



사단 한국방사성폐기물학회
법인 Korean Radioactive Waste Society

한국방사성폐기물학회 The 22nd General Meeting and
2024 Autumn Conference

제22회 정기총회 및 2024 추계학술발표회

2024.10.30.(수) - 11.01.(금) | 경주 라한셀렉트

산·학·연이 함께 가는 방사성폐기물관리기술 개발

Collaborative Innovation in Radioactive Waste Management Technology
: Industry, Academia, and Research Together



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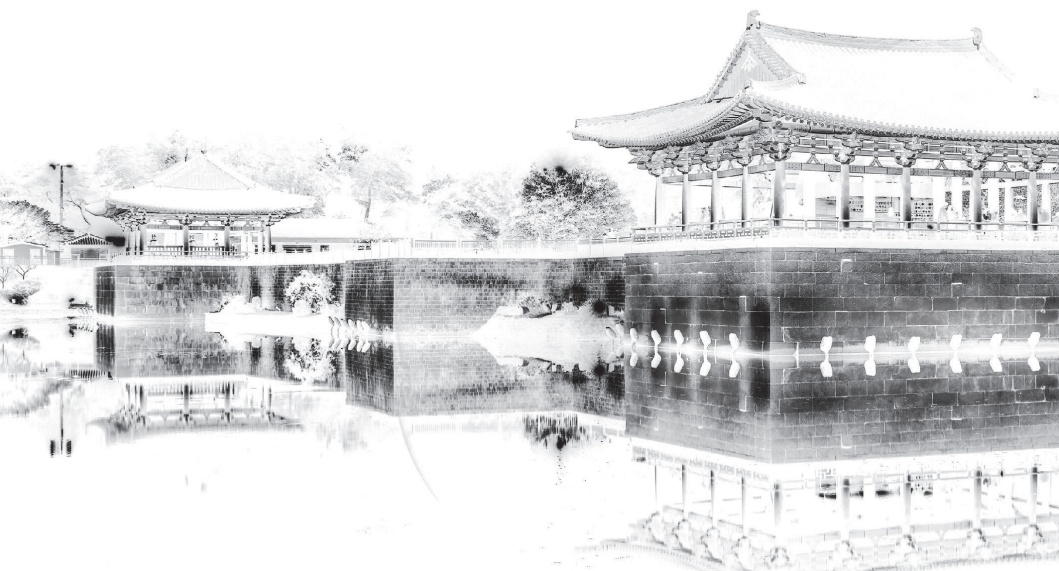
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학회장 인사말

존경하는 회원여러분,

지난 21대 국회에서 결국 ‘고준위특별법’ 제정이 무산되면서 크나큰 아쉬움을 남겼지만, 22대 국회 개원 후 3개월 만에 여야가 5건의 특별법을 발의했습니다. 이번에 발의된 법안은 지난 21대 국회의 합의 내용을 대부분 존중하고 있다는 점에서 고무적이며, 앞으로 논의 과정에서 변수가 있을 순 있겠지만 지난 반세기 동안 방기해 왔던 원자력 발전국으로서의 기본 책무를 이행할 수 있는 전환점이 될 수 있길 조심스럽게 기대해 봅니다.

이런 가운데, 오는 10월 30일부터 11월 1일까지 경주에서 열리는 <한국방사성 폐기물학회 2024 추계 학술발표회>는 그 어느 때보다 중요한 의미를 갖습니다.

이번 학술발표회의 구두 및 포스터 발표 세션에서는 고준위방폐물 처분 분야를 포함한 다양한 최신 연구개발 결과가 발표될 것이고, 제염·해체 분야 국제워크숍을 필두로 연구분과에서 주도하는 다양한 주제별 워크숍에서 더욱 심도 있고 알찬 논의의 장이 열릴 것입니다. 특히, ‘선진원자로 후행핵주기 워크숍’에서는 ‘방폐물 先 발생 後 관리’로 대표되는 기존 원전에서의 시행착오를 반복하지 않기 위한 참신한 아이디어 제안과 함께 전문가들의 열띤 토론이 이어질 것입니다. 이 외에도, 한국수력원자력(주)의 ‘중·저준위 방폐물 처리·처분 마스터플랜 설명회’와 이어서 개최되는 한국원자력환경공단의 ‘연차 보고대회’는 방폐물의 발생부터 처분까지 순 과정에서 지금까지 우리가 이룬 성과와 남은 도전과제를 살필 수 있는 소중한 자리가 될 것입니다.

방폐물 처분의 장기적인 안전성을 단순히 공학적인 관점으로만 설명해 보려는 일부 시도는 오해에서 비롯된 것임을 인식할 필요가 있습니다. 방폐장에 대한 방사선방호는 기저에 깔린 윤리적·도덕적 가치와 철학을 배제한 채 기술적 접근만으로는 제대로 이해하기 어렵다는 한계가 있습니다. 지난 수십 년 동안 국제사회에서 다학제 간 논의를 통해 정립된 “우리 세대가

발생시킨 방폐물로 인한 잠재적인 방사선 위험으로부터 미래의 개인과 집단을 최소한 현세대와 같은 수준으로 방호해야 한다”라는 국제 기본 안전원칙의 본질과 이행방안에 대해서 보다 많은 사람이 정확하게 이해하고 소통할 수 있도록 노력해야 합니다.

고준위방폐물 처분시스템의 설계는 부지선정 이전 일반적인 개념설계에서 출발해 단계별로 구체화 될 부지특성 정보 등과 함께 다양한 요소에 대한 종합적인 최적화 과정을 거쳐 비로소 확정됩니다. 아직 고준위방폐물 처분부지를 정하기 위한 절차에 첫발도 떼지 못하고 처분시스템 개념설계도 정하지 못한 우리 상황을 고려할 때, 일부 요소에 한정된 각론적인 최적화 못지않게 시급하고 우선순위가 높은 과업들은 너무나 많습니다.

지금은 21대 국회의 합의 내용을 존중함으로써, 두 번의 공론화를 통해 어렵게 끌어낸 사회적 합의에 기반한 특별법의 조속한 제정을 위해 다시 뜻을 하나로 모으는 데 우선 집중할 때입니다. 또한, 새롭고 참신한 아이디어는 전문가들이 한데 모여 열띤 토론과 집단지성으로 최적 해결방안을 모색하는 학술발표회와 같은 열린 플랫폼에서 충분한 논의와 검증을 통해 구체화하는 것이 순리입니다.

산·학·연·정 각 분야에서 소임을 다 하고 계신 회원 여러분! 풍요롭고 청명한 10월, 오랜 세월 방폐장의 장기 안전성을 스스로 증명해 온 신라 고분을 품은 역사의 도시 경주로 초대합니다. 이번 학술발표회가 우리나라 방폐물 관리의 미래를 밝히는 중요한 계기가 될 수 있도록, 여러분의 적극적인 참여를 부탁드립니다.

감사합니다.

한국방사성폐기물학회장 정재학

Organizing Committee

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주요 일정

10. 30. WED	Workshop S. 선진원자로 후행핵주기	13:30~18:00
	Workshop A. 사용후핵연료 관리의 오늘과 내일	13:30~18:00
	Workshop B. KURT를 활용한 심층처분 전문인력양성 방안	13:30~18:00
	Workshop C. International Workshop on the Preparation and Experience of Decommissioning Nuclear Facilities	13:20~18:00
	Workshop D. 사고대응 방사선작업종사자 선량평가 기술개발 현황	13:20~18:00
	Workshop S & A-D Reception	18:00~20:00
10. 31. THU	Workshop E. RI 폐기물의 안전한 관리를 위한 추진방안	09:00~12:00
	분과별 학술발표 [구두발표] 고준위폐기물처분(A)	09:00~12:00
	분과별 학술발표 [포스터전시발표] 핵주기정책·규제 및 비확산, 사용후핵연료처분전관리, 제염해체, 방사선환경 및 안전	(전 시) 09:00~12:00 (발표심사) 10:00~11:00
	Workshop E Lunch	12:00~13:30
	개회식 · 제22회 정기총회 · 시상식	13:30~15:30
	Workshop F. 고준위방폐물 처분사업 도약을 위한 모멘텀	15:30~18:00
	분과별 학술발표 [구두발표] 중·저준위폐기물관리(A), 방사선환경 및 안전	15:40~18:00
	분과별 학술발표 [포스터전시발표] 고준위폐기물처분, 중·저준위폐기물관리, 방사화학	(전 시) 15:00~18:00 (발표심사) 16:00~17:00
	만찬 및 음악공연	18:00~20:00
11. 01. FRI	분과별 학술발표 [구두발표] 핵주기정책·규제 및 비확산, 사용후핵연료처분전관리, 고준위폐기물처분(B), 제염해체, 중·저준위폐기물관리(B), 방사화학	09:00~12:00
	중·저준위폐기물 방사성폐기물 처분시설 방문 코라디움+처분시설(지상지원시설+동굴처분시설(1단계~2단계))	A 09:20~12:20 B 13:20~16:20

프로그램

일정	장소	B1F						2F		B2F			
		컨벤션			베가	카펠라	더플레이트	아제나&리겔	시리우스	다이너스티	폴라리스 (단체식당)		
		A	B	C									
10. 30. (수)	13:00~14:00	Workshop A. 사용후핵연료 관리의 오늘과 내일	Workshop B. KURT를 활용한 심층처분 전문인력양성 방안	Workshop C. International Workshop on the Preparation and Experience of Decommissioning Nuclear Facilities	Special Workshop. 선진원자로 후행핵주기	The 15 th Technical Information Exchange Meeting on Decommissioning and Waste Management (Closed Meeting)		Workshop D. 사고대응 방사선작업종사자 선량평가 기술개발 현황					
	14:00~15:00												
	15:00~16:00												
	16:00~17:00												
	17:00~18:00												
	18:00~20:00							워크숍 Reception					
10. 31. (목)	09:00~10:00	Workshop E. RI 폐기물의 안전한 관리를 위한 추진방안	KORAD 2024 방사성폐기물관리 연차보고대회			구두발표 고준위폐기물 처분 A	The 15 th Technical Information Exchange Meeting on Decommissioning and Waste Management (Closed Meeting)		iKSNF R&D 우수성과 발표회	포스터전시 발표 I			
	10:00~11:00												
	11:00~12:00												
	12:00~13:30												워크숍 Lunch
	13:30~14:30												
	14:30~15:30												
	15:30~16:00	KHNP 중·저준위 방사성폐기물 처리·처분 마스터플랜 설명회				구두발표 중·저준위폐기물 관리 A	구두발표 방사선환경 및 안전		Workshop F. 고준위방폐물 처분사업 도약을 위한 모멘텀		포스터전시 발표 II		
	16:00~16:30												
	16:30~17:00												
	17:00~18:00												
	18:00~19:00											만찬 및 음악공연	
	19:00~20:00												
11. 01. (금)	09:00~10:00	구두발표 사용후핵연료 처분전관리	구두발표 고준위폐기물 처분 B	구두발표 제염해체	구두발표 중·저준위폐기물 관리 B	The 15 th Technical Information Exchange Meeting on Decommissioning and Waste Management (Closed Meeting)		구두발표 방사화학	구두발표 핵주기정책·규제 및 비확산				
	10:00~11:00												
	11:00~12:00												

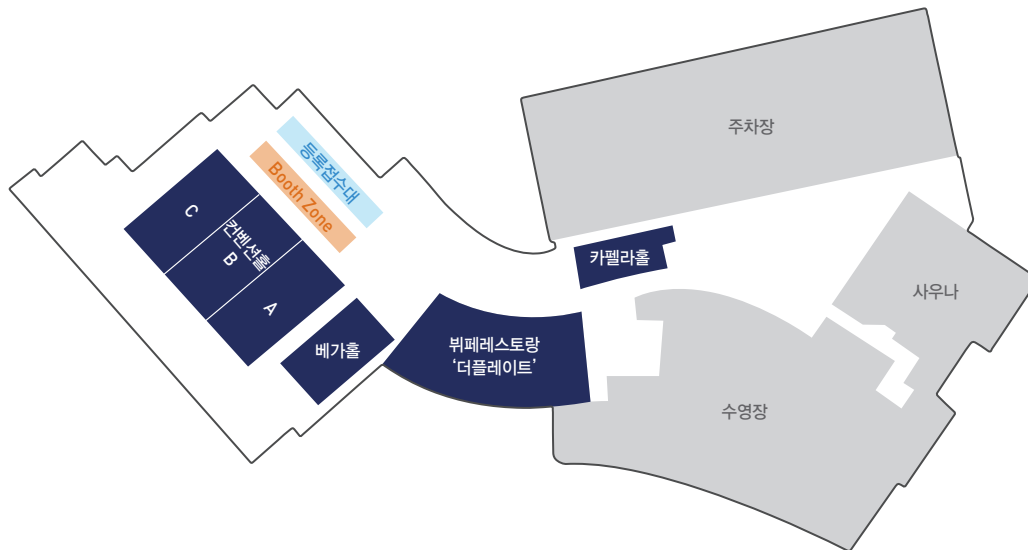
컨벤션 Foyer B1F - 등록·접수/부스전시/KORAD 인력양성사업 포스터 전시

