Preliminary Assessment of Radiation Effects of Spent Fuel Transport to Interim Storage**
Yunhui Lee, Chang-Lak Kim, Sanghwa Shin [KINGS]
- 2-P-40 Corrosion Behavior of Neutron Absorber Borated Stainless Steel in Simulated Spent Fuel Pool Environment**
Daehyeon Park, Yunju Lee, Junhyuk Ham, Seung Chang Yoo,
Ji Hyun Kim [UNIST],
Kiyoung Kim, Donghee Lee, Yongdeog Kim [KHNP-CRI]
- 2-P-41 Efficient Radiation Shielding Evaluation for Spent Fuel Storage Facilities Using a Simple Model**
Jae Hun Ko, Young Hwan Choi, Dong Gyu Lee [KONES Corp.]

| High-Level Waste Disposal

제3분과. 고준위폐기물처분 구두

10. 28(금) 09:00~12:00 / 랜딩컨벤션센터 LGF(B1F) Landing Ballroom A

좌장: 권장순 [KAERI], 천대성 [KIGAM]

09:00~09:20 Corrosion Behavior of Potential Materials for Canister Fabricated Using 3D Printing Methods

Cheong Won Lee, Young-Ho Lee, Sung Chan Yoo [KAERI]

09:20~09:40 Geochemical Simulation of U(VI) Sorption on Na-Montmorillonite: Effects of pH, Temperature, Competing Cations, U(VI) Concentration, and Carbonate Species

Jeonghwan Hwang, Jung-Woo Kim [KAERI],
Weon Shik Han, Won Woo Yoon [Yonsei Univ.]

09:40~10:00 Evaluation of Deep Geological Characteristics Using Deep Boreholes

Dae-Sung Cheon, You Hong Kihm, Kwangmin Jin, Wonkyong Song,
Seong Kon Lee, Sung Phil Hyun, Heejun Suk [KIGAM]

10:00~10:20 Preliminary Experimental Results for Diffusion of Sr, Sm, and Eu in a Compacted Ca-Bentonite

Nak Kyu Kim, Chung-Kyun Park, Jae-Kwang Lee, Seonggyu Choi,
Jang-Soon Kwon [KAERI]

10:20~10:40 Break Time

10:40~11:00 Preliminary Study for Estimating the Effect of Earthquake-induced Stress on Hydraulic Properties of Fractures

Yong-Min Kim, Jung-Woo Kim [KAERI]

11:00~11:20 **Inversion of Barcelona Basic Model Parameters of Kunigel-V1**
Yeongju Kim, Hoonyoung Jeong [Seoul Natl. Univ.],
Changsoo Lee, Minseop Kim [KAERI]

11:20~11:40 **Analyses on Thermal Stability of the Disposal Systems for High Burn-up PWR Spent Nuclear Fuel in Korea**
Gisu Lee, Myeonggi Cha, Namhyeong Kim, HangJin Jo [POSTECH]

11:40~12:00 ~~Methodologies to Establish Site Specific FEP for High-Level
Radioactive Waste Repository in Korea~~
~~Donghoon Baek, Kibom Ahn, Donghyun Wang, Haeram Jung,
Karyoung Choi, Gyunyoung Hoo, Hyungdae Kim,
Kunok Chang [Kyung Hee Univ.]~~

Withdrawal

| High-Level Waste Disposal

제3분과. 고준위폐기물처분 포스터

- 전시 10. 27(목) 14:00~18:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone
- 발표 10. 27(목) 17:00~18:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone

심사위원. 지성훈 [KAERI], 손희동 [iKSNF]

- 3-P-01** **Characteristics of AE Wave Propagation Through Concrete Silo of Gyeongju Radioactive Waste Repository Under the Effects of Groundwater and Temperature**
Jin-Seop Kim, Chang-Ho Hong, Ji-Won Kim [KAERI],
Hang-Lo Lee [Korea Expressway Corporation]
- 3-P-02** **Factors Controlling Uranium Level in Granitic Aquifer**
YeoJin Ju, Ji-hun Ryu [KAERI], Vikram Thapar [Cornell Univ.]
- 3-P-03** **Spectroscopic Study of Interaction Between U(VI) and Natural Organic Matters in Domestic Groundwater**
Euo Chang Jung, Min-Hoon Baik, Dawoon Jeong, Ji-Hun Ryu [KAERI]
- 3-P-04** **Removal of Aqueous Uranium by Indigenous Bacteria Under Conditions Relevant for Deep Geological Repository of Nuclear Waste**
Dawoon Jeong, Min Hoon Baik, Euo Chang Jung, Ji-Hun Ryu [KAERI],
Myoung-Soo Ko [Kangwon Natl. Univ.], Wooyong Um [POSTECH]
- 3-P-05** **Scenario Development Methods for Deep Geological Repository: (2) Case Study on Disposal Facility for the Spent Nuclear Fuel**
Kibeom Son, Karyoung Choi, Jaehyeon Yang, Haeram Jeong,
Donghoon Baek, Hyungdae Kim, Kunok Chang,
Gyungyoung Heo [Kyung Hee Univ.]
- 3-P-06** **Digital Analysis Technique for Aperture and Contact Area of Fractures**
Yong-Ki Lee, Chae-Soon Choi, Kyung-Woo Park [KAERI]

- 3-P-07 Scenario Development Methods for Deep Geological Repository:
(1) Research Status and Trends**
Karyoung Choi, Kibeom Son, Jaehyeon Yang, Haeram Jeong,
Donghoon Baek, Hyungdae Kim, Kunok Chang,
Gyunyoung Heo [Kyung Hee Univ.]
- 3-P-08 Preliminary Study on Accelerated Life Test of Piezoelectric Sensor**
Hyun-Joong Hwang, Changhee Park, Gye-Chun Cho [KAIST],
Chang-Ho Hong [KAERI]
- 3-P-09 Evaluation of Fracture Filling Minerals and Aperture Distribution
of Fractured Granite**
Bong-Ju Kim, Ki-Jong Jang, Chung-kyun Park, Jang-Soon Kwon [KAERI]
- 3-P-10 Comparison of Two Disposal Concepts for CANDU Spent Nuclear
Fuels in Korea**
Heui-Joo Choi, Jong Youl Lee, Dong Keun Cho, Jung-Woo Kim [KAERI]
- 3-P-11 Analysis and Design of Down Ender and Dismantler for Spent Fuel
Assembly Dismantling in Head-End**
Younghwan Kim, SunSeok Hong, Seckmin Hong, JuHo Lee, JaeWon Lee,
ChangHwa Lee [KAERI]
- 3-P-12 A Natural Analogue Study Using Uranium Deposits: Characterization
of a Study Site in the Ogcheon Metamorphic Belt**
Min-Hoon Baik, Dawoon Jeong, YeoJin Ju, Euo Chang Jung,
Ji-Hun Ryu [KAERI]
- 3-P-13 Vittrification of Uranium Oxide in Spent Nuclear Fuel Using Iron
Phosphate Glass**
Cheong Won Lee [KAERI], Jong Heo [POSTECH]
- 3-P-14 Development of FEP & Scenario Integrated Information Processing
Platform for Long-Term Evolution of Spent Fuel Disposal System**
Sang hun Jeon, Sunggyun Jang, Jeong Hyun Lee, Jun Ki An, Jin Ryu,
Si On Kim, Won-Seok Kim [NCsquare Co.]

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- 3-P-15 **Two-Phase Flow Analysis in the Full-Scale Emplacement Experiment at Mont Terri Underground Rock Laboratory**
Taehyun Kim, Changsoo Lee, Jin-Seop Kim [KAERI],
Chan-Hee Park [KIGAM]
- 3-P-16 **Geochemical Behavior of Cesium and Cobalt in a Near-Surface and Deep Geological Disposal Environments**
Jae-Kwang Lee, Jongtae Jeong, Min-Hoon Baik [KAERI]
- 3-P-17 **Establish Regulatory System and Case Study Database for Deep Geological Disposal System**
Jeong Hyun Lee, Sunggyun Jang, Sang Hun Jeon, Gun Hee Kim,
Ji Eun Shin, Si On Kim, Won-Seok Kim [NCsquare Co.]
- 3-P-18 **A Study on the Thermal Conductivity of Bentonite-Sand Mixed Backfill According to Size and Ratio of Sand for Deep Geological Disposal**
Yohan Cha, Jae Owan Lee, Mihye Kong, Jin-Seop Kim [KAERI]
- 3-P-19 **Experimental Study on Piping Erosion in Compacted Bentonite Buffers Considering Buffer-Rock Interactions**
Minhyeong Lee, Chang-Ho Hong, Ji-Won Kim, Jin-Seop Kim [KAERI]
- 3-P-20 **Investigation of Granitic Groundwater Colloids in KURT System by Using Various Analytical Methods**
Jun-Hyuk Ha, Jun-Yeop Lee [Pusan Natl. Univ.]
- 3-P-21 **Experimental Study on Frictional-Healing Behavior of a Rock Joint**
Seungbeom Choi, Yongki Lee, Taehyun Kim [KAERI]
- 3-P-22 **Factors of Geological Risk Assessment for Deep Underground Tunneling in South Korea**
Myeong-Hyeok Ihm [Daejeon Univ.]
- 3-P-23 **Evaluation for Compaction Curves of Compacted Bentonite-Sand Mixtures**
Deuk-Hwan Lee, Seok Yoon, Jin-Seop Kim, Ji-Won Kim, Gi-Jun Lee [KAERI]

- 3-P-24 Assessment of Evapotranspiration Around KAERI Underground Research Tunnel**
Byeong-Hak Park, Eunhye Kwon, Kyung-Woo Park [KAERI]
- 3-P-25 Microbial Effects on the Corrosion of Metals in Compacted Bentonite Blocks**
Seung Yeop Lee, Jae-Kwang Lee, Sang-Ho Lee, Jin-Seok Kim, Jang-Soon Kwon [KAERI]
- 3-P-26 Modeling of Uranium Migration Near High-Level Radioactive Waste Repository Using COMSOL-PHREEQC Coupled Model**
Won Woo Yonn, Weon Shik Han [Yonsei Univ.], Jeonghwan Hwang, Jung-Woo Kim [KAERI]
- 3-P-27 Development of a Numerical Module to Convert DFN to ECPM**
Jung-Woo Kim, Yong-Min Kim, Jaewon Lee, Sung-Hoon Ji [KAERI]
- 3-P-28 An Efficient Thermal Management Method of Decay Heat in a Disposal Container for Deep Geological Disposal**
Jongyoul Lee, Heuijoo Choi, Dongkeun Cho [KAERI]
- 3-P-29 Acoustic Emission Characteristics for Bending Failure of Engineered Barrier**
Jong-Won Lee, Tae-Min Oh [Pusan Natl. Univ.], Hyunwoo Kim, Min-Jun Kim [KIGAM]
- 3-P-30 Bentonite Swelling and Erosion in an Artificial Fracture**
Ji-Won Kim, Chang-Ho Hong, Minhyeong Lee, Jin-Seop Kim [KAERI], Song-Hun Chong [Sunchon Natl. Univ.]
- 3-P-31 Development and Field Applications of Deep Borehole Hydraulic Testing System(DHTS) Based on Integrated Type Main Frame**
Seongho Bae, Hagsoo Kim [GeoGeny Consultants Group Inc.], Eui-Seob Park, Dae-Sung Cheon [KIGAM], Ki-Bok Min [Seoul Natl. Univ.]