포스터전시발표-I 핵주기정책·규제 및 비확산 / 사용후핵연료 처분전관리 / 제염해체 / 방사선환경 및 안전

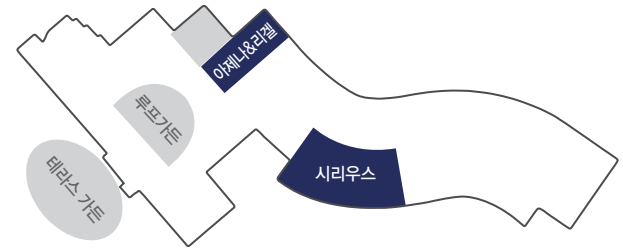
포스터전시발표-II 고준위폐기물처분 / 중·저준위폐기물관리 / 방사화학

행사장 안내

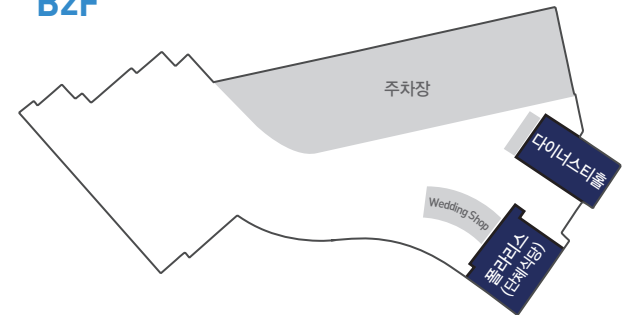
B1F



2F



B2F



B1F

컨벤션 개회식, 제22회 정기총회
Workshop A/B/C/E
구두발표 (제2.3(B).5분과)
만찬 및 음악공연
베가 Special Workshop
구두발표(제3(A).4분과(A,B))
더플레이트 워크숍 Reception

카펠라 구두발표(제6분과)
로비 등록대
Booth Zone 전시부스

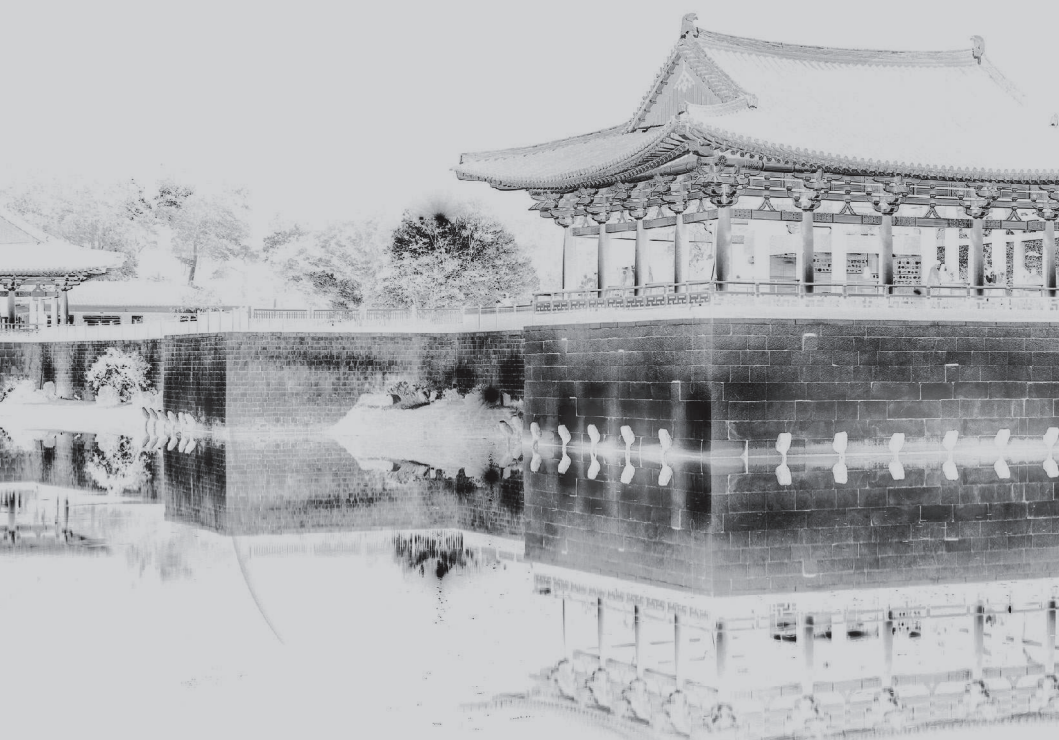
2F

아제나&리겔 Workshop D/F
구두발표 (제7분과)
시리우스 구두발표 (제1분과)

B2F

다이내스티움 포스터 전시발표
폴라리스 워크숍 Lunch

Conference Information



01 학술발표회 참가 안내

◆ **일 자** 2024. 10. 30.(수) ~ 11. 01.(금)

◆ **장 소** 경주 리한셀렉트

◆ **참가등록비 안내**

WORKSHOP

S & A-D	E	F	Workshop Pass
일반 10만원 학생 8만원	일반 7만원 학생 5만원	무료	일반 20만원 학생 16만원
※ 1일차 모든 워크숍(S&A-D) 참여가능			

학술발표회

사전등록(10. 18. 까지)

평생회원, 정회원 A 15만원
정 회 원 B 20만원
학생회원 7만원
비 회 원 일반 22만원
학생 8만원

일반등록(10. 19. 부터)

평생회원, 정회원 A 20만원
정 회 원 B 25만원
학생회원 9만원
비 회 원 일반 27만원
학생 10만원

★ 정회원 구분

- 정회원 A: 2024년도 연회비 납부자
- 정회원 B: 2024년도 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. 29.) 취소시 100% 환불
- 행사 시작일 이후(10. 30.~) 취소시 환불 불가

02 논문 발표 안내

◆ 구두발표

- 구두발표자는 발표분과 및 시간과 장소를 미리 확인하신 후, 세션 시작 전 해당 발표장에 입장하여 주시기 바랍니다.
- 구두발표자는 각 세션별 발표장에 도착 후 행사진행요원에게 도착을 알리고, 준비된 발표자료에 이상이 없는지 확인하여 주시기 바랍니다. (발표자료는 미리 사무국에 제출한 자료로 준비됩니다. 다만, 부득이하게 현장에서 발표자료의 교체를 원하실 경우 행사의 원활한 진행을 위해 세션 시작 전까지 세션장에 도착하여 주시기 바랍니다.)
- 발표시간은 편당 약 20분(질의응답시간 포함)으로 좌장의 진행에 따라 발표를 시작/종료해 주시기 바랍니다.

구두발표 일정 및 장소

제1분과 핵주기정책규제 및 비확산	11.01.(금) 09:00 ~ 12:00	2F 시리우스
제2분과 사용후핵연료 처분전관리	11.01.(금) 09:00 ~ 12:00	B1F 컨벤션 A
제3분과 고준위폐기물처분	A 10.31.(목) 09:00 ~ 12:00	B1F 베가
	B 11.01.(금) 09:00 ~ 12:00	B1F 컨벤션 B
제4분과 중저준위폐기물관리	A 10.31.(목) 15:40 ~ 18:00	B1F 베가
	B 11.01.(금) 09:00 ~ 12:00	B1F 베가
제5분과 제염해체	11.01.(금) 09:00 ~ 12:00	B1F 컨벤션 C
제6분과 방사선환경 및 안전	10.31.(목) 15:40 ~ 18:00	B1F 카펠라
제7분과 방사화학	11.01.(금) 09:00 ~ 12:00	2F 아제나&리겔

◆ 포스터발표

- 포스터발표자는 안내된 사이즈(가로 90cm X 세로 120cm)에 맞게 포스터를 제작준비하여 주시기 바랍니다. (포스터 재질은 판넬 부착의 지속성으로 종이로 된 포스터를 권장합니다.)
- 포스터는 발표시간 동안 논문에 대한 질의 및 '우수포스터' 심사가 진행되오니 반드시 발표 포스터 앞에 자리를 지켜주시기 바랍니다.
- 공지된 전시일정에 포스터를 전시하지 않은 논문은 발표가 취소되며, 실적증명서 등의 증빙자료 발급이 불가합니다.
- 포스터는 2개의 Group으로 나누어 전시·발표되므로 공지된 일정을 반드시 준수하여 주시기 바랍니다.

포스터 전시·발표 일정 및 장소

10. 31.(목) | B2F 다이너스티

포스터전시·발표 I	제1분과 핵주기정책·규제 및 비확산	
	제2분과 사용후핵연료 처분전관리	<전시> 09:00 ~ 12:00
	제5분과 제염해체	<발표> 10:00 ~ 11:00 (1시간)
	제6분과 방사선환경 및 안전	
포스터전시·발표 II	제3분과 고준위폐기물처분	
	제4분과 중·저준위폐기물관리	<전시> 15:00 ~ 18:00
	제7분과 방사화학	<발표> 16:00 ~ 17:00 (1시간)

03 제공 사항 안내

Workshop S & A-D, Workshop Pass 등록자

◆ 제공사항: 워크숍 Reception & Coffee Coupon 2장

◆ 워크숍 Reception 안내

일 시 10. 30.(수) 18:00~20:00

장 소 B1F 더플레이트

이용방법 등록자 명찰의 바코드로 인증 후 입장

Workshop E 등록자

◆ 제공사항: 워크숍 Lunch & Coffee Coupon 2장

◆ 워크숍 Lunch 안내

일 시 10. 31.(목) 12:00~13:30

장 소 B2F 플라리스(단체식당)

이용방법 등록자 명찰의 바코드로 인증 후 입장

추계학술발표회 등록자

◆ 제공사항: 만찬 & Coffee Coupon 4장

◆ 만찬 안내

일 시 10. 31.(목) 18:00~20:00

장 소 B1F 컨벤션 B+C

이용방법 등록자 명찰의 바코드로 인증 후 입장

04

개회식 및 제22회 정기총회 일정

◆ 일 시 2024. 10. 31.(목) 13:30

◆ 장 소 컨벤션홀

프로그램

◆ 전체사회 환영환 총무이사

13:30 개회사 [정재학 / 한국방사성폐기물학회장]

13:35 축 사 [임승철 / 원자력안전위원회 사무처장]

13:35 기조강연
후행핵연료주기에서 KNF의 성과 - 역할 및 도전과제
[정창진 / 한전원자력연료(주) 사장]

14:10 VIP 기념 촬영

14:20 제22회 정기총회
의안1호. 2023년 결산(안) 승인의 건
의안2호. 2024년도 추정결산(안) 승인의 건
의안3호. 2025년도 사업계획 및 예산(안) 승인의 건

14:50 시상식
제6회 학술상 및 기술상
제6회 네오시스코리아 신진연구자상
2024 학회지 우수논문상
제2회 학회지 최다리뷰상
학술발표회 논문상 - 우수발표논문상, 우수포스터상

05 수상자 명단

◆ **전체사회** 엄우용 포상위원회 위원장, 이상훈 편집위원장, 백민훈 학술이사

◆ 수상자명단

학술상

이민수 / 한국원자력연구원

기술상

나태형 / 한수원(주) 중앙연구원

네오시스코리아 신진연구자상

임재훈 / 한국원자력연구원

학회지 우수논문상

연구논문

차소희 / 경희대학교 최승규 / 한국원자력연구원
황영환 / 한수원(주) 중앙연구원

기술논문

정성진 / 부산대학교 정성엽 / 한국원자력연구원

학회지 최다리뷰상

박창제 / 세종대학교

학술발표회 우수발표논문상

핵주기정책·규제 및 비확산

김경혜 / 동국대학교

사용후핵연료 처분전관리

정구현 / 계명대학교

고준위폐기물처분

채낙규 / 한국원자력연구원

중·저준위폐기물관리

오석영 / POSTECH 강기준 / UNIST

제염해체

민수정 / 한국원자력연구원

방사선환경 및 안전

김민지 / UNIST

방사화학

이명호 / 한국원자로감시기술(주)

학술발표회 우수포스터상

핵주기정책·규제 및 비확산

정연홍 / 한국원자력통제기술원

사용후핵연료 처분전관리

박성희 / 코네스코퍼레이션(주) 박동인 / 계명대

고준위폐기물처분

이지용 / 연세대학교

중·저준위폐기물관리

조석근 / 세종대학교 김여진 / UNIST

제염해체

정예원 / UST 조성민 / 한전KPS(주)