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- 3-P-32 **Revisiting A Counter Rotating Plasma Centrifuge For Separating Nuclear Waste**
Jun-Ho Seo [JeonBuk Natl. Univ.]
- 3-P-33 **Comparative Mapping of NEA International and Project-Specific FEP Lists for Deep Geological Disposal of Spent Nuclear Fuel**
Jaehyeon Yang, Haeram Jeong, Kibeom Son, Donghoon Baek,
Karyoung Choi, Gyunyoung Heo, Kunok Chang,
Hyungdae Kim [Kyung Hee Univ.]
- 3-P-34 **Conceptual Operation System Design and Procedure for Deep Borehole Disposal Using the Wireline Emplacement Method**
Hyun Woo Song, Moonoh Kim [KONES Corp.],
Dong-Keun Cho, Changsoo Lee [KAERI]
- 3-P-35 **Development of Copper Alloys for Deep Geological Disposal Canisters of High-level Radioactive Waste**
Minkyu Ahn, Jinwoo Park, Sangeun Kim, Chansun Shin [Myongji Univ.],
Dongkeun Cho [KAERI]
- 3-P-36 **Implementation of Specific Activity Models for C-14 in Terrestrial Environment of a Disposal Facility Using GoldSim**
Dongki Kim, Joowan Park [RADCORE],
Seo-Yeon Cho, Mi-Seon Jeong [KORAD]
- 3-P-37 **A Study on the Technology Level of High-Level Radioactive Waste Management : Focused on Delphi and Focus Group Interview Survey Method**
Hyeon Woo Oh, Jin Beak Park, Rinah Kim, Minkyu KIM [KORAD],
Junghwa Yang [KOMIR]
- 3-P-38 **Evaluation of KJ-II Bentonite Properties Reacted With Highly Concentrated K⁺ (1 M) Solutions With Different pHs at 150 °C**
Ji Hoon Lee, Ho Young Jo [Korea Univ.], Jang Soon Kwon [KAERI]

- 3-P-39 Physical and Chemical Properties of Steam-Treated Bentonite**
Hong Jae Kim, Ho Young Jo [Korea Univ.]
- 3-P-40 Modeling the Effects of Excavation Damaged Zone on the Radionuclide Transport**
Jaewon Lee, Jung-Woo Kim [KAERI]
- 3-P-41 Mineralogical and Physicochemical Characteristics of Bentonite in the Naah Bentonite Mine, Gyeongju: Natural Analogue Study of the Bentonite Barrier**
Yujin Byun, Chanyoung Seo, Ho Young Jo, Young Jae Lee [Korea Univ.],
Ji-Hun Ryu [KAERI],
Hye-Yoon Cheong, Seong-Wan Park [Clariant (Korea) LTD.]
- 3-P-42 Potential Backfill Materials for Deposition Tunnels in a High-Level Waste Repository**
Jae Owan Lee, Yohan Cha, Jin-Seop Kim [KAERI]
- 3-P-43 Montmorillonite Alteration in Alkaline and Saline Solutions and Its Influences on Retention of Cesium and Iodide by Bentonite Buffer**
Ja-Young Goo, Bong-Ju Kim, Jang-Soon Kwon [KAERI],
Ho Young Jo [Korea Univ.]
- 3-P-44 How to Figure out Aperture Distribution in a Fractured Rock**
Chung-Kyun Park, Bong-Ju Kim, Ki-Jong Jang, Jang-Soon Kwon [KAERI]
- 3-P-45 Source Term Evaluation Using ORIGEN-S and TRITON for Spent Nuclear Fuel Disposal**
Seo-Yeon Cho, Hyungju Yun, Mi-Seon Jeong [KORAD]
- 3-P-46 Evaluation of Structural Integrity of Disposal Container Emplacement and Retrieval Device Under Lifting Condition**
Young-Oh Lee, Moon-Oh Kim [KONES Corp.],
Dong-Keun Cho, Chang-Soo Lee [KAERI]

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- 3-P-47 **Failure Mode of Piezoelectric Sensor for Accelerated Life Test**
 Changhee Park, Hyun-Joong Hwang, Gyecheon Cho [KAIST],
 Chang-Ho Hong [KAERI]
- 3-P-48 **Low-pH Concrete Design for Deep Geological Repository**
 Seok Gu Gang, Jongwon Jung [Chungbuk Natl. Univ.]
- 3-P-49 **Design of Data Structure and User Interface of Data Management Platform for FEP and Scenario**
 In-Young Kim, Jongtae Jeong, Jung-Woo Kim [KAERI]
- 3-P-50 **Evaluation of Irreversible Cs Adsorption Capacity of Granite Origin Soil**
 Ayeong Lee, Chul-Min Chon, Jae Gon Kim, Jungho Ryu [KIGAM],
 Yeongkyoo Kim [Kyungpook Natl. Univ.]
- 3-P-51 **Fractal Constant Evaluation From Acoustic Signals for Repository Monitoring**
 Chang-Ho Hong, Ji-Won Kim, Jin-Seop Kim [KAERI]
- 3-P-52 **How to Quantify Well the Pumping Rate From the Aquifer Around the Repository: An Approach**
 Youn-Myoung Lee, Dong-Keun Cho, Sung-Hoon Ji [KAERI]
- 3-P-53 ~~Case Study on In-situ Inspection and Management System for
 Excavation-Damaged Zone Around the Disposal Caverns in a
 Spent Nuclear Fuel Repository
 Hyung-Mok Kim, Myung-Jin Nam, Hanna Jang,
 Inseok Joung [Sejong Univ.],
 Eui-Seob Park, Byung-Gon Chae [KIGAM]~~

Withdrawal

Low and Intermediate Level Radioactive Waste Management

제4분과. 중저준위폐기물관리 **구두**

10. 28(금) 09:00~12:00 / 랜딩컨벤션센터 LGF(B1F) Landing Ballroom B

좌장. 하재철 [KORAD], 박재영 [UNIST]

09:00~09:20 **The Effect of Isosaccharinic Acid (ISA) on the Solubility of Rhenium(IV) Oxide**
Kyungwon Kim, Wooyong Um [POSTECH]

09:20~09:40 **A Study on the Treatment of Boron-Containing Discharge Water From Nuclear Power Plant Using 1m³/hr Scale of SD-ELIX System**
Seongjoo Kang, Seonggeon Kim, Sangwook Lee, Jiyang So,
Ducheol Kim, Minho Kwak, Seungil Kim [Elim-Global]

09:40~10:00 **Review of the Radioactive Waste Acceptance Criteria of the Spent Filter Cartridge Both Home and Abroad for Its Improvement**
Suk Nam Lim, Hyun Woo Song, Moonoh Kim [KONES Corp.],
Jisoo Yoon, Ji-Hoon Lee [KHNP-CRI]

10:00~10:20 **Development of High Performance Cement Materials and Solidification Technology for Immobilization of Liquid Radioactive Wastes**
Gyeong Il Moon, Seong Ho Yoo,
Ho Yeon Yang [Korea Environment Testing and Analysis Laboratory],
Dong Hoon Oh [Jung Seok Chemical Corporation]

10:20~10:40 **Break Time**

10:40~11:00 **A Study on Disposal Suitability of Hanul Glass Fiber Packaging Bag**
Na Rae Lee, Moonoh Kim [KONES Corp.],
Sang June Park, Sung-Jun Kim, Suil Bang [KHNP]

- 11:00~11:20 A Study on the Carbon Dioxide Adsorption Characteristics Using Radioactive Waste Soil/Waste Concrete**
Sangwook Lee, Seongjoo Kang, Duchul Kim, Jiyang So, Seonggeon Kim, Minho Kwak, Seungil Kim [Elim-Global]
- 11:20~11:40 Preliminary Safety Assessment of Worker of Glass Fiber Waste Under Accident Conditions at Disposal Facility**
Woo-Yong Kim, Moonoh Kim [KONES Corp.], Sang June Park, Sungjun Kim, Su-il Bang [KHNP]
- 11:40~12:00 Fabrication of Cs Pollucite Ceramic Waste Form and Long-term Leaching Test for Immobilization of Radioactive Cesium**
Ga Yeong Kim, Jae Hwan Yang [Chungnam Natl. Univ.], Ki Rak Lee, Jung Hoon Choi, Hwan Seo Park [KAERI]

Low and Intermediate Level Radioactive Waste Management

제4분과: 중저준위폐기물관리 **포스터**

- 전시 10. 27(목) 14:00~18:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone
- 발표 10. 27(목) 17:00~18:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone

심사위원: 장기원 [KINS], 박상준 [KHNP]

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| 4-P-01 | Study on Colloidal Impact of Glass Fiber Particle Considering Sorption Ability
Hyun Woo Song, Moonoh Kim [KONES Corp.],
Sang June Park, Sungjun Kim, Su-il Bang [KHNP] |
| 4-P-02 | Evaluation of Leaching Behavior and Thermal Stability of Silver Tellurite Glass
Seong Sik Shin [Chungnam Natl. Univ.],
Hyun Woo Kang, Jung-Hoon Choi, Ki Rak Lee, Hwan-Seo Park [KAERI] |
| 4-P-03 | A Design of Optimal Repackaged Algorithm for Reduction of Low- and Intermediate-level Radioactive Waste
Hee-Seoung Park, Il-Sik Kang, Dong-ju Lee, Choong-Wie Lee,
Won-Hyuk Jang, Jong-Jin Kim, Jin-Woo Lee [KAERI] |
| 4-P-04 | Solubility of Radionuclides Under Near and Far Field Conditions: Effect of Organic Complexing Agents
Bolam Kim, Ahsan Abdul Ghani, Youngsu Lim
Dae Sung Lee [Kyungpook Natl. Univ.] |
| 4-P-05 | A Study on Low-Radiation Waste Resin Treatment Using Plasma Torch Melting Technology
Jeongsu Jeong, Seoyong Choi, Sunghoon Hong, Mingyu Cho [KHNP-CRI] |
| 4-P-06 | A Parametric Study on Shadow Zone Effect in Near-Field Radionuclide Transport Modeling for an Engineered Vault Type LILW Disposal Facility
Wontak Lee, Dongki Kim, Joowan Park [RADCORE] |

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- 4-P-07 Development Trend of Radwaste Characterization Technology for Safe Disposal**
Seok-Ju Hwang, YoungHwan Hwang, Cheon-Woo Kim [KHNP-CRI]
- 4-P-08 Degradation of Cellulosic Materials Into Isosaccharinic Acid Both Under Partially Aerobic and Completely Anaerobic Conditions**
Bolam Kim, Sanghwa Oh, Dae Sung Lee [Kyungpook Natl. Univ.],
Jiseon Jang, Seho Choi, Myunggoo Kang, Jaechul Ha,
Chun-Hyung Cho [KORAD]
- 4-P-09 Air Conditioning Condensate Contamination From Radiation Management Area of the DU Facility**
Yongsang Lee, Youngwoo Kwon, Seonho Noh [KAERI]
- 4-P-10 Analysis of Methodology for Deriving the Total Amount of SKB Cellulose-Containing Radioactive Waste**
Bora Yang, Jaechul Ha, Myunggoo Kang, Seho Choi [KORAD]
- 4-P-11 Optimization of Reactor Vessel Internals Segmentation of Kori Unit 1**
Kyu-Sang Hwang, Chang-Lak Kim [KINGS]
- 4-P-12 ²³⁹Pu and ⁹⁹Tc Sorption to the Cementitious and Natural Rock Barriers: Effect of Organic Complexing Agents (EDTA and ISA)**
Seongju Lee, Youngsu Lim, Bolam Kim, Daesung Lee [Kyungpook Natl. Univ.]
- 4-P-13 Cesium Adsorption on Engineered and Natural Barriers in a Fixed-bed Column System: Effects of EDTA and ISA**
Juhui Park, Youngsu Lim, Bolam Kim, Dae Sung Lee [Kyungpook Natl. Univ.]