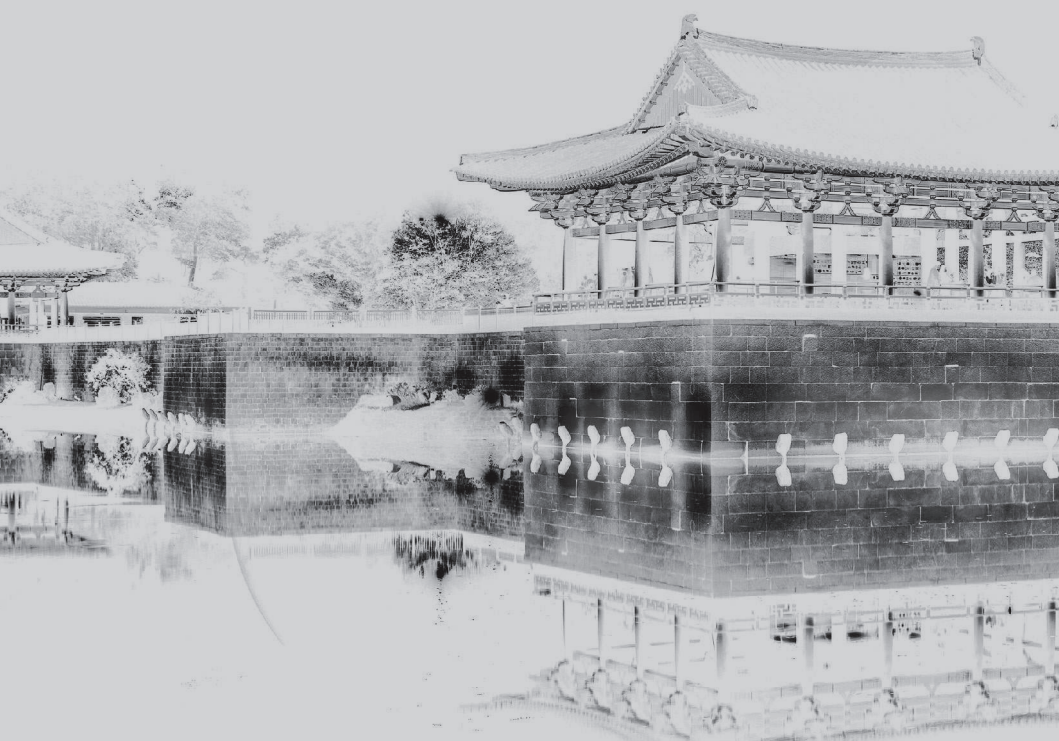
방사선환경 및 안전

이수혁 / 세종대학교

방사화학

김한별 / (주)위드텍

WORKSHOP





선진원자로 후행핵주기

Backend Nuclear Fuel Cycle for Advanced Nuclear Reactors

- ◆ 일 시 2024. 10. 30.(수) 13:30
- ◆ 장 소 경주 라한셀렉트 B1F 베가
- ◆ 주 관 한국방사성폐기물학회

◆ 일정 및 내용

(전체사회: 권은하 연구분과위원장)

13:30	인사말	정재학 회장 [KRS]
13:40	소듐냉각고속로 연구개발 현황 및 향후 계획	어재혁 [KAERI]
14:10	용융염원자로 연구개발 현황 및 향후 계획	이창화 [KAERI]
14:40	고온가스로 연구개발 현황 및 향후 계획	김응선 [KAERI]
15:10	Break Time	
15:30	선진원자로 후행핵주기 현안	최성열 [서울대]
16:00	선진원자로 후행핵주기 기술개발 전략	류재수 [KAERI]
패널토론		
16:30	주 제: 선진원자로 후행핵주기 선도를 위한 국가 R&D 역량 강화	
	좌 장: 류재수 [KAERI]	
	패 널: 발표자(4인) 임상호 [KAERI], 안성규 [KAERI], 조용흠 [한양대]	
18:00	폐회	

- ◆ 등록비 일반 10만원/인, 학생 8만원/인
- ◆ 자료 및 석식, 커피쿠폰 2장 제공



WORKSHOP

사용후핵연료 관리의 오늘과 내일

Today and Tomorrow of Spent Nuclear Fuel Management

- ◆ 일 시 2024. 10. 30.(수) 13:30
- ◆ 장 소 경주 라한셀렉트 B1F 컨벤션 A
- ◆ 주 관 한국방사성폐기물학회 사용후핵연료 처분전관리 분과

◆ 일정 및 내용

(전체사회: 김태현 연구분과간사)

13:30	개회사	김기영 연구분과위원장
13:40	수직모듈형 국내고유 경수로 SF 건식저장모델 개발	김기영 [KHNP-CRI]
14:10	실규모 경수로 SF 건식저장 지진모사시험 수행현황	이성기 [KNF]
14:30	모의 SF 건식저장 캐니스터 열시험 장치 개발	유승환 [KAERI]
15:10	Break Time	
15:30	SF 건식저장장치 열화현상 및 건전성 모니터링 방안	엄화성 [POSTECH]
16:00	중수로 SF 장기건식저장 특성 및 건식저장시설 검사장비 개발	나태형 [KHNP-CRI]
16:30	한국형 SF 관리시설 설계기술 개발현황	문태철 [KORAD]
17:00	Joint Project on Waste Integration for SMR and Advanced Reactor Designs (WISARD)	Una BAKER [OECD-NEA]
17:20	기타 토의	

- ◆ 등록비 일반 10만원/인, 학생 8만원/인
- ◆ 자료 및 석식, 커피쿠폰 2장 제공



WORKSHOP

KURT를 활용한 심층처분 전문인력양성 방안

Development Plans for Deep Geological Disposal Experts Utilizing KURT

- ◆ 일 시 2024. 10. 30.(수) 13:30
- ◆ 장 소 경주 라한셀렉트 B1F 컨벤션 B
- ◆ 주 관 한국방사성폐기물학회 고준위폐기물처분 분과

◆ 일정 및 내용

(전체사회 : 권장순 [KAERI])

13:30	개회사	윤종일 [KAIST]
13:35	KURT 운영위 경과보고	지성훈 [KAERI]
13:45	사용후핵연료 처분시설 관련 갈등 예방과 주민수용성 제고 방안	박태순 [한국공론포럼]
14:15	연구용 URL을 활용한 전문인력 양성 및 국제협력 해외사례	권상기 [인하대]
14:45	KURT를 활용한 실증 교육프로그램 및 국제협력 방안	김진섭 [KAERI]
15:15	KURT 기반 안전성 평가기술 및 PA 교육프로그램(안)	김정우 [KAERI]
15:45	Break Time	
16:05	학계 시각에서 본 지하처분연구시설(KURT)의 미래와 기대	전석원 [서울대, ISRM]
패널토론		
16:35	주 제 : KURT를 활용한 교육프로그램 활성화 방안 KURT와 연구용 URL의 차별화된 연구활용 전략	
	좌 장 : 윤종일 [KAIST]	
	패 널 : KURT 운영위원 및 자문위원	
17:40	폐회	

- ◆ 등록비 일반 10만원/인, 학생 8만원/인
- ◆ 자료 및 석식, 커피쿠폰 2장 제공



WORKSHOP

International Workshop on the Preparation and Experience of Decommissioning Nuclear Facilities

- ◆ **Date** Oct. 30.(Wed.), 2024
- ◆ **Venue** Lahan Select Gyeongju
- ◆ **Organized by** Decommissioning and Environmental Remediate Division

◆ Program

13:20	Greeting and Introduction	Hyung Woo Seo [KHNP CRI]
13:30	Decommissioning Status in Japan Including FDNPS	Satoshi Yanagihara [Fukui Univ.]
14:00	Radioactive Waste Management Including Concrete Waste (With Migration of Radionuclides)	Naoko Watanabe [Hokkaido Univ.]
14:30	Development Design and Construction of Plasma Facilities at KNPP (Bulgaria) and COVRA (the Netherlands)	Jurgen Hansen [Belgoproprocess N.V.]
15:00	Waste Management and Disposal Status of Chinsan (Taiwan) Decommissioning Project	Chang-Lin Hsieh [TPC]
15:30	Break Time	
16:00	Radioactive Waste Processing at Belgoproprocess and the Latest PRIME Installation for Treatment of Spent Resins	Jurgen Hansen [Belgoproprocess N.V.]
16:30	Conceptual Study of Decommissioning for Vertical Cutting of PHWR Calandria	Sun Kyu Park [KEPCO KPS]
17:00	Dismantling Plan for Large Equipment in the PHT System of CANDU Reactors	Jong Seo Choi [Daewoo E&C]
17:30	Development Status of Design for Decommissioning	Dong Bin Son [KEPCO E&C]

- ◆ **Registration Fee** (Including Reception & Coffee)
 - Standard KRW 100,000
 - Student KRW 80,000



WORKSHOP

사고대응 방사선작업종사자 선량평가 기술개발 현황

The Current Status of Dose Assessment Technology for
Radiation Workers in Emergency Response

- ◆ 일 시 2024. 10. 30.(수) 13:20
- ◆ 장 소 경주 라한셀렉트 2F 아제나&리겔
- ◆ 주 관 한국방사성폐기물학회 방사선환경 및 안전 분과

◆ 일정 및 내용

(전체사회: 이정일 연구분과위원)

13:20	개회사	지영용 연구분과위원장
13:30	방사선 사고 시 개인피폭 방사선량평가기술의 적용	김종현 [KINS]
14:00	원전 고피폭 작업 도출 및 방사선방호 최적화	공태영 [조선대]
14:30	핵종분석 기반 개인 전자선량계 개발	김용권 [㈜뉴케어]
15:00	메시형 인체전산편턴을 이용한 작업자세 기반 선량환산 계수 산출	김민채 [KAERI]
15:30	Break Time	
16:00	실시간 3D 공간선량 지도생성 및 3D 형상 정합성 검증이 가능한 이동형 3차원 공간정보 스캔 플랫폼	유보현 [고등기술연구원]
16:30	피폭선량 예측 및 통합관리 시스템	정성관 [시버리솔루션스㈜]
17:00	피폭 사고 현장실험 전산모사 상호비교 국제협력 연구	김형택 [KAERI]
17:30	사고 시 중성자 개인선량평가 개선방안	김정인 [한수원 방사선보건원]
18:00	폐회	

- ◆ 등록비 일반 10만원/인, 학생 8만원/인
- ◆ 자료 및 석식, 커피쿠폰 2장 제공



WORKSHOP

RI 폐기물의 안전한 관리를 위한 추진방안

Implementation Plan for Safe Management of RI Waste

- ◆ 일 시 2024. 10. 31.(목) 09:00
- ◆ 장 소 경주 라한셀렉트 B1F 컨벤션 A
- ◆ 주 관 한국방사성폐기물학회 중·저준위폐기물관리 분과

◆ 일정 및 내용

(전체사회 : 이성복 연구분과위원장)

09:00	개회 및 인사말	이성복 연구분과위원장
09:10	RI 폐기물 관리 현황 및 계획(안)	신성규 [KORAD]
09:35	장기보관 RI 폐기물 처리/처분 방안	도호석 [KORAD]
10:00	RI 폐기물 고정화 및 전용 처분용기 설계 현황	임동석 [미래와도전]
10:25	Break Time	
10:45	RI 폐기물 핵종분석 기술 현황	한상준 [알엠택]
11:10	RI 폐기물 관리 규제 현황	김민준 [KINS]
11:35	RI 폐기물 발생 실태 조사 현황	박 일 [KARA]

- ◆ 등록비 일반 7만원/인, 학생 5만원/인
- ◆ 자료 및 식식, 커피쿠폰 2장 제공



WORKSHOP

고준위방폐물 처분사업 도약을 위한 모멘텀

Building Momentum for the Advanced HLW Disposal Program

- ◆ 일 시 2024. 10. 31.(목) 15:30
- ◆ 장 소 경주 라한셀렉트 2F 아제나&리겔
- ◆ 주 관 한국원자력환경공단

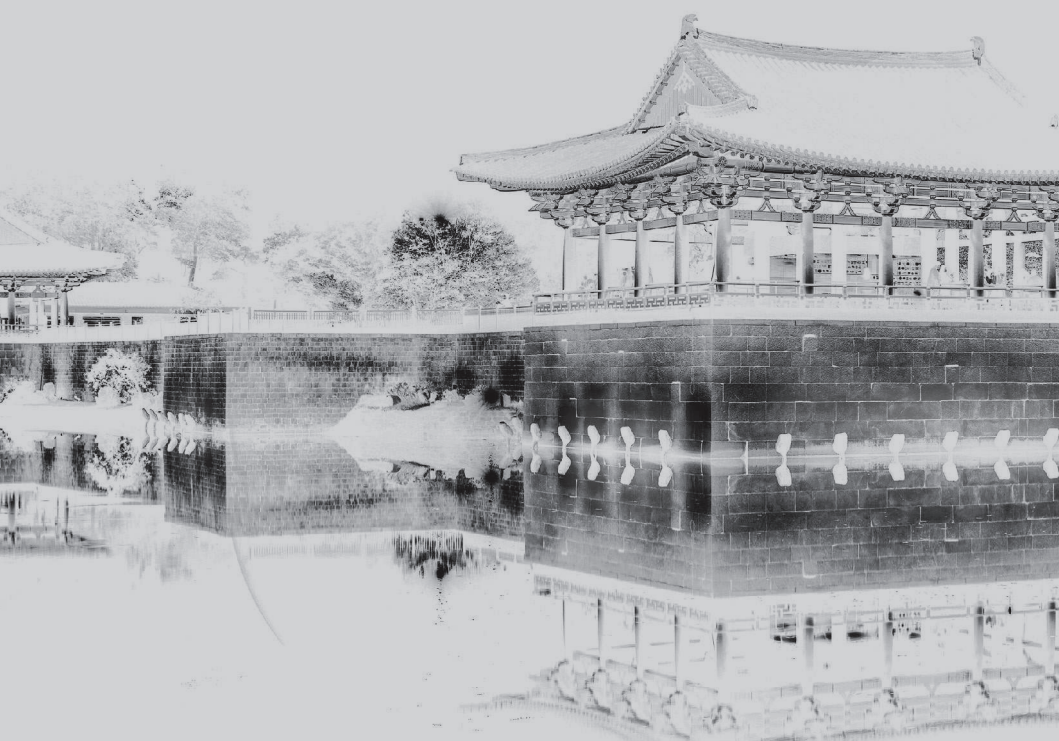
◆ 일정 및 내용

(전체사회: 김정우 [KAERI])