- 4-P-14** **Effect of Organic Complexing Agents on Sorption and Mobility of Radionuclide ^{90}Sr by Engineered and Natural Rock Barriers at LILW Disposal Facility**
Beomgeol Jang, Ahsan Abdul Ghani, Bolam Kim, Youngsu Lim,
Dae Sung Lee [Kyungpook Natl. Univ.]
- 4-P-15** **Effect of Chelating Agents and Cement Degradation States on the Transport Behavior of ^{238}U in Engineered and Natural Barriers**
Youngsu Lim, Juhui Park, Dae Sung Lee [Kyungpook Natl. Univ.]
- 4-P-16** **Self-disposal of Metal Radioactive Waste**
Kyeong Min Park, Si Hyung Kim, Jong Hun Kim, Yun Jeong Hong,
Seong Jae Cheon, Sunghwan Kim, Yong Jin Jeong [KAERI]
- 4-P-17** **Tellurite Glasses for Immobilization of Selenium**
Jae-Young Pyo, Jung Hoon Choi, Hyun Woo Kang, Ki Rak Lee,
Hwan Seo Park [KAERI]
- 4-P-18** **A Study on Suitability for the Vitrification of Radioactive Asbestos Waste in Kori Unit1 Decommissioning**
Hwa-jun Yeom, Chang-Lak Kim, Chang-Sig Kong [KINGS],
In-Sun Jang [Dawonsys]
- 4-P-19** **Reduction and Recycling of Nuclear Dismantled Concrete Waste**
Jin Ryu, Jun Ki An, Gun Hee Kim, Ji Eun Shin, Won-Seok Kim [NCsquare Co.]
- 4-P-20** ~~International Case Study on Economic Estimation for Thermal Plasma Gasification~~
~~InJun Lee, HyungJun Kim [KEPCO-KPS], Seoyong Choi [KHNP-CRI]~~
- 4-P-21** **Removal of Uranium Ions From Sulfate-Based Acidic Soil Washing Effluent Using Ion-Exchange Resins**
Hyun-Kyu Lee, Seeun Chang, Wooshin Park, Sungbin Park,
Hongrae Jeon [KAERI]

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- 4-P-22 Introduction on the 3.5th Generation Plasma Torch Melting Facility**
Seoyong Choi, Jeongsu Jeong, Sunghoon Hong [KHNP-CRI]
- 4-P-23 Clearance Level Radioactive Waste Treatment for Reuse**
YuJeong Choi, Yoondo Oh, Tack-Jin Kim [KAERI]
- 4-P-24 A Study on the Development of the Evaluation Module for Decommissioning of Heavy Water Reactors**
Hyun Young Shin, Kyu Tae Park, Sung Ryul Kim, Jung Min Oh, Ba Ro Lee, Ji Ung Kim, Hye Jin Kim, So Yun Jeong, Wook Jae Yoo [Orbitech]
- 4-P-25 Analysis on US NRC Technical Position for Concentration Averaging of Radioactive Waste**
Jiyoung Yi, Chang-Lak Kim [KINGS]
- 4-P-26 Study on Recycling Strong Acidic Wastewater Containing a Radionuclide for the Radioactive Waste Reduction**
Hee-Chul Eun, Na-On Chang, Tack-Jin Kim, Woo-Shin Park [KAERI]
- 4-P-27 A 100 kW Class Transferred Type Plasma Torch for Radioactive Waste Melting Applications**
Darian Figuera-Michal, Dong-Hyun Lee, Nam-Ki Lee, Shi-Young Yang, Jun-Ho Seo [JeonBuk Natl. Univ.]
- 4-P-28 A Conceptual Study on Radioactive Waste Solidification Treatment Using Plasma Torch Melter**
Jihyun Kim, HyungJun Kim [KEPCO KPS], Seoyong Choi [KHNP-CRI]
- 4-P-29 Development of Procedures for Compression and Packaging of Spent Filter**
Narae Lee, Moonoh Kim [KONES Corp],
Ji Soo Yoon, Ji Hoon Lee [KHNP-CRI]

- 4-P-30 Performance Test of A 100 kW Class Mobile Plasma Melting System for Non-combustible Wastes**
Darian Figuera-Michal, Dong-Hyun Lee, Nam-Ki Lee,
Jun-Ho Seo [JeonBuk Natl. Univ.], Sang-Min Jeong [ORION EnC]
- 4-P-31 Evaluation of the Mobility of Glass Fibers in the Environment of the Gyeongju Radioactive Waste Repository**
Sang June Park, Hang-Rae Cho, Suil Bang [KHNP],
Moonoh Kim, Hyun Woo Song [KONES Corp.]
- 4-P-32 Proposal for the Composition of the Waste Profile (Draft) for Large Package of Decommissioning Waste**
Hoseog Dho, Hyungoo Kang, Yeseul Cho, Chunhyung Cho [KORAD]
- 4-P-33 Design of Three Phase AC (Alternative Current) Arc Plasma System For Treatment of Radioactive Slurry Wastes**
Dong-Hyun Lee, Darian Figuera-Michal, Hae-Won Park,
Sang-Yun Baek, Jun-Ho Seo [JeonBuk Natl. Univ.]
- 4-P-34 Evaluation of Seawater Intrusion Characteristics Using the Long-range GPR Systems for Coastal Line at the Site of LILW Disposal Facilities**
Seung Gyu Hyun, Hoseon Choi [KINS], Youngchul Yu [KOTAM]
- 4-P-35 The Evaluation of Tritium Behavior by Replacing the Reflector Ion Exchanger Resin With HANARO**
Hoon-Jo Cho, Mun-Jo Choi, Kwang-Young Lee, Hee-Gon Kim,
Ho-Young Choi [KAERI]
- 4-P-36 Characteristics of Waste-form Containing Chemical Decontamination Waste Immobilized by Low-temperature Sintering**
Naon Chang, Hee-Chul Eun, Won-Hyuk Jang [KAERI]
- 4-P-37 The Effect of ISA on the Sorption and the Solubility of Nickel**
Soojeong Ji, Wooyong Um [POSTECH]

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- 4-P-38 Simulation of Liquid Waste From Decontamination of Small- and Medium-sized Metal Wastes of NPP Decommissioning and Design Conditioning and Treatment Process**
 Seong Ho Yoo, Ki Seock Cho, Kwang Nam Kim,
 Ho Yeon Yang [Korea Environment Testing and Analysis Laboratory]
- 4-P-39 Considerations for Designing Solidification Devices of Dispersible Radioactive Waste**
 Dong-Sik Jin, Yong-Ho Hong, Hui-Gyeong Kim, Sang-Soo Kwak,
 Jae-Geun Lee [Nuclear Environment Technology Co., Ltd.]
- 4-P-40 A Conceptual Design for the Development of a Gripper Device for Lifting Work of Polymer Concrete High Integrity Container (PC-HIC) Packages**
 Hang-Rae Cho, Hyung-Jin Roh, Sang-June Park [KHNP],
 Mi-Hyun Lee [KHNP-CRI]
- 4-P-41 Study on Coincidence Summing Corrections Using LVIS Software in Analysis of the Low-level Radioactive Waste**
 Kyunghun Jung, Minyoung Jung, Jung Bo Yoo, Tae-Hong Park [KAERI]
- 4-P-42 Solubility Experiment for the Potential Role of Concrete Admixture on the Radionuclide Mobility**
 Donghun Pak, Jueun Kim, Kyungwon Kim, Wooyong Um [POSTECH]
- 4-P-43 Release of Sr From Sr-Coprecipitated Calcite Under Various Environment Conditions**
 Nara Jeong, Wooyong Um [POSTECH]
- 4-P-44 Sorption of Organic Complexing Agents to Engineering Barriers of a Radioactive Waste Disposal Site**
 Jinseob Kim, Ahsan Abdul Ghani, Bolam Kim, Youngsu Lim,
 Dae Sung Lee [Kyungpook Natl. Univ.]

- 4-P-45 Safety Tests of Waste Containers for Packaging of NPP Decommissioning Wastes**
Ju-Chan Lee, Jongmin Lim, Yun Young Yang, Sangsoon Cho,
Jeong-Yong Park [KAERI]
- 4-P-46 Review on Measurement Method of Level Using Differential Pressure in Nuclear Facility**
Yoon-do Oh, Hyun-myung Jung, Dae-seok Hong, Dong-han Yoo,
Hyun-kyu Lee, Tack-jin Kim [KAERI]
- 4-P-47 Process for Regulatory Clearance of Wood Waste at KAERI**
Han Byeol Kang, Jong Kwang Lee, Tack-Jin Kim [KAERI]
- 4-P-48 Calculation of Radiation Dose Using Computational Program NRCDOSE**
Han Byeol Kang, Ki-Baek Shin, Tack-Jin Kim [KAERI]
- 4-P-49 Development of Integrated Decontamination Equipment to Remove Concrete Surface Contamination**
Byeong-Ho Kim, Ki-Hyun Kwon, Hyeon-Oh Park [Sunkwang T&S],
Byung-Seon Choi [KAERI]
- 4-P-50 Upcycling of Radioactive Wastes to Foam Filter for Performance Improvement Using Sacrificial Material**
Jang-Yul Kim, Yong-Soo Jung,
Gangho Lee [Research Institute of Industrial Science & Technology]
- 4-P-51 Concept Designs of a Sampler Device for Taking Representative Samples From Waste Packages of High Integrity Container (HICs)**
Hang-Rae Cho, Sang-June Park, Su-Il Bang [KHNP],
Young-Hwan Hwang [KHNP-CRI]
- 4-P-52 The Refinement System Development for Lubricant Oil Waste in the Form of Organic Compounds Contaminated With Radioactive Materials**
Hui-Gyeong Kim, Yong-Ho Hong, Dong-Sik Jin, Sang-Soo Kwak,
Dong-Cheol Kim [Nuclear Environment Technology Co., Ltd.]

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- 4-P-53 Automatic Waste Position Location and Its Information Administration for Safe Disposal Site Management Using Beacon**
Sungjong Kim, Kweonwoo Sohn, Changhwan Cho [Mirae-en]
- 4-P-54 A Safety Assessment of a Radioactive Waste Disposal Facility: A Well Scenario**
Mi-Seon Jeong, Dongkook Park, Soo-Gin Kim, Jae-Yeol Cheong [KORAD]
- 4-P-55 Preliminary Modeling to Characterize the Impact of Surrounding Structures on Neutron Activation in Unshielded Cyclotron Facility Using MCNP With FISPACT**
Hyun Seok Song, Jae Hak Cheong [Kyung Hee Univ.]
- 4-P-56 Status Update for Contaminated Water Management in Fukushima Daiichi NPP**
Sunghoon Hong, Seok-Ju Hwang, Cheon-Woo Kim [KHNP-CRI]
- 4-P-57 Review of New Regulatory Guidelines in Relation to the Off-site Dose Calculation**
Deuk-Man Kim, Seok-Ju Hwang, Cheon-Woo Kim [KHNP-CRI]
- 4-P-58 Preliminary Consideration of Radiological Risk Associated With Transport of Spent Fuel and Radioactive Waste in Environmental Impact Assessment for Korean NPPs**
Younghoon Hwang, Jae Hak Cheong [Kyung Hee Univ.]
- 4-P-59 An Overview of the Revision History of Assessment Methodology of Radioactive Source Term for Normal Operation of Light Water Reactors**
Ji-Young Song, Kwan-Hee Lee [KINS]
- 4-P-60 Trends of ^3H Decontamination Technology and Design of Pilot Hybrid Technology Facilities for ^3H Contaminated Water Treatment**
Jiyang So, Doocheol Kim, Seonggeon Kim, Sangwook Lee, Seongjoo Kang, Minho Kwak, Seungil Kim [Elim-Global]

- 4-P-61 Review of Licensing Process of the 2nd Phase Low Level Radioactive Waste Disposal Facility in Gyeongju**
Yohan Kim, Eunjin Seo, Jinyong Park, Chan Woo Jeong,
Sangmyeon Ahn, Jeheon Bang, Jungjin Kim, Sang-Ho Lee,
Jinmo Ahn, Sangsu Park [KINS]
- 4-P-62 Study on Test Requirements Applied to Immobilized Solid Form**
Jisoo Yoon, Ji-Hoon Lee [KHNP-CRI]
- 4-P-63 Benefit Analysis for Melting of Metallic Intermediate Level Waste**
Moonoh Kim [KONES Corp], Yoonji Choi, Jeonghyun Yoon [KORAD]
- 4-P-64 A Study on Prediction of Annual Disposal Capacity for Gyeongju Radioactive Waste Repository Using System Dynamics Modeling**
Yuwghwa Son, Jachul Ha, Chunhyung Cho, Hyunchul Kwon [KORAD]
- 4-P-65 A Case Study of Clearance of Volumetric Contaminated Wood Wastes**
Yunjeong Hong, WonHyuk Jang [KAERI]
- 4-P-66 Examination for Repackaging Method of Intermediate Level Waste**
Moonoh Kim [KONES Corp], Yoonji Choi, Jeonghyun Yoon [KORAD]
- 4-P-67 Corrected Off-Gas Illustrative Model for 6 MW Molten Salt Reactor**
Ju Ho Lee, Seok-Min Hong, ChangHwa Lee [KAERI]
- 4-P-68 The Characteristics of Solidified Sludge According to the Distribution of Ferro Frit Powder in Sludge**
Ki Joon Kang, Sia Hwang, Hee Reyoung Kim [UNIST]

Decommissioning and Environmental Remediation

제5분과. 제염해체 **구두**

10. 27(목) 16:00~18:30 / 랜딩컨벤션센터 GF(1F) Halla Room A+B

좌장. 이근영 [KAERI], 김문오 [Kones Corp.]

- 16:00~16:20 **Development of NPP Cost Estimation Program Through 3D and Unit Cost Factor (UCF)**
Minhee Kim, Chang-Lak Kim, Sanghwa Shin [KINGS]
- 16:20~16:40 **Development of a Platform That Enables Generation of Cutting Paths and Process Simulation for Decommissioning of Reactor Vessel Internals (RVI) Within a Virtual Environment**
Jae-Seok Ki, Kyo-Chan Hwang, Ju-Ho Choi [Sangmyung Univ.],
Jeong Suh, Ryoan-han Kim [KIMM]
- 16:40~17:00 **Development of 3D Imaging Equipment Available in Radioactive and Underwater Environments**
Dongjun Hyun, Sungmoon Joo, Ikjune Kim, Jaehyun Ha,
Jonghwan Lee [KAERI]
- 17:00~17:20 **Development of Integrated Decontamination Process Using Supercritical Carbon Dioxide and Ethanol for Soil Contaminated With Cs, Sr, U**
Seungil Ha, Kwangheon Park, Jinhyun Sung [Kyung Hee Univ.]
- 17:20~17:30 **Break Time**
- 17:30~17:50 **Analysis of the Necessity of Building New Vessel for the Transport of Decommissioning Radioactive Waste**
Sanghyeon Eom, Moonoh Kim, Woo Yong Kim [KONES Corp.]

**17:50~18:10 A Study on Solidification of Uranium Contaminated Soil Waste
Based on Glass-ceramization**

Jaewoong Hwang, Jaseung Koo [Chungnam Natl. Univ.],
Keunyoung Lee [KAERI]

**18:10~18:30 A Study of the Physical and Chemical Properties of Aerosols
Generated by Laser Metal Cutting**

Hyun Jin Boo, Hwa Jeong Han, Jonghyeon Kim, Su Hyeon Lee,
Su Hyeon Kim, Byung Gi Park [Soonchunhyang Univ.],
Min-Ho Lee, Hee Kwon Ku [FNC Technology], Dae-Won Cho [KIMM]

Decommissioning and Environmental Remediation

제5분과. 제염해체 포스터

- 전시 10. 28(금) 09:00~12:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone
- 발표 10. 28(금) 10:00~11:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone

심사위원. Richard I. Foster [서울대], 이상호 [KAERI]

- 5-P-01 **Preliminary Mass Flow Diagram of a Thermochemical Process for Decontamination of Radioactive-combustible Waste**
Min Ku Jeon, Sung-Wook Kim, Maengkyo Oh,
Hee-Chul Yang, Keunyoung Lee [KAERI]
- 5-P-02 **Safety Study on Residual Power Transmitted From Laser-cut Object for Nuclear Decommissioning Application**
Jae Sung Shin, Ki-Hee Song, Seong Y. Oh, Seung-Kyu Park [KAERI]
- 5-P-03 **Control Measures of Safety and Risks for Induction Melting Facilities of Radioactive Metal Waste**
Kwan Seong Jeong, In-Ho Yoon, Keun Young Lee [KAERI],
Jung Jun Lee [KINS]
- 5-P-04 **Development of 3D Mapping Procedure for Derived Reasonable Work Plan in the Case of Decommissioning Nuclear Power Plant**
Jaeryang Kim, Sangbok Lee, Dongyoon Kim, Jungmook Kim,
Chiil Ohk, Giwon Lee, Doohee Lee, Jungki Kang [LC Gen Co. Ltd]
- 5-P-05 **The Establishment Strategy of Effective Management Plan for Stakeholder Engagement During Decommissioning of Nuclear Facilities**
Kwan Seong Jeong, In-Ho Yoon, Chang Hyun Roh [KAERI]

- 5-P-06 Understanding of Scintillators for Radiation Detection Under Intense Gamma-rays Fields for Nuclear Decommissioning**
Changhyun Roh, Su Jung Min, Seon Kwang Yoon, Chae Hun Lee, Sang Yoon Park, Sang Bum Hong, Bum Kyung Seo [KAERI]
- 5-P-07 Magnetic Hierarchical Titanium Ferrocyanide for the Selective Removal of Radioactive Cesium From Water**
Hee-Man Yang [KAERI]
- 5-P-08 Surface Decontaminants Composed of Poly (Vinyl Alcohol) and Phenylboronic Acid-grafted Poly (Methyl Vinyl Ether-alt-Mono-Sodium Maleate)**
Hee-Man Yang, Sung-Wook Kim, Jong-Yun Kim, Hyung-Ju Kim [KAERI]
- 5-P-09 Management Prospects of Solid Radioactive Waste Generated From Fukushima Nuclear Power Plant Accident**
Seok-Ju Hwang, Sunghoon Hong, Cheon-Woo Kim [KHNP-CRI]
- 5-P-10 Improving the Detection Efficiency of the Radiation Detector Through Secondary Solute Modification**
Su Jung Min, Jae Hak Cheong [Kyung Hee Univ.], Yong Dae Park, Bum Kyung Seo, Chang Hyun Roh, Sang Bum Hong [KAERI]
- 5-P-11 Development of Remote Machining Technique in Hotcell for Compact Tension Specimens of Materials Harvested from Nuclear Reactor**
Kisoo Heo, Younggwon Jin, Seungje Baik, Minchul Kim [KAERI]
- ~~5-P-12 Method of Preventing Radioactive Leakage of Exhaust Gas Treatment Facility~~
~~InJun Lee, Ju Sakong [KEPCO-KPS], Seoyong Choi [KHNP-CRI]~~

Withdrawal

5-P-13 ~~Inquiry Into the Method to Reduce the Amount of Radioactive Waste~~
~~Injun Lee, Panjae Kim, Seoyong Choi [KHNP, CRI]~~
Withdrawal

5-P-14 **Comparison of ICRP Publication Dose Conversion Factors and Estimation of Exposure Dose for Decommissioning Workers**
 Jin Ho Son, Seong Jun Kim, Wo Suk Choi, Hwa Pyoung Kim, Chang Ju Song, Hee Jin Kim, Tae Young Kong [Chosun Univ.]

5-P-15 **Reduction Process of Transferred Arc Plasma Melting System**
 Ki-Man Park [VITZRO NEXTECH]

5-P-16 **Development of Plasma Melting System for the Disposal of Composite Materials**
 Byung-Soo Yoo [VITZRO NEXTECH]

5-P-17 **Development of Scan Simulator for Automation of Nuclear Facility 3D Modeling**
 Sungmoon Joo [KAERI]

5-P-18 **An Approach to Enhancement of Underwater Laser Cutting Process Monitoring Video**
 Sungmoon Joo, Dongjun Hyun, Ikjune Kim, Jaehyun Ha, Jonghwan Lee, Taeyoung Ko [KAERI]

5-P-19 **Analysis of the Foreign Cases of Building Reuse Safety Assessment After Decommissioning of Nuclear Facilities**
 Min Seong Kim, Ji Woo Kim, Yong Ho Jin, Kwang Pyo Kim [Kyung Hee Univ.]

5-P-20 **Application Study of Sequential Soil Flusing for Uranium Removal**
 Seeun Chang, Hyun-Kyu Kim, Woo Shin Park, Sungbin Park, Hongrae Jeon [KAERI]

- 5-P-21 Radiation Management During Full System Decontamination for NPP Decommissioning**
Jong-hoa Kim, Ji-hyun Yu, Bung-chaee Lee,
Jang-soo Suh [SAE-AN Enertech Corp.]
- 5-P-22 Considerations for NPP Decommissioning Project Risk Management**
Gi-Lim Kim, Hyung-Woo Seo, Sang hyun Lee, Ji-hwan Yu,
Hye-In Kim [KHNP-CRI]
- 5-P-23 A Case Study on Methodology of Dose Calculation for the Embedded Pipe of Decommissioning NPP**
Jihwan Yu, Minchul Kim, Gi-lim Kim [KHNP-CRI]
- 5-P-24 A Case Study on the Remediation of Embedded Piping of Trojan Decommissioning NPP**
Jihwan Yu, Hyung-woo Seo, Gi-lim Kim, Hyein Kim [KHNP-CRI]
- 5-P-25 Study on Thermal Stability and Structural Changes of the Sr-exchanged Natrolite**
Junhyuck Im [KAERI], Jaewoo Jung [KIOST],
Kiho Yang, Yongmoon Lee [Chonnam Natl. Univ.],
Donghoon Seoung [Pusan Natl. Univ.]
- 5-P-26 Feasibility Study on High Count Rate Application of LaBr₃ Detector With a High Speed Digitizer for Nuclear Facility Decommissioning**
Chaehun Lee, Seonkwang Yoon, Sang-bum Hong, Bumkyung Seo [KAERI]
- 5-P-27 Radioactivity Calculation Considering Plant-specific Operation History for Decommissioning of PWR Nuclear Power Plant**
Youngjae Maeng, Kyungsik Kim, Mijuong Lim, Choonsung Yoo [KRIST]
- 5-P-28 Proposal of Evaluation Matrix for Clearance Waste Disposal Plan**
Kunsu Lim, Chang-Lak Kim, Sanghwa Shin [KINGS]