15:30	행사안내 및 참석자 소개	
15:32	인사말	김용완 부이사장 [KORAD]
15:35	고준위방폐물 전문인력양성 추진현황	김유진 [KORAD]
15:50	연구용지하연구시설 확보사업 추진현황	김진하 [KORAD]
16:05	KORAD 심층처분시설 개념설계 현황	김민석 [KORAD]
16:20	KORAD 심층처분 성능평가 프로그램 개발 현황	정미선 [KORAD]
16:35	Break Time	
16:45	국내 기준사용후핵연료 선정 및 PFLOTTRAN을 이용한 핵종누출율 예비평가	홍서기 [한양대]
17:00	처분용기 부식 전산모델 개발과 검증	최성열 [서울대]
17:15	사용후핵연료 심층처분시설 공학적방벽 열화현상평가 연구현황	김승현 [KIMS]
17:30	질의응답 (5인) 김유진 [KORAD], 정해룡 [KORAD], 홍서기 [한양대], 최성열 [서울대], 김승현 [KIMS]	
18:00	폐회	

- ◆ 등록비 무료

Technical Session



Nuclear Fuel Cycle Policy, Regulation and Non-Proliferation

제1분과: 핵주기정책·규제 및 비확산 **구두**

11. 01.(금) 09:00~11:20 / 2F 시리우스

Chair Ickhyun Shin [KINAC], Jongho Hong [KHNP]

09:00~09:20 Development and Application of Safeguardability Evaluation Method (SEM) to Improve Safeguards by Design (SBD)

Jiyoung Kim, Seung Min Woo [Kyung Hee Univ.]

09:20~09:40 Modeling and Safeguardability Assessment of a Simulated Nuclear Facility Based on i-SMR

Hyunho Kang, Seung Min Woo [Kyung Hee Univ.], Seungmin Lee [KINAC]

09:40~10:00 Establishment of Spent Fuel Composition Database for SMR Safeguards Purposes and Its Application for the Non-proliferation Perspective

Jeemin Han, Seung Min Woo [Kyung Hee Univ.]

10:00~10:20 Break Time

10:20~10:40 Development of the Uranium Verification System for Domestic Environments

Jihyun Ahn, Hee Seo [Jeonbuk Natl. Univ.], Jinho Ryu, Seungho Ahn [KINAC], Heekyun Baek, Jungki Shin [NEOSIS Korea]

**10:40~11:00 Analysis of Proliferation Concerns and Safeguards Technology
Development Needs for Molten Salt Reactors**

Seong-Kyu Ahn, Young-Eun Jung, Jae Soo Ryu [KAERI]

11:00~11:20 The MACSTOR Lawsuit and the High-Level Radioactive Waste Act

Sangcheol Hyung, Dongjin Kim, Hana Seo [KINAC]

Nuclear Fuel Cycle Policy, Regulation and Non-Proliferation

제1분과: 핵주기정책·규제 및 비확산 **포스터**

- 전시 10. 31.(목) 09:00~12:00
- 발표 10. 31.(목) 10:00~11:00 / B2F 다이너스티

Reviewer Seung Min Woo [Kyung Hee Univ.], Seong-Kyu Ahn [KAERI]

- 1-P-01 **Feasibility Study on Using Quasi Reference Electrodes for Monitoring Electric Signals Acquired During Electrodeposition**
Young-Eun Jung, Jonghui Han [KAERI]
- 1-P-02 **Isotopic Ratio Analysis of Uranium Particles in Environmental Samples Using Large Geometry-Secondary Ion Mass Spectrometry (LG-SIMS)**
Hyunju Kim, Sohee Cha, Jung Youn Choi, Haneol Lee [KINAC],
Jeongmin Kim, Yuyoung Lee [KBSI]
- 1-P-03 **Development of a GUI-Based Program for Book Examination and Short Notice Random Inspection to Support National Safeguards Activities**
Byung Hee Won, Hyun-Jo Kim, Ju-Ang Jung [KAERI]
- 1-P-04 **Deriving a CNN-Based Detection Algorithm Approach for Enhanced Detection of Nuclear Material Loss in NRTA Systems**
Byung Hee WON [KAERI]
- 1-P-05 **Real – Time Monitoring of Strontium in Contaminated Molten Salt Systems by Laser Induced Breakdown Spectroscopy**
Junwon Kim, Jihye Park, Hyeongbin Kim, Wonseok Yang,
Sungyeol Choi [Seoul Natl. Univ.]
- 1-P-06 **Analysis of Molten Salt Reactor Safeguards Factors Through Full Core MSRE Simulation**
Jihoon Lee, Seung Min Woo [Kyung Hee Univ.]

- 1-P-07 Comparison Study on MBE for Uncertainty Expression Methods in Benchmark Fuel Fabrication Plant**
Hyun Cheol Lee, Jung Youn Choi, Hyunju Kim, Jinho Ryu, Haneol Lee [KINAC]
- 1-P-08 Comparison of Safeguards Implementation for Radioactive Waste Containing Nuclear Material**
Yunhui Kim, Ickhyun Shin [KINAC]
- 1-P-09 Analysis of Safeguards Measures for Detection of Misuse of Decommissioning Nuclear Facilities**
Ickhyun Shin, Myungtak Jung, Yunhui Kim, Seungmin Lee [KINAC]
- 1-P-10 Considerations on Application of Emerging Technologies to Safeguards**
Kyunglee Kang, Wooseub Kim, Hana Seo [KINAC]
- 1-P-11 Analysis of the Requirements for Transitioning of Nuclear Material Accountancy Report**
Seungmin Lee, Hyun-jin Kim [KINAC]
- 1-P-12 Proposed Improvements to the Small Quantity Nuclear Material Accounting and Control (NMAC) Online System**
Chul HEO, Myungtak Jung [KINAC]
- 1-P-13 An Analysis of the Revision History for the Policy on Nuclear Material Accountancy at KAERI**
Jinha Choi, Hyun Jo Kim, Ju-Ang Jung [KAERI]
- 1-P-14 Study on the Establishment and Operation of the International Expert Committee for the International Peer Review of i-SMR Safeguardability**
Jae Min Lee, Soo Hwan Lee, Saerom Son, Eun-ha Kwon [Mirae Consulting Group]
- 1-P-15 International Efforts to Address the Interface Between Safety, Security, and Safeguards in Small Modular Reactor Design: Progress at the IAEA**
Gaeul Choi, Sungeol Choi [Seoul Natl. Univ.]

-
- 1-P-16 The Values of Strengthening the International Nonproliferation Regime With Additional Protocol From a Capacity Building Perspective**
Jae-Jun Han, EunBee Park [KINAC]
- 1-P-17 Identification of the International Nonproliferation and Security Academy's Strength to Share Its Experience of Operating a Nuclear Security Training and Support Centre**
EunBee Park, Jae-Jun Han [KINAC]
- 1-P-18 A Research on Validation and Optimization of Obligation Tracking System**
Hee Su Choe, Hansol Ko [KINAC]
- 1-P-19 A Comparative Analysis of the Compliance Programs in South Korea and the U.S.**
Hansol Ko, Hee Su Choe [KINAC]
- 1-P-20 Analysis of Recent Operational and Maintenance Trends at Nuclear Facilities in the DPRK Yongbyon Nuclear Complex**
Gayeon Ha, Dongjin Kim, Byungmarn Koh, Hana Seo [KINAC]
- 1-P-21 Research on Unstructured Data Classification Schemes for Monitoring Nuclear Activities**
Yonhong Jeong, Gayeon Ha [KINAC]
- 1-P-22 Investigation and Analysis of Unstructured Data Collection and Processing Techniques for Assessing Nuclear Proliferation Risk**
Jae Min Lee, Soo Hwan Lee, Saerom Son, Eun-ha Kwon [Mirae Consulting Group]
- 1-P-23 Research on the Development of the Nuclear Proliferation Risk Assessment Model**
Taeyeong An, Seung Min Woo [Kyung Hee Univ.]
- 1-P-24 Comparative Analysis of Technological Developments in Nuclear Non-Proliferation Assessment Methodologies**
Ju-Ang Jung, Jinha Choi, Hojin Hwang, Hyun-Jo Kim [KAERI]

- 1-P-25 Fire Protection Program for Nuclear Fuel Cycle Facilities and Radioactive Waste Management Facilities**
Naon Chang, Yoon-Do Oh, HeungJu Cho, Dong-su Kim, Tack-Jin Kim [KAERI]
- 1-P-26 Assessment of Security Performance Indicators for the Implementation of Risk-informed and Performance-based Security Regulations in Nuclear Facilities**
Hyunjoo Lee, Taehee Kim [KINAC]
- 1-P-27 Nuclear Security Regulatory Implications of IAEA SMR NHSI**
Seong Youn Jo, Eunji Chang [KINAC]
- 1-P-28 Study on the Development of Regulatory Guidelines for the Physical Protection System (Intrusion Prevention System) of Small Modular Reactor**
So Eun Shin, Ha Neul Na, Youngsuk Bang, Heung Gyu Park [FNC]
- 1-P-29 Development of a Guideline to Examine International Transport Security Plans of Nuclear Material**
Jae-woong Tae [KINAC]
- 1-P-30 Study on UK Security Regulation for ROK Security Regulation Gap Analysis**
Subong Lee, Eunji Chang [KINAC]
- 1-P-31 Cybersecurity for Critical Digital Assets in the Vital Area of Nuclear Facilities**
Seungmin Kim, Hyunjoo Lee [KINAC]
- 1-P-32 A Study on Improving Domestic Nuclear Cybersecurity Inspector and Inspector Qualification Program Through NRC Case Analysis**
Song Lee, Taehee Kim, Subong Lee [KINAC]
- 1-P-33 Development and Evaluation of a Staged Review System for Cybersecurity Regulations in Nuclear Facilities in the Republic of Korea**
Hyunjoo Lee, Eunji Chang [KINAC]
- 1-P-34 Analysis of Cybersecurity Regulatory Requirements for Czech Nuclear Facilities**
Junghyun Moon, Taehee Kim, Subong Lee [KINAC]

Predisposal Management of Spent Nuclear Fuel

제2분과: 사용후핵연료 처분전관리 **구두**

11. 01.(금) 09:00~12:00 / B1F 컨벤션 A

Chair Sanghoon Lee [Keimyung Univ.], TaeHyung Na [KHNP-CRI]

- 09:00~09:20 **Graphite-Boron Composites for Innovative Canister Material Used in Spent Nuclear Fuel Dry Casks**
Hongin Kim, Young-Kook Lee [Yonsei Univ.], Sunghwan Yeo [KAERI]
- 09:20~09:40 **Development of Image Reconstruction Algorithm Based on Prior-aware Information and Machine Learning to Inspect Partial-defect Within PWR-type Spent Nuclear Fuel**
Hyung-Joo Choi, Chul Hee Min [Yonsei Univ.],
Jaewon Jeong, Hakjae Lee [ARALE Lab. Co. Ltd.], Sung-Woo Kwak [KINAC]
- 09:40~10:00 **Results of Korean Transportation Tests Under Normal Conditions of Transport**
JaeHoon Lim, Woo-seok Choi [KAERI]
- 10:00~10:20 **Development of Verification Tools for Ensuring Spent Nuclear Fuel Retrieval Based on the IAEA Approach**
Ji-Young Kim, Sun-Hee Choi, Seong-Ki Lee [KEPCO NF]
- 10:20~10:40 **Break Time**
- 10:40~11:00 **Effects of Surface Temperature on Chloride-induced Stress Corrosion Cracking Behavior of Stainless Steel Welds for Dry Storage Canister**
Seunghyun Kim, Gidong Kim, Sang-Woo Song [KIMS]

- 11:00~11:20 Estimation of Fracture Parameters of Spent Nuclear Fuel Cladding With Reoriented Hydride Under Pinch Load**
Seyeon Kim, Sanghoon Lee [Keimyung Univ.]
- 11:20~11:40 Development and Application of ^{235}U and Plutonium Mass Estimation Formulas to Spent Nuclear Fuel Assemblies Using Differential Die-Away (DDA) Analysis Database**
Sehwan Seol, Ser Gi Hong [Hanyang Univ.]
- 11:40~12:00 Proposal for Improving the Method of Estimating Key Design and Operational Parameters of Spent Fuel Using Data on Emitted Gamma-Rays**
Sang Hyeok Lee, Jae Hak Cheong [Kyung Hee Univ.]

Predisposal Management of Spent Nuclear Fuel

제2분과. 사용후핵연료 처분전관리 **포스터**

- 전시 10. 31.(목) 09:00~12:00
- 발표 10. 31.(목) 10:00~11:00 / B2F 다이너스티

Reviewer Dong Gyu Lee [KONES Corp.], Kyungho Roh [KHNP-CRI]

- 2-P-01 Current Status of Nuclear Fuel Fabrication and Management Technology Development for Chloride Molten Salt Reactors**
Chang Hwa Lee, Dalsung Yoon, Ju Ho Lee, Seok Min Hong, Yung-Zun Cho, Eun-Young Choi, Taeho Kim, Do Kyu Kang [KAERI]
- 2-P-02 The Influence of Solid Solution Hydrogen and Precipitated Hydride on the Creep Behavior of Zircaloy-4**
Ho-a Kim, Sungjun Choi, Sangtae Kim [Hanyang Univ.]
- 2-P-03 Towards Optimal Vacuum Drying Process: Minimizing Drying Time and Residual Water in Spent Nuclear Fuel Canisters for Dry Storage**
Ji Hwan Lim, Kyoung-Sik Bang, Seung-Hwan Yu [KAERI],
Kyung-Wook Shin, Nam-Hee Lee [SAE-AN Eng. Corp.]
- 2-P-04 Improvement of Regulations on On-site and Off-site Transport of Domestic Spent Nuclear Fuel**
Kiyong Kim, Donghee Lee, Beomgyu Kim, Keongho Noh [KHNP-CRI]
- 2-P-05 Fixing Device for Safely Handling Spent Fuel Assembly and Its Installation/Removal Tools**
Joung Yeul Lee, Hyeong Koo Kim, Jae Jun Lee, Seong Ki Lee, Dong Geun Ha [KEPCO NF]
- 2-P-06 Evaluation of Roller Burnishing Treatment on Scaled Canister Model to Mitigate Chloride-Induced Stress Corrosion Cracking**
Ki-Hwan Kim, Sang-Gyu Park, Yun-Young Yang, Sang-Soon Cho [KAERI]

- 2-P-07 Design Considerations for Semi-integral LOCA Test Equipment Used in the PIEF Hot Cell**
Myungchul Park, Hyongmun Kwon, Sunggeun Kim, Dosik Kim [KAERI]
- 2-P-08 Direct Dryness Measuring Instrument Suitability Tests for the Dry Storage of Spent Nuclear Fuel**
Geon-Hui Lee, Gyung-Sun Chae, Tae-hwan Kim, Seo-Oh Kim, Kyung-Wook Shin, Jae-Seok Park [SAE-AN Eng. Corp.], Seung-Hwan Yu [KAERI]
- 2-P-09 Result of Residual Moisture Measurement Tests at 7 Torr Vacuum Pressure for the Moisture Quantification Evaluation Before the Dry Storage of Spent Nuclear Fuel**
Geon-Hui Lee, Gyung-Sun Chae, Kyung-Wook Shin, Hyeong-Seop Jeon, Ki-Seong Son, Jae-Seok Park [SAE-AN Eng. Corp.], Seung-Hwan Yu [KAERI]
- 2-P-10 A Review of Hydrogen Content Analysis Procedures for Spent Fuel Cladding**
Myungchul Park, Sunggeun Kim, Dosik Kim [KAERI]
- 2-P-11 Optimization of Oxide Reducer Design for Spent Nuclear Fuel Pyroprocessing**
Jinmok Hur, Jae Soo Ryu [KAERI]
- 2-P-12 Spent Nuclear Fuel Chlorination for the Separation of Strontium and Barium**
Jinmok Hur, Chang Hwa Lee [KAERI]
- 2-P-13 Preliminary Study on the Final Management of the Pretreated High-Level Wastes Based on the Mined Deep Borehole Matrix Concept**
Heui-Joo Choi, Jong Youl Lee, Jungho Hur, Hong Jang, Hunsuk Im [KAERI]
- 2-P-14 Manufacturing and Preliminary Evaluation of a Multi-array Electrolytic Recovery Electrode Module Using Automation Concept**
Eunsoo Lee, Sangkwon Lee, Chang Hwa Lee, Jae Soo Ryu [KAERI]

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- 2-P-15 Mechanical Integrity Analyses of High Burnup SNF Rod (PLUS7) Under Transverse Tearing Modes**
Sang-Youn Jeon, Joon-Kyoo Park, Jong-Sung Yoo, Seong-Ki Lee,
Nam-Gyu Park [KEPCO NF]
- 2-P-16 Evaluation of the Mechanical Properties of Stabilized Pellets From Damaged Nuclear Fuel**
Yunmock Jung, Kweonho Kang, Chang Hwa Lee, Jae Soo Ryu [KAERI]
- 2-P-17 The Effect of Hygroscopic Fission Products on the Density of High Burnup Nuclear Fuel Pellets**
Yunmock Jung, Kweonho Kang, Jaesun Han, Chang Hwa Lee [KAERI]
- 2-P-18 A Study on the Stress State of Fuel Rod for the Bonding Ratio Between Pellet and Cladding Under Normal Conditions of Transportation**
Jae-Jun Lee, Seong-Ki Lee [KEPCO NF]
- 2-P-19 Strategy to Development of Concrete Dynamic Material Model for Dry Cask Storage System**
JaeHoon Lim, Jongmin Lim, Yun-young Yang, Seung-Pil Kim,
Sang Soon Cho [KAERI]
- 2-P-20 Evaluation of Radiation Dose Rates by Location for Worker Transporting Spent Nuclear Fuel**
Shin Dong Lee, Dong Gyu Lee, Jeong Woo Lee, Kwang Pyo Kim [Kyung Hee Univ.]
- 2-P-21 Design of Test Equipment for Thermal Analysis Evaluation of Dry Storage Demonstration System for Spent Fuel in CANDU Reactors**
Changhwan Shin, Dae-ho Kim, Dong-hak Kook [KAERI]
- 2-P-22 Holistic Approach of Similarity Analysis Between Canadian and Korean CANDU Spent fuel Characteristics in Dry Storage Condition**
Donghak Kook, Yongsik Yang, Daeho Kim [KAERI]

- 2-P-23 Separation of High Heat Generating Nuclide in Agitated LiCl-CaCl₂ Molten Salt at 650°C**
Sang-Kwon Lee, Chang Hwa Lee [KAERI]
- 2-P-24 Analysis of PIE Data for CANDU Spent Fuel in the Dry Storage Environment**
Dae-Ho Kim, Dong-Hak Kook [KAERI], Tae-Hyung Na [KHNP-CRI]
- 2-P-25 Temperature-Dependent Ring Tensile Properties of Cr-Coated Zircaloy-4 Cladding for Accident Tolerant Fuel (ATF)**
Dae-Ho Kim, Hong-Ryoul Oh, Jong-Dae Hong, Hyun-Gil Kim [KAERI]
- 2-P-26 Integrity Assessment of Heavy Water Reactor Spent Fuel Bay Under Seawater Ingress**
Donghee Lee [KHNP-CRI]
- 2-P-27 Radiation Dose Assessment by Neutron Shield Material Configuration in Spent Fuel Transfer Casks**
Donghee Lee, Taehyung Na, Taehyeon Kim [KHNP-CRI]
- 2-P-28 Review of the Analysis Report on the Inventory of Spent Nuclear Fuel and Reprocessing Waste in the United States**
Donghee Lee, Kyungho Roh [KHNP-CRI]
- 2-P-29 Cold Spray Metallic Coatings on Stainless Steel 304 for Mitigating Chlorine-Induced Stress Corrosion Cracking (CISCC) in Spent Nuclear Fuel Interim Storage**
Jinwook Choi, Hwasung Yeom [POSTECH]
- 2-P-30 Spent-Fuel Transportation Applications of Normal Conditions (EPRI)**
Taehyung Na, Donghee Lee, Kyungho Roh [KHNP-CRI]
- 2-P-31 NRC Approval to Transport HALEU TRISO Fuel in OPTIMUS-L**
Taehyung Na, Donghee Lee, Kyungho Roh [KHNP-CRI]

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- 2-P-32 DOE's Plan for Producing HALEU Fuel From EBR-II**
Taehyung Na, Donghee Lee, Kyungho Roh [KHNP-CRI]
- 2-P-33 CEX-1 Bundles Pre-Storage Post Irradiated Examination Results**
Taehyung Na, Donghee Lee, Kyungho Roh [KHNP-CRI]
- 2-P-34 Interim Storage Examination of CEX-1 Bundles (ISE-3)**
Taehyung Na, Donghee Lee, Kyungho Roh [KHNP-CRI]
- 2-P-35 The Dry Storage Silo (Canister) Inspection Procedures**
Taehyung Na, Donghee Lee, Kyungho Roh [KHNP-CRI]
- 2-P-36 Operating and Maintenance Procedures of the RVI**
Taehyung Na, Donghee Lee, Kyungho Roh [KHNP-CRI]
- 2-P-37 Structural Safety Assessment of Dry Storage System Canister**
Taehyung Na [KHNP-CRI]
- 2-P-38 Simultaneous Distillation of Rare Earth-TRU-Alkaline Earth Chlorides**
Sang Woon Kwon, Eunsoo Lee, Byungsuk Park, Chang Hwa Lee [KAERI]
- 2-P-39 Observations for the SF Volume Reduction Using SNF Rod Consolidation**
Beomgyu Kim, Kyungho Roh, Kiyoun Kim, Taehyung Na [KHNP-CRI]
- 2-P-40 A Review Study on Oxidation Behavior of UO_2 at Low Temperature**
JangSoo Oh, Dong-Hak Kook [KAERI]
- 2-P-41 Development of Grinder/Polisher for Hot Cell Application**
Jae-Han Kim [KAERI]
- 2-P-42 Johnson-Cook Model for Canister Material in Spent Nuclear Fuel Storage Container**
Yunyoung Yang, Jongmin Lim, Sang Soon Cho [KAERI]

- 2-P-43 Insight for the Thermal Evaluation Licensing Review of MAGNASTOR Using U.S. Licensing Experience**
Daesik Yook [KINS]
- 2-P-44 Structural Integrity Assessment of Cask Test Equipment for Verification of Thermal Characteristics Computational Model**
JaeYong Kim, YongSik Yang, DaeHo Kim, DongHak Kook [KAERI]
- 2-P-45 Conceptual Design of Spent Nuclear Fuel Interim Storage Facility**
Hyungoo Kang, Changmin Shin, Sanghwan Lee, Taechul Moon [KORAD]
- 2-P-46 Preliminary FMEA Application for HVAC Systems in Nuclear Fuel Cycle Facilities**
Woojin Jo, Hyojik Lee, Sang-jin Park, Seungnam Yu [KAERI]
- 2-P-47 Solvent Extraction Behavior of Europium, Uranium, and Neptunium in 30% Tributyl Phosphate/n-Dodecane**
Seungmo Yeon [KAIST], Seongye Kwon, Jaeyeong Park [UNIST],
Namcheol Kim [KAERI], Dong Hun Choi, Kwangheon Park [Kyung Hee Univ.],
Yongheum Jo [Hanyang Univ.], Won Pyo Jeong, Seungyeon Choi [KONICOF]
- 2-P-48 Advanced Chlorination Techniques for Reducing High-Level Waste Volumes in Nuclear Fuel Management**
Dalsung Yoon, Sangkwon Lee, Ju Ho Lee, Eunsoo Lee, Seungwoo Paek,
Changhwa Lee [KAERI]
- 2-P-49 Corrosion Behavior Analysis of Internal Structure Materials (Al6061 and SUS 17-4 PH) in a Dry Cask Environment**
Kwanil Chae, Seongkoo Hong, Samuel Park, Sangjin Kim, Sungeol Choi [Seoul Natl. Univ.]
- 2-P-50 Leaching Stability Assessment of Uranium Oxide Blocks Fabricated via Slip Casting Process**
Su Jeong Heo, Kweonho Kang, Jung-Hoon Choi, Ki-Rak Lee, Changhwa Lee [KAERI]