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- 5-P-29 **A Review of Remediation Actions and Applicable Scenarios to be Considered at the Time of License Termination for NPPs Decommissioning**
 Hyung-woo Seo, Ji-hwan Yu, Gi-lim Kim, Hyein Kim [KHNP-CRI]
- 5-P-30 **Evaluation of Dose to Public Due to Hypothetical Events During Dismantling of Steam Generator**
 Kyeong Ju Lee, Chang Lak Kim [KINGS]
- 5-P-31 **Computational Model Development of a Combined Electrolysis and Catalytic Exchange (CECE) Process for Heavy Water Pre-enrichment and Detritiation**
 Kwang-Rag Kim, Jong-Yun Kim, Sang-Ho Lim, Do-Hee Ahn [KAERI]
- 5-P-32 **Review of Transport System for Decommissioning Waste Containers**
 Woo-Yong Kim, Young Oh Lee, Tae Su Kim, Moonoh Kim [KONES Corp.]
- 5-P-33 **A Study of Dismantling Steam Generators for Kori Unit 1, 2**
 Geunyoung Goh, Chang-Lak Kim [KINGS]
- 5-P-34 **Dose Evaluation on the Post-closure Scenario of Self-disposal Landfill for Decommissioning Metal/Concrete Wastes**
 Jaewon Park, Juyub Kim, Hyungi Byun [FNC Technology]
- 5-P-35 **Case Study of Decommissioning Waste Treatment Method of Zion Nuclear Power Station**
 Cheong Won Lee [KAERI]
- 5-P-36 **Activated Carbon Waste Pretreatment System for Radioactive Waste Up-cycling**
 Kirak Lee, Hwan-Seo Park, Geun-il Park [KAERI],
 Sang Won Shin, Dong Chul Jang [HANIL Nuclear]

- 5-P-37 Paraffin Separation From Paraffin Wasteform Via Evaporation and Thermal Decomposition Method**
Kirak Lee, Hyeon Jin Eom, Hwan-Seo Park, Jung-Hoon Choi,
Hyun Woo Kang [KAERI]
- 5-P-38 Hydrogen Isotope (H, D, T) Separation Technology Development**
Chan Woo Park, Ilgook Kim, Hyung-Ju Kim, Chan Hyun Rho,
Younho Shin, In-Ho Yoon, Hee-Man Yang [KAERI]
- 5-P-39 Conflict Resolution for Each Stakeholder on the Clearance Waste Recycling From the Decommissioning of Nuclear Power Plants**
Dong-Jin Kim, Ye-Jeon Lim, So-On Park, Seong-Hyeon Lee,
Byung-Sik Lee [Dankook Univ.]
- 5-P-40 PERT Chart Based Laser Cutting Process Control on a Digital Simulation Platform**
Ikjune Kim, Dongjun Hyun, Jonghwan Lee, Sungmoon Joo, Jaehyun Ha,
Taeyoung Ko [KAERI]
- 5-P-41 Evaluation of Solubility of Ethanol, 2-propanol in Supercritical Carbon Dioxide for the Application of Soil Decontamination Process**
Seungil Ha, Kwangheon Park, Jinhyun Sung [Kyung Hee Univ.]
- 5-P-42 Demonstration Test for Chemical Waste Decomposition & Treatment System(CWDS)**
Ju-Hyeon Park, Jung-Hyun Lee, Sung-Hyun Lee, Ki-Chul Kim,
Chung-kyu Lee [KEPCO KPS]
- 5-P-43 Screening of Porous Materials for Separation of Hydrogen Isotopes Based on Cryogenic Distillation**
Chan Woo Park, Hyung-Ju Kim, In-Ho Yoon [KAERI]

Withdrawal

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- 5-P-44** **Changes to the Design of CHEONG JEONG NURI for the Transport of Decommissioning Radioactive Waste**
Sanghyeon Eom, Moonoh Kim, Woo Yong Kim [KONES Corp.]
- 5-P-45** **Scale-up Study for Volume Reduction Process of Radioactive Concrete Waste From Decommissioning Projects**
Maengkyo Oh, Chang-Ha Lee [Yonsei Univ.],
Keunyoung Lee, Min-Ku Jeon, Richard Ian Foster [KAERI]
- 5-P-46** **Technology Development for Advanced Volume Reduction of Radioactive Concrete Waste From NPP Decommissioning**
Keunyoung Lee, Maengkyo Oh, Richard I. Foster, Kwang-Wook Kim, Sungjune Sohn, Min Ku Jeon, Bum-Kyoung Seo [KAERI]
- 5-P-47** **Demonstration Test of Full System Decontamination and Its Operation Review**
Sung Hyun Lee, Jung-Hyun Lee, Ju-Hyeon Park, Sung-Sik Yoon, Jeong-Yeop Cha, Seung-Ki Lee, Sung-Su Kim, Chung-Kyu Lee, Ki-Chul Kim [KEPCO KPS]
- 5-P-48** **A Study on the Sintering Stabilization Method of Cs-contaminated Spent Adsorbent**
Keunyoung Lee, Maengkyo Oh, Jaewoong Hwang, Min Ku Jeon [KAERI]
- 5-P-49** **A Study of Effect of Trace Materials in Activation Analysis**
Mi-Hyun Lee, Young Hwan Hwang, Cheon-Woo Kim [KHNP-CRI]
- 5-P-50** **A Study on Waste Management of ZION Nuclear Power Plant Decommissioning**
Young Hwan Hwang, Mi-Hyun Lee, Seok-Ju Hwang [KHNP-CRI]
- 5-P-51** **Study on Creating and Optimizing a Task Sequence for Robotic Underwater Laser Cutting Using a Digital Manufacturing System**
Jaehyun Ha, Dongjun Hyun, Sungmoon Joo, Ikjune Kim, Jonghwan Lee [KAERI]

- 5-P-52 Performance Tests on the Plasma Arc Melter-Molten Salt Oxidizer Combination System – 2. Waste Form Integrity of Melting Solidification Products**
In Sun Jang, Na Young Kim, Jae Hyuk Choi [Dawonsys],
Hee Chul Yang, Hee Chul Eun [KAERI]
- 5-P-53 Performance Tests on the Plasma Arc Melter-Molten Salt Oxidizer Combination System – 1. Destruction of Organics and Retention of Metals/ Radionuclides**
In Sun Jang, Na Young Kim, Jae Hyuk Choi [Dawonsys],
Hee Chul Yang, Hee Chul Eun, Hyung Ju Kim [KAERI]
- 5-P-54 Study on the Decomposition for Radioactive Wastes Containing a Hazardous Material (Asbestos) in a High-Temperature Melt Oxidation System**
Na-Young Kim, In-Sun Jang, Jae-Hyuk Choi [Dawonsys],
Hee-Chul Yang, Hee-Chul Eun [KAERI]
- 5-P-55 Separation of Hydrogen Isotopes by Water Electrolysis**
Chan Woo Park, Ilgook Kim [KAERI]
- 5-P-56 Conflicts Over the Clearance Waste Recycling From the Decommissioning of Nuclear Power Plants**
Ye-Jeon Lim, Dong-Jin Kim, So-On Park, Byung-Sik Lee [Dankook Univ.]
- 5-P-57 A Revised Method for Estimating Initial Provision of Nuclear Power Plant (NPP) Decommissioning Cost**
Seunghyuk Jung, Hyunwoo Song [KONES Corp.]
- 5-P-58 A Preliminary Modeling to Characterize Major Factors Affecting Neutron Activation of Medical Cyclotrons Using MCNP, FISPACT-II and FLUKA**
Se Geun Lee, Jae Hak Cheong [Kyung Hee Univ.]

| Radiation Environment and Safety

제6분과. 방사선환경 및 안전 **구두**

10. 28(금) 09:00~12:00 / 랜딩컨벤션센터 GF(1F) Halla Room A+B

좌장 : 김병직 [KINS], 지영용 [KAERI]

09:00~09:20 Review on the Evaluation Methodology of Radioactive Source Term for Normal Operation of NuScale SMR

Ji-Young Song, Gyeong-Mi Kim, Su-Ji Yoon, Ho-Jin Lee,
Kwan-Hee Lee [KINS]

09:20~09:40 Radiation Dose Assessment of Thorium-containing Gas Mantle for Use and Disposal Scenarios

Jimin Shin, Beomseok Ko, Hee Seo [JeonBuk Natl. Univ.],
Meeryeong Kim, Minkyung Kim, Sangmin Lee [KINS]

09:40~10:00 Verification of Monte Carlo Simulation Model on Seafood Monitoring System for Radioactive Material Screening

Hyosang Choi, Hee Seo [JeonBuk Natl. Univ.]

10:00~10:20 Radiation Safety Evaluation for Radioactive Waste Processing in Hot Cell Facility

Kyung Hun Shin, Hee Reyoung Kim [UNIST]

10:20~10:40 Break Time

10:40~11:00 LSC Quenching Correction of H-3 Leached Sample of Paper Packaging Material

Changhyun Ryu, Sangyong Park, Junghwan Hong,
Jusngsuk Park [KEPCO NF], Kwangpyo Kim [Kyung Hee Univ.]

- 11:00~11:20 **Shielding Thickness of the Fuel Handling Hot Cell at the Spent Fuel Re-packaging Facility**
Joon Gi Ahn [KEPCO E&C]
- 11:20~11:40 **Occupational Dose Analysis for Fire Accident During NPP Decommissioning**
Hyunjin Lee, Chang-Lak Kim, Sang-rae Moon, Sun-kee Lee [KINGS]
- 11:40~12:00 **A Study on the Status of Multi-nuclide Removal System (ALPS) and Dilution/Discharge Process on Fukushima NPP Site**
Myeonggi Cha, Gisu Lee, Min Baek [POSTECH]

Radiation Environment and Safety

제6분과. 방사선환경 및 안전 포스터

- 전시 10. 27(목) 14:00~18:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone
- 발표 10. 27(목) 17:00~18:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone

심사위원. 우주희 [KINS], 박기현 [KAERI]

- 6-P-01 **The Mapping Program for the Display of Radiation Distribution Using Aerial Radiation Monitoring Data**
Hwa Jeong Han, Byung Gi Park [Soonchunhyang Univ.],
Sang Hun Shin, Hee Kwon Ku, Min Beom Heo [FNC Technology]
- 6-P-02 **Development and Field Tests of a Mobile Radiation Monitoring System Using Public Transportation**
Jin Sik Choi, Jae Wook Kim, Han Young Joo,
Jeong Yeon Lee, Joo Hyun Moon [Dankook Univ.]
- 6-P-03 **Spectroscopy- $H^{*}(10)$ Rate Conversion Function $G(E)$ for a Plastic Scintillation Detector**
Jisung Hwang, Junhyeok Kim, Kilyoung Ko, Wonku Kim, Jaehyun Park,
Gyohyeok Song, Sangho Lee, Gyuseong Cho [KAIST]
- 6-P-04 **Development of Virtual Gamma-Ray Energy Spectrum Simulator Program for Training**
Yoomi Choi, Young-Yong Ji, Sungyeop Joung, Eunjoong Lee [KAERI]
- 6-P-05 **Miniaturization and Applicability Evaluation of Collimating Device for the Self-Attenuation Correction in Low-Energy Gamma-Ray Spectrometry**
Jun-Ho Lee, Jong-In Byun [KINS]