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- 2-P-51 Dissolution Behaviors of BaO Into Molten Salts and Separation of Dissolved Ba With Precipitants**
Seol Kim, Eun-Young Choi [UST], Chang Hwa Lee [KAERI]
- 2-P-52 Conceptual Framework for Automation of Electrorecovery Unit Process in Pyroprocess Automation Mockup**
Jonghui Han, Jong Kwang Lee, Byung Suk Park, Seungnam Yu [KAERI]
- 2-P-53 Design of Simulated Test Specimens to Verify the Integrity of CANDU Spent Fuel Cladding During Long-Term Dry Storage**
Joonho Moon, Jong-Dae Hong, Hyun-Gil Kim, Donghak Kook [KAERI]
- 2-P-54 Establishment of Test Plan for Evaluating Radiation Shielding Performance Under Fire Exposure of Concrete**
Siwan Noh, JaeHoon Lim, Sang Soon Cho [KAERI]
- 2-P-55 Comparison of MCNP Source Definition on SNF Analysis**
Seung Uk Yoo, Sung Hee Park, Moonoh Kim [KONES Corp.]
- 2-P-56 Validation of Nuclear Fuel Prediction for Application of Initial Characteristics Data of Spent Nuclear Fuel**
Kyung-Tae Kim, So-Young Kim, Oh-Hyun Kwon, Seong-Ki Lee [KEPCO NF]
- 2-P-57 Validation of Transient CFD Simulation Model of Vacuum Drying in Dry Cask Simulator**
Doyun Kim, Seunghwan Yu [KAERI]
- 2-P-58 Fracture Assessment of Semi-Elliptical Defects in Geometrically Discontinuous Welded Joints of Spent Nuclear Fuel Storage Canisters**
Jongmin Lim, Sang Soon Cho [KAERI]
- 2-P-59 Application of Submodeling Technique for Fracture Analysis of Spent Nuclear Fuel Storage Casks Under Impact Conditions**
Jongmin Lim, Sang Soon Cho [KAERI]

- 2-P-60 Preliminary Evaluation of Criticality Safety Due to Boron Depletion in Neutron Absorbers of a Dry Storage System Using SCALE 6.2.4**
Ji Su Kang, Jae Hak Cheong [Kyung Hee Univ.]
- 2-P-61 Preliminary Radiation Shielding Evaluation for Conceptual Design of PCRF**
Siwan Noh, Woo Jin Jo, Jonghui Han [KAERI]
- 2-P-62 Review of Fuel Handling Events in Nuclear Power Plants: System Reliability, Event Management, and Operational Guidelines**
Sanggyoon Chang, Junkyu Lee, Mingyu Kim [KEPCO E&C],
Jin Yoo, Changsok Cho [Nuclear Eng.], Daehyuk Kwon [KHNP]
- 2-P-63 Study on Radiological Impact of UT Operation in Spent Nuclear Fuel Pool Environment**
Hakyun Lee, Changsun Kim, Wonil Kim, Namyong Park, Jeyong Choi [InesG Co., Ltd.]
- 2-P-64 Review on Probability Risk Assessment of Dry Cask Storage System for Spent Nuclear Fuel in the United States**
Dong-Jin Kim, Sukhoon Kim [FNC]
- 2-P-65 The Impact Analysis of Concrete Structure in Dry Storage Facilities After Fire Accident**
Seungpil Kim, Sang Soon Cho [KAERI]
- 2-P-66 Functional Recoating on Aluminosilicate Foam Filters for Gaseous Cesium Capture**
Byoungjin So, Seok-Min Hong, Jae Soo Ryu [KAERI]
- 2-P-67 Input Material Accounting With Simplified Sampling-Homogenization Procedure for Spent Nuclear Fuel Assembly**
Seonkwang Yoon, Seong-Kyu Ahn, Byung-Hee Won, Chaehun Lee [KAERI]
- 2-P-68 Repackaging Concept for PWR Spent Nuclear Fuel Prior to Disposal**
Sang-Hwan Lee, Chang-Min Shin, Hyungoo Kang, Tae-Chul Moon [KORAD]

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- 2-P-69 Study on Calculation Methodology for Burnup Using Characteristics of Spent Fuel**
SeongHee Park, SeungUk Yoo, MoonOh Kim [KONES Corp.]
- 2-P-70 Probability Distributions of Crack Depth and Length for Safety Analysis in Spent Nuclear Cladding**
Sangil Choi, Seunghwan Yu, Sangsoon Cho [KAERI]
- 2-P-71 Crushing and Mixing Processes of Uranium Powder to Make Sound Green Pellets**
Yung Zun Cho, Jae Won Lee, Kweon Ho Kang, Joo Ho Lee [KAERI]
- 2-P-72 Flow Regime and Off-gas Capturing Characteristics of Molten Hydroxide Salt Scrubber**
Yung Zun Cho, Do Kyu Kang, Seok Min Hong, Chang Hwa Lee [KAERI]
- 2-P-73 Simulation of Bending Behavior of High Burnup Spent Nuclear Fuel Rod Considering Progressive Breakage of Interfacial Bond**
Guhyeon Jeong, Sanghoon Lee [Keimyung Univ.]
- 2-P-74 Classification of Interim Dry Storage Systems of PWR Spent Nuclear Fuel in Korea**
Oujeong Yoo, Gyuyeon Kim, Kiyeoul Seong [KORAD]
- 2-P-75 Design and Fabrication of a Heater Module With a Readily Detachable/Attachable Structure**
Byung Suk Park, Jong Kwang Lee, Seung Nam Yu, Jong Hui Han [KAERI]
- 2-P-76 Multi-Physics Modelling of Radiation Induced Material Degradation in Dry Storages of Used Nuclear Fuel**
Sangjin Kim, Samuel Park, Sungeol Choi [Seoul Natl. Univ.]
- 2-P-77 Pore Characteristics Effects on Technetium Capture in CaO-based Adsorbent**
Namcheol Kim, Eun-Young Choi, Seok-Min Hong [UST], Chang Hwa Lee [KAERI]

- 2-P-78 Review on Strategies of Sustainable Advanced Nuclear Fuel Cycles**
HunSuk Im [KAERI]
- 2-P-79 Fabrication of Helium Circulation Automatic Control Experimental Device**
Byungsuk Park, Dokyu Kang, Seok-Min Hong, Yung Zun Cho, Joo Ho Lee,
Chang Hwa Lee [KAERI]
- 2-P-80 Designing Transport Cask for HANARO Research Reactor Spent Fuel**
Kyung Min Kim, Min Sik Jeon, Soo Hyeok Lee, Hwi Joon Jeong, Kyung Taek Lim [Sejong Univ.]
- 2-P-81 Evaluation of Radionuclide Inventories and Instant Release Fraction
for ACE7 Type Fuel Assembly Using Serpent 2 Code**
Kwang Pyo Choi, Ser Gi Hong [Hanyang Univ.]
- 2-P-82 Study on a Canister Lid Cutting Process for Repackaging of PWR
Spent Nuclear Fuel**
Chang-min Shin, Hyun-goo Kang, Sang-hwan Lee, Tae-chul Moon [KORAD]

High-Level Radioactive Waste Disposal

제3분과. 고준위폐기물처분(A) **구두**

10. 31.(목) 09:00~11:40 / B1F 베가

Chair Kyungwoo Park [KAERI], Dae-Sung Cheon [KIGAM]

Invited Speaker

09:00~09:20 **Key Factors Determining the Capacity of a Multi-Purpose Canister in the Aspect of Geological Disposal of Spent Nuclear Fuel**
Kwan Sik Chun [Korea Environ. Test and Anal. Lab.]

09:20~09:40 **A Study on Hydrogeological Characteristics of Deep Fractured Rock in Korea**
Hangbok Lee, Chan Park, Dae-Sung Cheon, Eui-Seob Park [KIGAM]

09:40~10:00 **Site Characterization of Small-scaled Field Infiltration Test Facility Near the KURT, KAERI**
Won-Tak Joun, Byeong-Hak Park, Kyung-Woo Park [KAERI]

10:00~10:20 **A Study on Geological Characteristics using Deep Borehole Drilling by Tectonic Regime and Rock Types for Site Study for HLW Disposal**
Dae-Sung Cheon, Jai-Yong Park, You Hong Kihm, Hangbok Lee, Seong Kon Lee [KIGAM]

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

10:40~11:00 **Analysis of Drilling Characteristics and Improvement of Borehole Deviation by Rock Types Based on Deep Drilling Experiences**
Ki Seog Kim [HeesongnGeotek], Dae-Sung Cheon, Jai-Yong Park [KIGAM]

**11:00~11:20 Understanding Fault Zone Distributions Using Borehole Data:
Insights From the KURT Study**

Ji-Min Choi, Soolim Jung, Nak Kyu Kim, Kyung-Woo Park [KAERI],
Young-Seog Kim [Pukyong Natl. Univ.]

**11:20~11:40 Hydraulic Properties Measurement of Rocks for Deep Geological
Disposal of High-Level Radioactive Waste**

Dae Sung Lee, Seokhee Jung [Dong-A Univ.],
Dae-Sung Cheon, Junhyung Choi [KIGAM]

High-Level Radioactive Waste Disposal

제3분과. 고준위폐기물처분(B) **구두**

11. 01.(금) 09:00~12:00 / B1F 컨벤션 B

Chair Miseon Jeong [KORAD], Jaewon Lee [KAERI]

- 09:00~09:20 **Impact of Fracture Intersection Characteristics on Solute Transport in Fractured Rock Networks**
Dahye Kim [KAERI]
- 09:20~09:40 **Comprehensive Verification and Validation of APro Near-Field Module for Simulating Radionuclide Transport Considering Coupled Thermal-Hydraulic-Mechanical Processes**
Jaewon Lee, Jung-Woo Kim [KAERI]
- 09:40~10:00 **Long-Term Geochemical Reaction Modeling in the Gas-Groundwater-Bentonite System, Simulating the Buffer Barrier of the HLW Geological Repository Site**
Daehyun Shin, Soyoung Jeon, Soyoung Park, Seon-ok Kim, Wonbeom Heo, Minhee Lee [Pukyong Natl. Univ.]
- 10:00~10:20 **Predicting Radionuclide Behavior in Deep Geological Repository Using Graph Convolutional Networks and Long Short-Term Memorys**
Jinuk Lee [UNIST], Dae Seong Jeong, Kyung Hwa Cho [Korea Univ.]
- 10:20~10:40 **Break Time**
- 10:40~11:00 **A Preliminary Evaluation Study of Radionuclide Release From Reference Spent Nuclear Fuels Using PFLOTRAN Code**
Shin Sung Oh, Ser Gi Hong [Hanyang Univ.], Hyung Ju Yun [KORAD]

- 11:00~11:20 Sitting Methodology for Proposed Final Disposal Solution of Spent Nuclear Fuel in South Africa**
Refilwe Rebecca Molepo, Chang-Lak Kim [KINGS]
- 11:20~11:40 A Preliminary Results for Electrochemical Dissolution Rate of Spent Fuel Uranium With Implementation of Mixed Potential Model**
Zafar Iqbal Zafar, Ser Gi Hong [Hanyang Univ.]
- 11:40~12:00 Systematic Dependency of Water Retention Capacity of Compacted Bentonite on Mineralogical Composition: A Comparative Study**
Jinwoo Kim, Min-Seop Kim, Seok Yoon, Jin-Seop Kim [KAERI]

High-Level Radioactive Waste Disposal

제3분과. 고준위폐기물처분 **포스터**

- 전시 10. 31.(목) 15:00~18:00
- 발표 10. 31.(목) 16:00~17:00 / B2F 다이너스티

Reviewer Seok Yoon [KAERI], Chang-min Shin [KORAD],
Gil-Eon Jeong [Hanbat Natl. Univ.]