- 6-P-06 Feasibility Study on Gamma Energy Spectroscopy of Bismuth Nanoparticles-loaded Plastic Scintillator for Portal Monitoring Using Monte Carlo Simulations**
Taeseob Lim, Siwon Song, Jae Hyung Park, Jinhong Kim, Seunghyeon Kim, Hyungi Byun, Seokhyeon Jegal, Bongsoo Lee [Chung-Ang Univ.]
- 6-P-07 Design Improvement on Reducing Angular Dependence of Gamma Probe for Detecting Radioactive Contamination**
Sanggeol Jeong, Giyeon Kim, Jaeyeong Jang, Heejun Chung, Myungsoo Kim [KINAC]
- 6-P-08 Minimization for Temperature Dependence of the SiPM Adapting Count Rate Compensation and Operation Sequence**
Giyeon Kim, Sanggeol Jeong, Jaeyeong Jang, Heejun Chung, Myungsoo Kim [KINAC]
- 6-P-09 Scintillating Detection of Fe-55 for Radioactive Aerosol Monitoring**
Jae Hyung Park, Siwon Song, Seunghyeon Kim, Jinhong Kim, Taeseob Lim, Seokhyeon Jegal, Bongsoo Lee [Chung-Ang Univ.]
- 6-P-10 Assessment of Cosmic-ray Contribution on Aerial Survey Using Large Volume NaI (Tl) Detector**
Jun Ha Kim, Jong In Byun [KINS]
- 6-P-11 Evaluation of ^{40}K Concentration in Samples Containing High Concentration of ^{232}Th**
Eun Ji Park, Sung Han Lee, Young Hwan Park, Su Bin Heo, Seong Gyu Lim, Dong Cheol Jang, Seung Beom Seo [HANIL Nuclear]
- 6-P-12 Machine Learning Approach to Radiation Exposure Doses From Consumer Products Containing Naturally Occurring Radioactive Materials**
Juyoul Kim [KINGS], Gi Young Han [KINS]

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- 6-P-13 **Analysis on the Country-specific Graded Approaches to Exemption and Clearance of NORM**
 Zuhee Woo [KINS]
- 6-P-14 **Distribution of Naturally Occurring Radioactive Materials in Groundwater of Jeju Island**
 Sohyeon Lim, Chung-Hun Han, Hee-Jung Im [Jeju Natl. Univ.]
- 6-P-15 **Property Analysis of Aerosol Containing NORM in Cement Manufacturing Industry for Radiological Risk Assessment**
 Jong Hyeok Park, Byung Min Lee, Seong Yeon Lee,
 Kwang Pyo Kim [Kyung Hee Univ.]
- 6-P-16 **Disposal of a Radioactive Concrete Waste Containing Uranium by the Crush-Sieving Method**
 Jeongbo Yang, Jeongmyeong Kim, Jeonghwan Hong, Yeongjong Ju,
 Jungsuk Park [KEPCO NF]
- 6-P-17 **Optimization of Design of a D₂O-moderated ²⁵²Cf Source for Personal Dosimetry Performance Test**
 Hyeongjin Kim, Yuho Weon, Munhyung Cho [KHNP-CRI]
- 6-P-18 **Review of Environmental Radiation Monitoring Strategy in Nuclear Emergency**
 Bongseok Kim [KAERI]
- 6-P-19 **The Results of Performance Test for Whole Body Counters in Nuclear Power Plants**
 Si Young Kim, Seok-Ju Hwang, Cheon-Woo Kim [KHNP-CRI]

- 6-P-20 A Proposal for the Development Digital Twin in the Decommissioning Nuclear Power Plant Project**
Sanghyun Lee, Hyung-woo Seo, Gi-lim Kim, Jihwan Yu,
Hyein Kim [KHNP]
- 6-P-21 An Improvement of Dimensioning Machine for Irradiated Materials in Hot Cell**
Yunmock Jung, Seungje Baik, Youngjun Kim, Hyojik Lee [KAERI]
- 6-P-22 Preliminary Analysis of Uncertainties in the Calculated Value of Radioactivity for Airborne Discharges From NPPs in Batch Mode**
Seok Hee Chung, Jae Hak Cheong [Kyung Hee Univ.]
- 6-P-23 Review on Evaluation Method by Direct Radiation Exposure in ODCM**
Seok-Ju Hwang, Deuk-man Kim, Cheon-Woo Kim [KHNP-CRI]
- 6-P-24 Review of the Linkage Between Accident Management Plan and Radiation Emergency Plan**
Juyoul Kim [KINGS], Hyeong-Ki Shin [KINS]
- 6-P-25 Measurement of Alpha Radiation Dose in Uranium-using Facility**
Seonho Noh, Youngwoo Kwon, Youngsang Lee [KAERI]
- 6-P-26 Simulations on Routine Emission of Radioxenon in the Northern Hemisphere Using LADAS Model: Case Study in 2014**
Kihyun Park, Byung-Il Min, Sora Kim, Jiyeon Kim,
Kyung-Suk Suh [KAERI]

- 6-P-27 A Study on the Evaluation of the Moving Path and Expected Annual Exposure Dose of Workers Considering the Work Zone in Movable Radionuclide Analysis System**
Sangheon Lee, Minho Lee, Jongsoon Song [Chosun Univ.]
- 6-P-28 Evaluation of Surface Contamination Measurement Results Based on the Recommendations of the International Organization for Standardization**
Chaehee Kim, Insu Chang [KAERI]
- 6-P-29 Assessment of Dose Rate and Radioactivity Ratio in Some Areas of Jeju Island**
Byungchae Lee, Jihyun Yu, Jonghoa Kim,
Jangsoo Suh [Sae-An Enertech Corp.]
- 6-P-30 Analysis of Risk Assessment Methodologies in Radioactive Waste Overland Transportation Risk Assessment Codes for Transportation Accident**
Min Woo Kwak, Hyeok Jae Kim, Seong Yeon Lee,
Kwang Pyo Kim [Kyung Hee Univ.]
- 6-P-31 Discussion on Calculation Procedure of Kr-85 Concentration in Gaseous Effluent and Emission Evaluation**
Suhyun Choi, Cheolhyun Kang, Jongil Lee, Insu Chang [KAERI]

| Radiochemistry and Nuclear Chemistry

제7분과. 방사화학 구두

10. 27(목) 16:00~18:30 / 랜딩컨벤션센터 GF(1F) Halla Room C

좌장: 김희경 [KAERI], 박태홍 [KAERI]

Invited Speaker

16:00~16:20 **A Review of Chemical Speciation and Thermodynamic Studies of Plutonium in KAERI**
Hye-Ryun Cho [KAERI]

Invited Speaker

16:20~16:40 **Chemical Behavior of Niobium(V) in Cementitious Conditions: Solubility and Sorption**
Yongheum Jo [KAERI],
Nese Cevirim-Papaioannou, Krassimir Garbev, Markus Fuss,
Oliver Dieste Blanco, Marcus Altmaier,
Xavier Gaona [Karlsruhe Institute of Technology],
Karsten Franke [Helmholtz-Zentrum Dresden-Rossendorf],
Benny de Blochouse [ONDRAF/NIRAS]

Invited Speaker

16:40~17:00 **Application of Machine Learning to Predict the Chemical Reactions at Solid-Water Interfaces**
Jun-Yeop Lee, Do-Hyun Kim [Pusan Natl. Univ.]

17:00~17:20 **Experimental Analysis of HTO Adsorption on Activated Carbon in Tritium-Contaminated Water**
Jei-Won Yeon, Ji Eun Yang [KAERI]

17:20~17:30 **Break Time**

- 17:30~17:50 Radiochemical Separation of Nb Isotopes in Radioactive Waste Samples From the Nuclear Power Plant Using Anion Exchange Resin**
Myung Ho Lee, Byoung Chul Song, Kyung Sik Kim, Young Jae Maeng, Choon Sung Yoo, Byoung Chul Kim [KRIST]
- 17:50~18:10 Modified Separation Method for ^{99}Tc , ^{94}Nb , ^{90}Sr , ^{55}Fe , $^{59/63}\text{Ni}$, ^{60}Co , ^{137}Cs**
Heung Nae Lee, Kwy Hwan Cho, Kyu Kwang Kang, Hyeong Min Park, Jun Hwi Bang, Yun Han Lee [Korea Standards Analysis Co. LTD.]
- 18:10~18:30 Analysis of Light Rare-Earth Elements Using Gas-Pressurized Extraction Chromatography**
Jihye Kim, Namuk Kim, Sang-Eun Bae [KAERI]

| Radiochemistry and Nuclear Chemistry

제7분과. 방사화학 포스터

- 전시 10. 28(금) 09:00~12:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone
- 발표 10. 28(금) 10:00~11:00 / 랜딩컨벤션센터 LGF(B1F) Poster Zone

심사위원. 김지혜 [KAERI], 이명호 [한국원자로감시기술]

- 7-P-01 **Validation Result of Combustion Method for Simultaneous Analysis of ^3H and ^{14}C**
Kyungwon Suh, Kwang Eun Lee, Jung Bo Yoo, Tae-Hong Park [KAERI]
- 7-P-02 **Synthesis and Characterization of Ca-Silicate Bearing Uranium Minerals**
Wansik Cha, Junghwan Park, Hye Ran Noh, Euo Chang Jung, Sang Ho Lim, Hye-Ryun Cho, Hee-Kyung Kim [KAERI]
- 7-P-03 **Influence of Effective Thermal Conductivity on the Radiolytic and Chemical Environment Within the CRUD Deposits**
Seungjin Seo, Sungeol Choi [Seoul Natl. Univ.], Hwajeong Han, Byunggi Park [Soonchunhyang Univ.]
- 7-P-04 **Thermal NaCl-MgCl_2 Salt Purification for Reducing Reactor Vessel Corrosion**
Wonseok Lee, Jihun Kim, Hyeongbin Kim, Sungeol Choi [Seoul Natl. Univ.], Wonseok Yang [KAIST]
- 7-P-05 **Magnesium Chloride Dehydration Methods Using Thermal and Electrochemical Treatments**
Jihun Kim, Hyeongbin Kim, Wonseok Lee, Taeho Jang, Sungeol Choi [Seoul Natl. Univ.], Wonseok Yang [KAIST]
- 7-P-06 **Corrosion Failure Analysis of the Welded Part in the Multi-purpose Molten Salt Experiments**
Hwa Jeong Han, Hyunjin Boo, Jonghyeon Kim, Byung Gi Park [Soonchunyang Univ.]