- 3-P-01 **Geochemical and Geochronological Study Into the Long-Term Evolution of the KURT Site**
Nak Kyu Kim, Soolim Jung, Ji-Min Choi, Kyung-Woo Park [KAERI]
- 3-P-02 **Simulation of the South African Radioactive Waste Transportation Risk Assessment Using RADTRAN 6 Program**
Nobahle Nomvuyiseko Lulama Sicwebu, Chang-Lak Kim [KINGS]
- 3-P-03 **Modelling Earthquake Scenarios Using GoldSim: Managing Ecosystem Leakage of High-Level Radioactive Waste**
Hyun Jin Yu, Ki Tae Yang, Jong Soon Song [Chosun Univ.]
- 3-P-04 **Synthesis and Sorption Characteristics of U(IV/VI) Colloids Under Neutral and Weakly Alkaline Condition**
Junhyuk Ha, Jun-Yeop Lee [Pusan Natl. Univ.] Wansik Cha [KAERI],
Seungmo Yeon, Jong-Il Yun [KAIST]
- 3-P-05 **Development of Linking Algorithms for Modelling the Coupled Thermal-Hydraulic-Mechanical-Chemical Processes in Discontinuous Rock**
Saeha Kwon, Changsoo Lee, Jin-Seop Kim [KAERI]
- 3-P-06 **Corrosion of Copper Species at Different Temperatures**
Minsoo Lee, Junhyuk Jang, Nakkyu Chae, Jin-Seop Kim [KAERI]

- 3-P-07 Evaluation of Mechanical Properties for KJ & Bentonil-WRK Bentonites**
Seok Yoon, Gi-Jun Lee, Deuk Hwan Lee, Min-Seop Kim, Min-Hyeong Lee [KAERI]
- 3-P-08 Measurement of Thermal Conductivity and Specific Heat of Rock Specimens by Transient Divided Bar Method**
Seungbeom Choi, Saeha Kwon, Taehyum Kim, Seong-Jun Ha, Jin-Seop Kim [KAERI]
- 3-P-09 Simulation of Fluid Flow in a 3D Discrete Fracture Network Using Hydro-Mechanical Coupled Pore Network and Bonded Particle Model and Application to Repository Site Safety Assessment**
Haimeng Shen, Anne Strader, Jeoung Seok Yoon [DynaFrax UG Ltd.],
Mijin Kwon, Jeong-Hwan Lee [KORAD]
- 3-P-10 Oxid Corrosion Model for Copper Canister**
Nakkyu Chae, Seungjin Seo, Jinseop Kim [KAERI],
Richard I. Foster, Sungyeol Choi [Seoul Natl. Univ.]
- 3-P-11 Uniaxial Creep Behavior of Dry and Wet Granite**
Seong Jun Ha, Taehyun Kim, Seungbeom Choi, Saeha Kwon, Jin-Seop Kim [KAERI]
- 3-P-12 Numerical Simulation of Illitization of Bentonite Depending on Various Thermal and Chemical Conditions**
Taehyun Kim, Jeonghwan Hwang, Jin-Seop Kim [KAERI]
- 3-P-13 A Comparative Review on Hydrogeochemical Characteristics of Deep Groundwater in Countries Preferring Crystalline Rock for Geological Disposal**
Eunhye Kwon, Jang-Soon Kwon, Kyung-Woo Park, YeoJin Ju [KAERI]
- 3-P-14 A Study on the Determinate Key Factors for Monitoring of High-Level Waste Repository at the Site-Scale Level**
Woo Beom Ha, Sang Heon Lee, Jong Soon Song [Chosun Univ.]

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- 3-P-15 Suggestion of Mechanical Excavation Methods for Disposal Tunnel Construction and Deposition Hole Drill**
Jung-Woo Cho, Hong-Seok Lee, Joo-Young Oh [KITECH]
- 3-P-16 Manufacturability Evaluation of Outer Copper Shell for Disposal Canister of Spent Nuclear Fuel Based on Flow Forming Process**
Young-Ho Lee, Jae-Deuk Kim, Jeong-Mok Oh, Jung-Hyun Woo, Jin-Seop Kim [KAERI]
- 3-P-17 A Comparison Between a Vertical Disposal and a Horizontal Disposal for High-Level Radioactive Wastes**
Jongyoul Lee, Heuijoo Choi, Changsoo Lee, Sung-Hoon Ji, Dongkeun Cho [KAERI]
- 3-P-18 A Deep Borehole Disposal Concept for Highly Heat-emitting Radioactive Wastes From Pretreatment Process of Spent Nuclear Fuels as an Alternative Final Management Option**
Jongyoul Lee, Heuijoo Choi, Jungho Hur, Hong Jang, Hunsuk Im [KAERI]
- 3-P-19 Identification of Recharge Mechanisms Through Statistical Analysis of Hydrologic Time Series Data at the Unsaturated In-Situ Test Facility**
Byeong-Hak Park, Won-Tak Joun, Kyung-Woo Park [KAERI]
- 3-P-20 Assessment of Uranium Behavior at Natural Analogue Sites in Korea (Boeun and Geumsan) Using Uranium Isotope**
Dong-Hee Kim, Ye Ji Kim, Jaeyeon Kim, Kang-Kun Lee [Seoul Natl. Univ.], Sanghoon Lee [KAERI]
- 3-P-21 Development of a Machine Learning Based Surrogate Model to Predict Physical Phenomena Around Disposal Sites**
Gil-Eon Jeong [Hanbat Natl. Univ.], Soobin Kim, Hong Jang, Jung-Woo Kim [KAERI]
- 3-P-22 Some Parametric Sensitivity Studies for Safety of a Double-layered SF Repository**
Youn-Myoung Lee, Changsoo Lee, Dong-Keun Cho [KAERI]

- 3-P-23 Use of Analytical Solutions for Evaluation of Multi-Batch Disposal Strategies in Deep Geological Repository**
Ji Eon Kim, Samuel Park, Taehoon Park, Dongmin Kim, Sungyeol Choi [Seoul Natl. Univ.]
- 3-P-24 Synthesis and Stability of Hydroxylaluminosilicate Colloids Monitored by Multi-Angle Dynamic Light Scattering**
Seungwoo Lee, Hyeonjin Eun, Jong-Il Yun [KAIST], Sehwa Bae [Chungnam Natl. Univ.]
- 3-P-25 A Novel Field-Based Experimental Design for In-Situ Tracer Tests in KURT**
Seonyi Namgung, Yong-Kwon Koh, Ki-Jong Jang, Ja-Young Goo, Sang-Ho Lee, Jang-Soon Kwon [KAERI]
- 3-P-26 Watershed-Scale Radionuclide Transport and Hydrological Simulation Using Hydrogeosphere**
Jinmyeong Lee, Heewon Jeong, Kyung Hwa Cho [Korea Univ.], Minjeong Kim, Jung-Woo Kim [KAERI]
- 3-P-27 Evaluating Groundwater Age and Subsurface Conditions at the KURT Site Using ^3H and ^{14}C Tracers**
YeoJin Ju, Kyung-Woo Park, Eunhye Kwon [KAERI], Dugin Kaown, Kang-Kun Lee [Seoul Natl. Univ.], Seong Chun Jun, Jiwon Park [Geogreen21 Co., Ltd.]
- 3-P-28 Numerical Simulation of Thermo-Hydraulic-Mechanical Behavior in the Horonobe URL Engineered Barrier System Experiment**
Minseop Kim, Changsoo Lee, Jin-seop Kim [KAERI], Sugita Yutaka [JAEA], Min-Kyung Jeon [KIGAM]
- 3-P-29 Experimental Study on Nuclide Diffusion in Compacted Bentonite Affected by Reactive Gas**
Jin-Seok Kim, Ji-Soo Kim, Seung Yeop Lee, Jang-Soon Kwon, Sang-Ho Lee [KAERI]
- 3-P-30 Thermal Conductivity of Backfill With Degrees of Saturation and Void Ratio Using Silica Sand-mixed Bentonite-WRK**
Yohan Cha, Jin-Seop Kim [KAERI]

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- 3-P-31 Assessment of Ca-bentonite Erosion Using a Modified Two-Region Model**
Ji-Won Kim, Minhyeong Lee, Chang-Ho Hong, Jin-Seop Kim [KAERI]
- 3-P-32 A Comparative Study of APro and HydroGeoSphere for Validating Biosphere Hydrological Simulations**
Minjeong Kim, Jung-Woo Kim [KAERI], Jinmyeong Lee, Kyung Hwa Cho [Korea Univ.]
- 3-P-33 Practical Analysis of Large-Scale Simulation for Deep Geological Repository by Using APro**
Seungjin Seo, Hong Jang, Jung-Woo Kim [KAERI]
- 3-P-34 Consideration of Erosion-Deposition in the Surface Environment on Deep Geological Disposal**
Nak-Youl Ko, Kyung-Woo Park [KAERI]
- 3-P-35 Evaluation of Swelling and Hydraulic Properties of Various Types of Bentonite for Buffer Applications**
Kiwon Kang, Ugyu Jung, Jaeyeong Park [UNIST]
- 3-P-36 Comparison Analysis of Corrosion Modeling Between HADES and APro for Deep Geological Repository System**
Pilhyeon Ju, Samuel Park, Seongkoo Hong, Sungyeol Choi [Seoul Natl. Univ.], Heejae Ju, Nakkyu Chae [KAERI]
- 3-P-37 Study on the Durability of Monitoring Sensors in High-Level Radioactive Waste Repositories Under Temperature and Radiation Conditions**
Sokpheapnika Chea, Hyun-Joong Hwang, Changhee Park, Gye-Chun Cho [KAIST], Chang-Ho Hong [KAERI]
- 3-P-38 Sensitivity Analysis of the Thermodynamic Properties of the Engineered Barrier System Through Meta Model Development**
Hongjeong Lee, Kiwon Kang, Chohyun Park, Jaeyeong Park [UNIST]
- 3-P-39 Diffusivity of U(VI), Sr(II), and Cs(I) in an Altered Granite From KURT**
Hyun-Kyu Lee, Jae-Kwang Lee, Seonggyu Choi, Jang-Soon Kwon, Sang-Ho Lee [KAERI]

- 3-P-40 Measurement of Diffusion Coefficients of Chloride and Dissolved Oxygen in Compacted Bentonite**
Taehyung Park, Jung-Tae Kim, Minsoo Lee, Chang-Ho Hong, Jin-Seop Kim [KAERI]
- 3-P-41 Analysis of Domestic and Overseas Distribution Coefficients for Radionuclides Sorption on Buffer Material Under Aerobic Condition**
Jae-Kwang Lee, Seonggyu Choi, Hyun-Kyu Lee, Sang-Ho Lee, Jang-Soon Kwon [KAERI],
Jaeun Kang, Wooyong Um [POSTECH]
- 3-P-42 Process Analysis for Generic Safety Case Using K-FEP**
Myeongjin Kang, Hyungdae Kim, Gyunyoung Heo, Kunok Chang [Kyung-Hee Univ.]
- 3-P-43 Anomaly Detection Method for Accelerometers Using Autoencoder**
Se-Oh Kim, Hong-Geun Lee, Yeong-Jin Hwang, Hong-Jun Kim, Jeong-Nam Jeong,
Seok-Won Lee, Jae-Dam Kim [SAE-AN Eng.], Chang-Ho Hong [KAERI]
- 3-P-44 Validation of the Discrete Fracture-Matrix Model in the APro Far Field Module for Groundwater Flow Simulation**
Yong-Min Kim, Jung-Woo Kim [KAERI]
- 3-P-45 Evaluation of pH Alteration Caused by Shotcrete in Engineered Barriers of High-Level Waste Disposal Using PFLOTRAN**
Chohyun Park, Hongjeong Lee, Kiwon Kang, Jaeyeong Park [UNIST]
- 3-P-46 Numerical Investigation for the Impact of Fractures on Coupled Thermo-Hydro-Mechanical Behaviors of Multi-Barrier Systems in Granite**
Kwang-Il Kim, Changsoo Lee, Jin-Seop Kim [KAERI]
- 3-P-47 Immobilization of Iodine Using Phosphate-based Geopolymer Waste Forms**
Byoungkwan Kim, Jueun Kim, Hyojoo Kim, Yunjin Choi, Wooyong Um [POSTECH],
Sultana Afroja, Jae Hong Kim [KAIST]
- 3-P-48 Review of Hydrothermal Alteration in Bentonite Buffer Under Potential Repository Conditions**
Ja-Young Goo, Seonyi Namgung, Ki-Jong Jang, Yong-Kwon Koh, Sang-Ho Lee,
Jang-Soon Kwon [KAERI], Ho Young Jo [Korea Univ.]