-
- 7-P-07 Study on Ion Exchange Resin for Separation/Purification of Radioactive Strontium**
Yeong Su Ha [Osong Medical Innovation Foundation]
- 7-P-08 Corrosion Behavior Analysis of Ni-Cr Alloy in Molten NaCl-MgCl₂ With Various Metallic Chloride at 973 K**
Younghwan Jeon, Jungho Hur, Jaeyeong Park [UNIST]
- 7-P-09 Colorimetric Analysis on the Solubility of Nd(OH)₃(s) Under Neutral to Weakly Acidic Conditions**
Ranyeong Choi, Jun-Yeop Lee [Pusan Natl. Univ.]
- 7-P-10 Analysis of Iodine in Various Cement Waste Particle Size**
Gi Yong Kim, Jung-Weon Choi, Jung Bo Yoo, Tae-Hong Park [KAERI]
- 7-P-11 Assessment of Multi-Elements Analysis Ability Using ICP-OES**
Jihyun Kim, Kyungwon Suh, Kwang-Soon Choi, Jung Bo Yoo, Jung-Weon Choi [KAERI]
- 7-P-12 Measurement of Recovery for Validation of Pretreatment Method in Solidified Cement Ion-Exchange Resin Samples**
Kwang Soon Choi, Gi Yong Kim, Jung-Weon Choi, Jung Bo Yoo, Tae-Hong Park [KAERI]
- 7-P-13 A Development of the Quantitative Analysis Method for Np in Solutions by Various Radiometric Methods and Absorption Spectroscopy**
Junhyuck Kim, Hye-Ryun Cho, Jae Il Park [KAERI]
- 7-P-14 Determination of Citric Acid in Radioactive Wastes Using Ion Chromatography**
Hyejin Cho, Jae Il Park [KAERI]

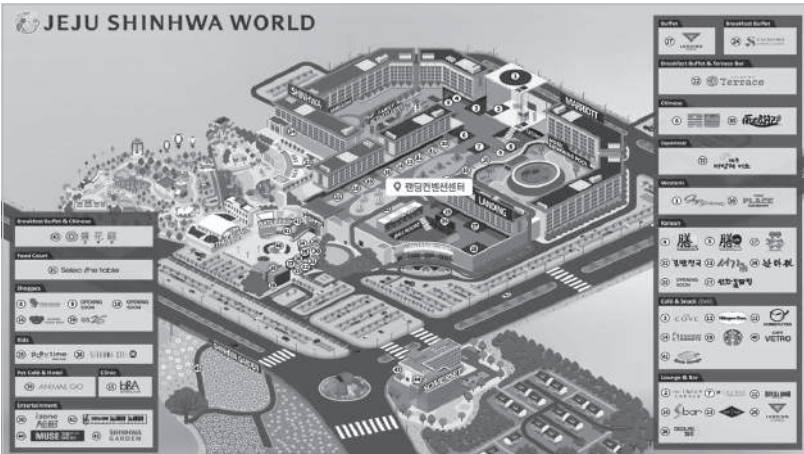
- 7-P-15 Applications of Zone-melting to NaCl-MgCl₂ Eutectic Salt**
Chan-Yong Jung, Sang-Eun Bae [KAERI]
- 7-P-16 Optimization of Synthetic Conditions for Titanium-containing
Anderson-type Polyoxometalate**
Hye Ran Noh, Jong-Yun Kim, Jeongmook Lee, Sang Ho Lim [UST],
Tae-Hyeong Kim, Jung Hwan Park [KAERI]
- 7-P-17 Effect of Colloids on Safety Assessment of High-Level Waste
Repository**
Junghwan Park, Sang Ho Lim [KAERI]
- 7-P-18 High-temperature Viscosity Measurement System for Corrosive
NaCl-MgCl₂ Molten Salt Using Brookfield Rotational Viscometer**
Eunkyeom Lee, Chanyong Jung, Tae-Hyeong Kim, Sang Ho Lim,
Jong-Yun Kim [KAERI]
- 7-P-19 Synthesis and Characterization of New Hydrogen-Bonded Organic
Framework With Subsequent Application for Iodine Capture**
Viktoriya Kim, Jeongmook Lee, Jong-Yun Kim, Sang Ho Lim [UST],
Tae-Hyeong Kim [KAERI]

기타 안내



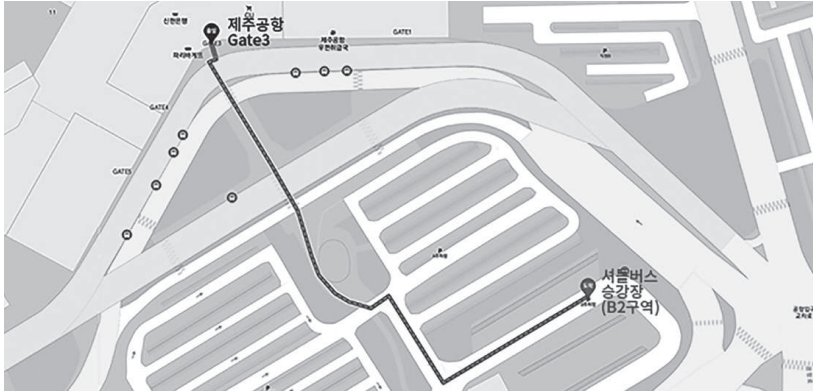
01 행사장소

- ◆ 위치 제주 신화월드, 제주특별자치도 서귀포시 안덕면 신화역사로 304번길 38
- ◆ Tel 1670-1188
- ◆ 홈페이지 <https://www.shinhwaworld.com/index.aspx?lang=KR>



02 교통편

◆ 셔틀버스편



일자	회차	제주공항→제주 신화월드	제주 신화월드→ 제주공항
10월 26일	1회	10:30	-
	2회	11:00	-
	4회	12:00	-
10월 27일	5회	08:30	-
	6회	09:30	-
	7회	11:00	-
10월 28일	8회	-	13:00
	8회	-	13:10

◆ 택시편

소요시간	요금(원)	택시탑승장 위치안내
	일반	
약 40분 내외	대략 30,000~	공항 1층 3번 게이트 앞 횡단보도 건너에 있는 택시탑승장 탑승 평균 소요시간은 40분 내외, 교통 상황에 따라 달라질 수 있음

◆ 버스편

탑승위치	버스 번호	소요 시간	운행시간 (주중)	요금 (원)	이동방법
제주공항 1층 4번 게이트 앞 버스 승강장	151번	약 50분~	첫차 06:45 ~ 막차 21:50 *배차간격: 25~60분 (하루 29회 운행)	2,600원	제주국제공항4 (대정, 화순, 일주서로) 탑승 → 제주 신화월드 입구 하차 → 도보 15~20분 소요 (리조트 별 상이)
	182번 → 255번	약 1시간 30분~	첫차 06:00 ~ 막차 21:10 *배차간격: 30~45분	2,400원	제주국제공항5 (평화로, 800번) 승차 → 동광환승정류장5(서귀방면) 하차 → 도보로 4분 이동 → 동광환승정류장2 (영어교육도시방면) 255번 승차 → 제주신화월드 테마파크 하차
	152번 → 255번	약 1시간 30분~	첫차 06:30 ~ 막차 20:55 (하루 7회 운행)	2,400원	제주국제공항4 (대정, 화순, 일주서로) 탑승 → 동광환승정류장6 → (모슬포방면) 하차 → 도보로 3분 이동 동광환승정류장2 (영어교육도시방면) 255번 승차 → 제주신화월드 테마파크 하차

03 숙박 안내

◆ 학회 회원가 제공호텔

* 학회 참석 회원가

호텔명	주 소	객실타입	금 액	행사장과의 거리
제주 신화월드 랜딩관	제주 서귀포시 안덕면 신화역사로304번길 38	슈페리어 (더블)	142.000	동일 건물
		슈페리어 (트윈)	142.000	
제주 산방산 호텔	제주 서귀포시 대정읍 일주서로 2093	디럭스 (트윈)	100.000	9.7km, 차량 12분
호텔 케니 모슬포	제주 서귀포시 대정읍 하모중앙로 22	스탠다드 (더블)	50.000	13km, 차량 15분
		디럭스 (트윈)	65.000	

※ 숙박 예약 안내

1. 학술발표회 홈페이지(conf.krs.or.kr) - 로그인 - Hotel - 호텔예약하기
2. 호텔, 객실 타입 및 숙박 일자 선택
4. 결제할 카드 정보 입력
5. 총 금액 및 숙박 일수 확인 후 예약 진행 (예약하기 버튼 클릭)

◆ 기타 숙박시설

* 기준인원 : 2인

호텔명	주 소	객실타입	금 액	행사장과의 거리
메종 글래드 제주	제주 제주시 노연로 80	스탠다드 트윈룸	150.803	28km, 차량 35분
		스탠다드 더블룸	161.900	
아루미호텔 중문	제주 서귀포시 색달중앙로 38	더블룸	76.227	13km, 차량 16분
		트윈룸	76.227	
호텔 빠레브	제주 서귀포시 김정문화로 15	트윈룸	98.703	23km, 차량 29분
		스탠다드 트윈룸	98.703	
베니키아중문 호텔	제주 서귀포시 천제연로 166	스탠다드 트윈룸	78.110	13km, 차량 21분
		스탠다드 더블룸	78.110	

※ 상기 숙박 금액은 네이버(<http://www.naver.com>) 및 호텔 홈페이지로 정보 수집 후 확인한 금액이나, 예약시기 및 해당 숙박시설에 따라 다소 금액이 달라질 가능성이 있으므로 예약 시 직접 확인하시기 바랍니다.

04 주변 관광 안내

*출처: 네이버(<https://www.naver.co.kr>)



신화테마파크

주 소 | 제주 서귀포시 안덕면 신화역사로304번길 98
전 화 | 1670-1188
홈페이지 | <https://jejushinhwaworld.modoo.at/?link=8vlekfv>

제주 유일 롤러코스터를 포함한 다양한 놀이기구와 아트랙션, 귀엽고 신비로운 공연과 맛있는 음식 매장까지 신화테마파크에서 모두 즐겨보세요.



신화워터파크

주 소 | 제주 서귀포시 안덕면 신화역사로304번길 38
전 화 | 1670-1188
홈페이지 | <https://jejushinhwaworld.modoo.at/?link=6t1xt9zn>

파도풀, 유수풀을 포함한 18개의 풀과 슬라이드를 갖춘 제주 최대 실내 워터파크로 3,000명까지 동시 수용할 수 있습니다. 수유실과 어린이 전용 풀장, 아시아 최초로 도입된 2개의 워터 슬라이드, 프라이빗한 휴식을 제공하는 카바나, 핫도그와 생맥주를 즐길 수 있는 식음료 매장까지, 온 가족이 원하는 모든 것이 신화워터파크에 있습니다.



생각하는 정원

주 소 | 제주 제주시 한경면 녹차분재로 675
전 화 | 0507-1324-3701

유구한 세월을 간직한 한국 고유의 정원수와 분재 그리고 괴석과 수석이 잔디광장과 오름의 여백을 따라 전시되어 있으며, 돌 하나 하나마다 손으로 직접 다듬어 쌓아 올린 거대한 화산석 돌담과 돌문, 그리고 곳곳에 쏟아져 내리는 폭포와 연못은 자연석 석조건물과 조화를 이루어 독창적인 한국정원의 모습을 갖고있어 제주의 자연과 멋을 가장 잘 보여주고 있습니다.



서귀포 올레시장

주 소 | 제주 서귀포시 서귀동 340

전 화 | 0507-1353-1949

홈페이지 | <https://shopping.naver.com/outlink/storehome/101522964>

1965년 개설된 상가주택건물형의 중형시장으로 주 취급품목은 농수산물(옥돔 등 제주도 특산물) 등. 제주의 다양한 먹거리가 모여있는 곳. 서귀포에서 가장 큰 시장으로 60여년의 역사를 지닌 전통시장(200여개 점포/140여개 노점)입니다.



오설록 티뮤지엄

주 소 | 제주 서귀포시 안덕면 신화역사로 15 오설록

전 화 | 064-794-5312

홈페이지 | <https://www.osulloc.com/kr/ko/museum/teastone>

세계적인 디자인 건축 전문사이트인 디자인북이 선정한 세계 10대 미술관에 오를 만큼 안팎으로 아름다운 풍광을 뽐내는 티뮤지엄은 연간 150만 명의 관람객이 방문하는 제주 최고 명소이자 문화 공간입니다.



용머리 해안

주 소 | 제주 서귀포시 안덕면 사계리 112-3

전 화 | 064-760-6321

산방산 해안에 있으며, 바닷속으로 들어가는 용의 머리를 닮았다 하여 붙여진 이름이다. 걸로 보면 평범하지만 좁은 통로를 따라 바닷가로 내려가면 수천 만 년 동안 층층이 쌓인 사암층 암벽이 파도에 깎여 기묘한 절벽을 이루고 있는 아름다운 명소입니다.



소인국 테마파크

주 소 | 제주 서귀포시 안덕면 중산간서로 187

전 화 | 064-793-5400

홈페이지 | www.soingook.com

국내 최대의 미니어처 테마파크로 어머니 품과도 같이 포근하게 감싸주는 한라산이 코앞에 보이고 기생화산(오름)이 사방으로 펼쳐진 곳에 자연과의 조화가 한층 더 갖들어진 천혜의 위치에 조성되어 있습니다.



협재 해수욕장

주 소 | 제주 제주시 한림읍 협재리 2497-1
전 화 | 064-728-3981

물이 맑고 투명하기로 소문나 제주에 가면 꼭 가야할 명소 중 하나로 매년 많은 관광객들이 협재 해수욕장을 찾고 있습니다.



박물관은 살아있다 제주

주 소 | 제주 서귀포시 중문관광로 42
전 화 | 064-805-0888
홈페이지 | www.alivemuseum.com/branch/jeju

상상이 현실로 다가오는 착시아트, 미디어아트, 오브제아트, 스컬쳐아트, 블래윈더랜드 EP2 등 5가지 테마로 이루어져 있으며, 내가 주인공이 되어 직접 보고, 듣고, 만지고, 참여하여 마치 작품과 하나가 된 듯 이세상에서 단하나뿐인 작품을 만들 수 있는 오감만족형 박물관입니다.



카멜리아힐

주 소 | 제주 서귀포시 안덕면 병악로 166
전 화 | 0507-1340-0175

제주 자연을 담은 동백 정원 카멜리아 힐은 30년 열정과 사랑으로 제주의 자연을 담은, 동양에서 가장 큰 동백 수목원입니다.



테디베어 뮤지엄

주 소 | 제주 서귀포시 중문관광로110번길 31
전 화 | 064-738-7600
홈페이지 | www.teddybearmuseum.com

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새별오름

주 소 | 제주 서귀포시 안덕면 병악로 166

전 화 | 0507-1340-0175

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01 → 방사능 분석 서비스

- 🧪 고온연소로를 이용한 식품 중 H-3 분석
- 🧪 고온연소로를 이용한 자체처분 및 운영 폐기물 H-3 & C-14 (특허등록 완료)
- 🧪 Sr-resin을 이용한 Sr-89 & 90
- 🧪 자체처분 및 운영폐기물 (알파, 베타, 감마핵종)
- 🧪 자연방사성핵종 (지하수 중 Rn, U & Th etc)
- 🧪 인공방사성핵종 (알파, 베타, 감마핵종)
- 🧪 증류법을 사용한 물, 해수, 소변 중 H-3

02 → 방사능 분석 교육

- 🌸 고객의 다양한 요구에 맞춤교육 제공 (방사능 이론 및 분석법 현장 교육 등)
- 🌸 알파핵종 분석법 교육 (Uranium, Thorium, Plutonium 동위원소 등)
- 🌸 베타핵종 분석법 교육 (Tritium, Carbon-14, Strontium-90 등)
- 🌸 감마핵종 분석법 교육 (천연 및 인공방사성 핵종)
- 🌸 분석장비의 교정 및 품질관리 교육
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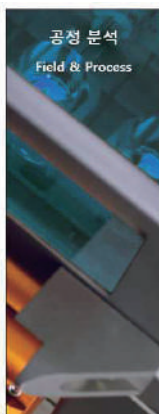
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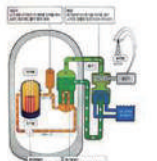


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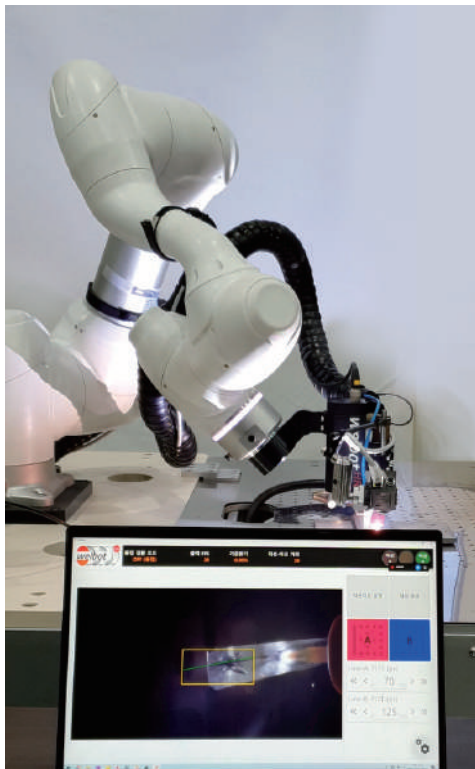
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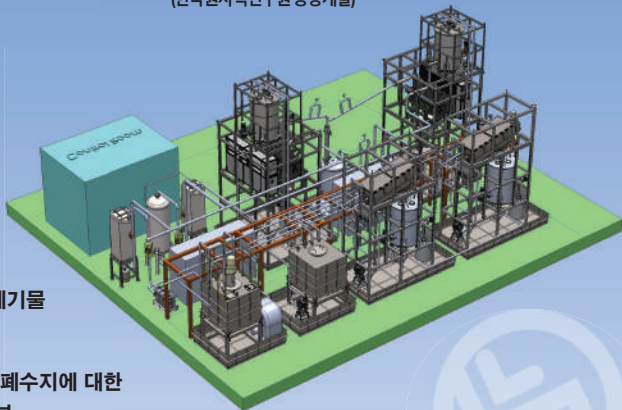
(주)선광티앤에스는 원자력이용시설방사선관리전문기업으로

방사성폐기물처분, 방사능물질 제거 및 해체전문 강소기업으로의

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(한국원자력연구원 공동개발)



② 중준위 방사성폐기물
감용효과

② 중준위 중수로 폐수지에 대한
처분적합성 확보

01

**중수로
폐수지혼합물 분리**

중수로
폐수지혼합물 내의
폐수지 분리
(분리율 95 % 이상)

02

**중준위폐기물
감용**

분리 폐수지에
Microwave를 적용한
C-14 탈착공정
(저준위 기준치 이하)

03

**C-14
회수 및 자원화**

Ca 기반의 흡착제
C-14 흡착성능 및
저장안정성 확보
(흡착율 95 % 이상)



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- USNRC인증 3차원 수송계산코드를 이용한 정밀 수송계산

원자력발전소 폐로를 위한 주요구조물 방사화 분석

- 노심운전 이력 기반 3차원 중성자 수송계산
- 원전 주요구조물 전 생애 중성자 스펙트럼 생산

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• 우주항공



• 플라즈마



• 물리가속



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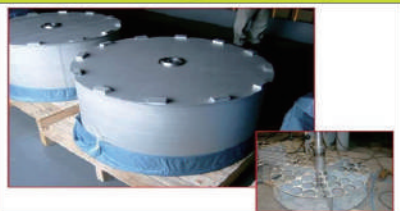
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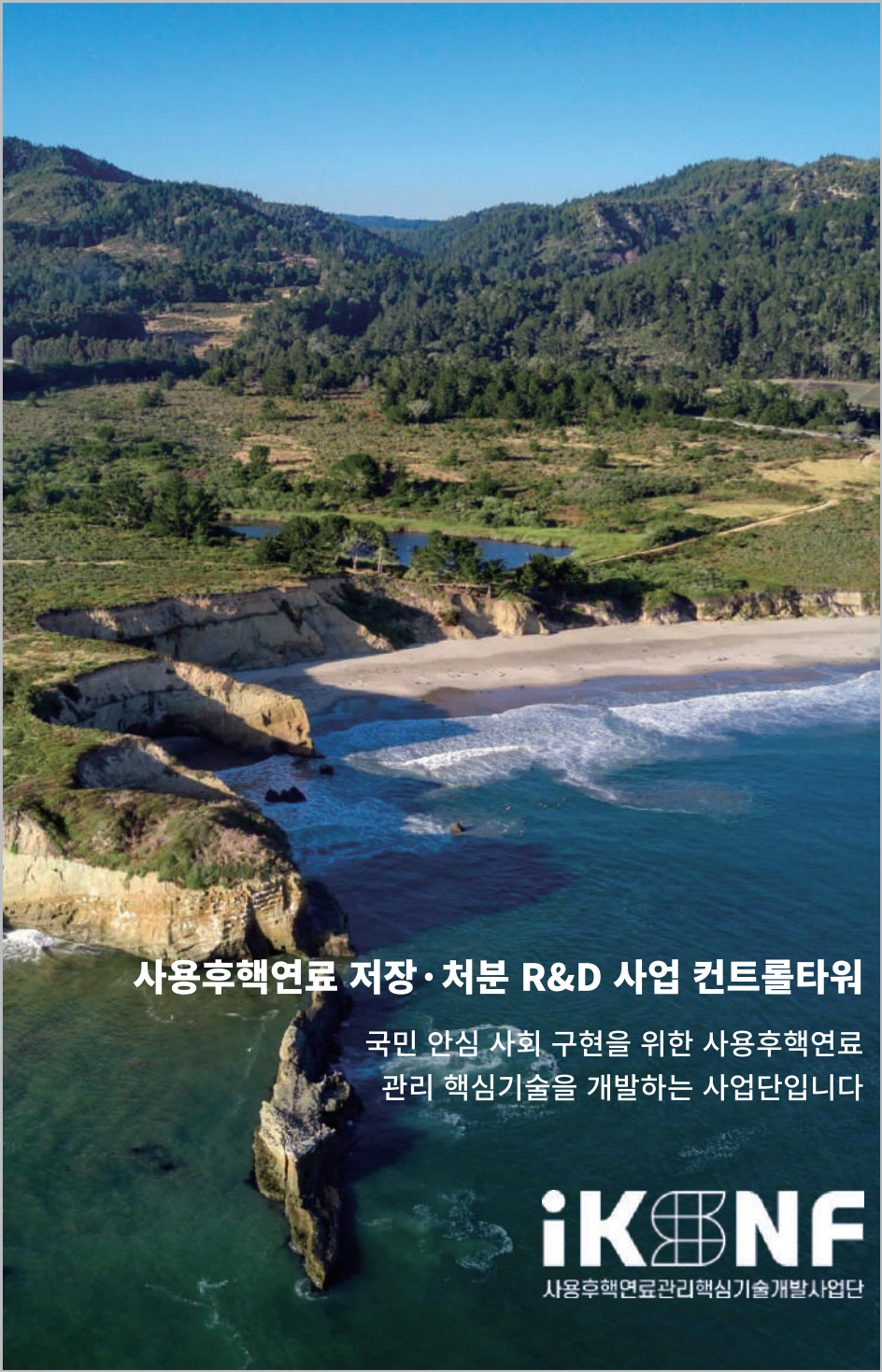
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