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- 3-P-49 A Proposal to Update the Radioactive Waste Management Indicators Reflecting Recent Development of Major Countries**
 Kwan Hee Kim, Sung Won Jung, Jae Hak Cheong [Kyung Hee Univ.],
 Dayeong Lim [Hanyang Univ.], Gyutaek Kang [Sejong Univ.],
 Junho Jeong [Gachon Univ.], Jin Beak Park [Technical Res. Cent. of Finland Ltd.]
- 3-P-50 Total System Performance Assessment of the ADioS Reference Scenario Using APro**
 Soobin Kim, Heejae Ju, In-Young Kim, Hong Jang, Jung-Woo Kim [KAERI]
- 3-P-51 A Review on Principal Uncertainty Parameters to be Considered in Probabilistic Safety Assessment for Deep Geological Disposal System in Granite Host Rock**
 Subin Kim, Sukhoon Kim [FNC]
- 3-P-52 Development of Quality Assurance Procedures and Guidelines for the Development, Verification, and Validation of the APro Code**
 In-Young Kim, Jung-Woo Kim [KAERI]
- 3-P-53 Design of a User Interface for the Adaptive Process-based Total System Performance Assessment Framework (APro)**
 In-Young Kim, Jung-Woo Kim [KAERI]
- 3-P-54 Criticality and Shielding Assessment for Deep Disposal Facilities Based on Horizontal Disposal**
 Nak Woong Yang, Min Sik Jeon, Ji Hwan Ma, Seok Geun Cho, Chang-Je Park [Sejong Univ.]
- 3-P-55 Computational Stability of Module Combinations for Near-Field and Far-Field Domains in APro**
 Hong Jang, Yong-Min Kim, Seungjin Seo, Soobin Kim, Jung-Woo Kim [KAERI]
- 3-P-56 Parameter Sensitivity Analysis for the Fracture Transport Benchmark Case With Matrix Diffusion in DECOVALEX-2027**
 Hong Jang, Yong-Min Kim, Soobin Kim, Seungjin Seo, Jung-Woo Kim [KAERI]

- 3-P-57 Conceptual Design of GoldSim-based Safety Assessment Model for Scoping Analysis on the KBS-3H Disposal System of Spent Nuclear Fuel**
Donghyun Lee, Sukhoon Kim [FNC]
- 3-P-58 Feasibility Test for Radionuclides Sorption by Copper-exchanged Bentonite**
Jeong-Yun Jang, Seonggyu Choi, Hyun-Kyu Lee, Jae-Kwang Lee, Sang-Ho Lee [KAERI]
- 3-P-59 Development of New Sensor for Measuring Total Pressure in Bentonite Buffer Under HLW Repository Conditions**
Chang-Ho Hong, Jin-Seop Kim [KAERI], Hee-Young You [JooShin industrial Co., Ltd.]
- 3-P-60 Types of Hydrothermal Alteration Occurred in Jurassic Granitoids Around the KURT Site**
Soolim Jung, Ji-Min Choi, Nak Kyu Kim, Kyung-Woo Park [KAERI]
- 3-P-61 Accelerated Laboratory-Scale Experiment of Illite-Smectite Transformation Using Bentonit-WRK**
Mi Rae Kim, Bo Gyeong Park, Youngseuk Keehm, Hyun Na Kim [Kongju Natl. Univ.]
- 3-P-62 Comprehensive Cost Assessment of Spent Nuclear Fuel Disposal**
Kwi-lim Lee, Heui-joo Choi, Jong-youll Lee, Chang-soo Lee, Dong-keun Cho [KAERI]
- 3-P-63 Review of NTI Recommendations for a Framework on Sustainable Radioactive Waste Management and Socially Acceptable Siting of Geological Disposal Facilities**
Ji Su Kang, Jae Hak Cheong [Kyung Hee Univ.]
- 3-P-64 Benchmark Verification of the COMSOL-PHREEQC Coupling Scheme in the APro_Reaction Module**
Jeonghwan Hwang, Jung-Woo Kim [KAERI],
Weon Shik Han, Won Woo Yoon, Jiyong Lee [Yonsei Univ.]
- 3-P-65 Site Characterization Parameters of D-GIVES Using Geophysical Well Logging at Deep Boreholes in Korea**
Seong Kon Lee, Jihun Choi, In Hwa Park, Myung Sun Kim, Kichang Yang, Dae-Sung Cheon [KIGAM]

Low and Intermediate Level Radioactive Waste Management

제4분과: 중·저준위폐기물관리(A) **구두**

10. 31.(목) 15:40~18:00 / B1F 베가

Chair Hyun-joo Kim [KORAD], Bum-Kyoung Seo [KAERI]

15:40~16:00 Study on Sorption Ability of Glass Fiber Waste in the Domestic Repository and Its Estimated Colloidal Impact

Hyun Woo Song, Moonoh Kim [KONES Corp.],
Sang June Park, Jun-gi Yeom [KHNP]

16:00~16:20 Increasing the Concentration Limit for Disposal of Intermediate-Level Radioactive Waste

BeomIn Kim, DongKook Park, Hyosub Kim, Jaeyong Lee [KORAD]

16:20~16:40 Study for the Possibility of the Penetration Intrusion by Drilling Against 1st Phase Radioactive Waste Disposal Facility

Chan Hong Kim, HONG-IL KWON, Beom In Kim [KORAD]

16:40~17:00 Advanced Radioisotope Inventory Management for Low- and Intermediate-Level Radwaste in Korean NPPs: Algorithms Improvement and Software Development for Inventory Estimation

Ji Kang Park, Sung Yeop Jeong, Eui Jin Jeong, Sang Mo Ham [Godo Tech Co.]

17:00~17:20 A Study on the Indirect Evaluation Method for Radionuclide Inventory in Past Radioactive Waste

Ji Eun Park, Wook Sohn, Hang-rae Cho, Seongjin Maeng, Jungi Yeom [KHNP-CRI]

- 17:20~17:40 Development of a Scaling Factor Method for PET Cyclotron:
Correlation Analysis of Key and DTM Nuclides**
Yeijin Bang, Hee Seo [Jeonbuk Natl. Univ.], Byeonghyeon Park, Sangmin Lee [KINS]
- 17:40~18:00 Influence of Heavy Metals Ions on Radionuclide Adsorption in
Engineered Barriers of Radioactive Waste Disposal**
Yulim Lee, Jaeyeong Park [UNIST]

Low and Intermediate Level Radioactive Waste Management

제4분과: 중·저준위폐기물관리(B) **구두**

11. 01.(금) 09:00~12:00 / B1F 베가

Chair Myunggoo Kang [KORAD], Sang June Park [KHNP]

09:00~09:20 **Management of Sealed Disused Radioactive Sources in Nigeria**

Monica Stephen Faruna, Chang-Lak Kim [KINGS]

09:20~09:40 **Development of a Mechanochemical Approach for the Room-Temperature Disposal of Materials Containing Radioactive Asbestos**

Kun-kyu Choi, Hyung-kwon Jeong, Dong-gyu Jang, Jeong-won Park, Myeong-ho Kim, Min-su Kim [Saebitene Co., Ltd.]

09:40~10:00 **Performance Tests on Polymer Waste Form of Boric Acid Granules and Spent Ion Exchange Resins**

Se Yup Lee, You Ha Lee [Korea Nucl. Eng. Co., Ltd.]

10:00~10:20 **Preliminary Estimation of Radionuclide Inventory for 3rd Trench Disposal Facility**

Kangil Jung, Yuhwa Son, Jaechul Ha [KORAD]

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

10:40~11:00 **Preliminary Prediction of Difficult-to-Measure (DTM) Radionuclide Concentrations in Nuclear Waste Using Machine Learning Method**

Do-Hyeon Kim, Jun-Yeop Lee [Pusan Natl. Univ.]

- 11:00~11:20 Development and Demonstration of Technology for Ensuring Disposal Suitability of Spent Resin in Pressurized Heavy Water Reactor**
Hyeon Oh Park, Kyu Ho Lee, Dong Hyun Kim, Hee Jin Kim, Ki Hyun Kwon, Seung Geon An, Ha Young Oh [Sunkwang T&S Co., Ltd.],
Hwan Seo Park, Ki Rak Lee [KAERI]
- 11:20~11:40 Thermodynamic Modeling of Hydrate Assemblages and Porewater Composition in Blended Cements With Supplementary Cementitious Materials**
Dayeong Lim, Yongheum Jo [Hanyang Univ.],
Sol-Chan Han [Lawrence Berkeley Natl. Lab.]
- 11:40~12:00 Update on Treatment of Large Concrete Drum for Safe Management and Disposal**
Young Hwan Hwang, Seong-Sik Shin, Sunghoon Hong, Seok-Ju Hwang, Jung-Kwon Son, Cheon-Woo Kim [KHNP-CRI]

Low and Intermediate Level Radioactive Waste Management

제4분과: 중·저준위폐기물관리 **포스터**

- 전시 10. 31.(목) 15:00~18:00
- 발표 10. 31.(목) 16:00~17:00 / B2F 다이너스티

Reviewer Ho Seog Dho [KORAD], Jaehyuk Kang [Jeju Natl. Univ.],
Wangkyu Choi [KAERI]

4-P-01 Adsorption Performance of Petroleum Pitch-based Activated Carbon for Radionuclides: Exploring Alternatives for Nuclear Power Plant Liquid Waste Treatment

Hyeongmin Park, Heungnae Lee, Guihwan Jo, Yongsoo Ahn, Myungpil Kim, Junhwi Bang [Korea Standards Anal. Corp.]

4-P-02 Development of Purge Gas Recombiner System Based on Catalytic Recombiners and Adsorbers for Tritium Removal

Soon-hwan Son, Houg-gon Cha, Ji-seon Kim [AGENCORE Co.]

4-P-03 Evaluation of Physicochemical Properties of TEDA-Impregnated Activated Carbon for Heating, Ventilating, and Air Conditioning (HVAC) System in Heavy Water Reactors

SooHwan Kim, JunHeon Lee, Jun-Hyung Ryu [Dongguk Univ.], GwanHyun Lee [Hi-Air Korea Co. Ltd.]

4-P-04 Condensate Reduction Strategies in Radiation-Controlled Areas Using Outdoor Air Conditioning (OAC) Systems

Yongsang Lee, Youngwoo Kwon, Seonho Noh [KAERI]

4-P-05 Plan for Building a Standardization and Implementation Platform for Solid Waste Analysis and Evaluation

Hee-Jin Ahn, Seung-Chul Park [Green Radiation Co., Ltd.], Dae-Seok Hong [KAERI]

- 4-P-06 Development of Radioactive Waste Activated Carbon Treatment Technology Applying Mechanochemical Technology Based on Room Temperature and Eco-friendly Methods**
Kyeong-Ryeong Kim, Sang-Soo Kwak, Yong-Ho Hong,
Dong-Sik Jin [Nuclear Environ. Technol. Co.],
Byoung-Sub Han [Korea Advanced Saf. and Protection Inst.]
- 4-P-07 Verification of Heat Treatment Process Equipment for Reducing DAWs**
Jihyun Yu, Seonghun Kim, Hyerim Kim, Jangsoo Suh, Younjung Choi [Sae-An Enertech Corp.]
- 4-P-08 Comparison of Leaching Behavior of the Geopolymer Waste Forms With Cs, Sr, Co, Re, and I**
Seongye Kwon, Jaeyeong Park [UNIST]
- 4-P-09 Evaluation of Stability and Performance of Solidification Materials for Safe Disposal of Radioactive Waste: A Review**
Sehyun Cho, Jaehyuk Kang [Jeju Natl. Univ.]
- 4-P-10 A Study on Classification for Treatment of Non-Fuel Materials in the SFP of PWR**
Kyungho Roh, Beomgyu Kim, Taehyung Na, Donghee Lee [KHNP-CRI]
- 4-P-11 Role of Getters in Preventing Tc Leaching in Radioactive Waste Disposal: A Review**
Hyolee Kim, Jaehyuk Kang [Jeju Natl. Univ.]
- 4-P-12 A Study on the Variation in LSC Measurement Performance With the Cocktail Composition of Analyzed Samples**
Simon Oh, Kyunghun Jung, Jungbo Yoo [KAERI]
- 4-P-13 Development of Cellulose Treatment Technology Using Plasma**
Jeongsu Jeong, Sunghoon Hong [KHNP-CRI]

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- 4-P-14 Analysis of Self-Generated Colloids From Concrete and Glass Waste in Concrete Pore Water and Rainwater**
Chongmyung Jin, Stuart Aberdeen, Richard I. Foster, Sungyeol Choi [Seoul Natl. Univ.]
- 4-P-15 A Conceptual Study on Waste Solidification Container Using Induction Melting**
HyungJun Kim, Jihyun Kim [KEPCO KPS]
- 4-P-16 A Comparative Study on Plasma Arc as a Cutting Technology for Radioactive Structures**
Jihyun Kim, HyungJun Kim [KEPCO KPS]
- 4-P-17 Radioactivity Sensitivity Analysis for Bio-Shield Concrete in CANDU Reactor**
Seok Geun Cho, Chang-Je Park [Sejong Univ.]
- 4-P-18 Case Study on the Barnwell Disposal Facility for Domestic PE-HIC Disposal**
Changgyu Kim, Kwangsoo Park, Chungsik Lim, Haewoong Kim, Woo Nyun Choi, Taeseob Lim, Donghun Pak [Doosan Enerbility]
- 4-P-19 Analysis of Factors Affecting the Degassing Rate of C-14 in Biosphere Model**
Youjin Oh, Ugyu Jeong, Jaeyeong Park [UNIST]
- 4-P-20 Review on Dose Assessment Results for Clearance of Radioactive Metal Generated in Domestic Nuclear Power Plant**
Yong Ho Jin, Si Young Kim, Jung-Kwon Son [KHNP-CRI]
- 4-P-21 Review on Derivation Results of Clearance Level for Radioactive Metal Containing Uranium**
Yong Ho Jin, Si Young Kim, Jung-Kwon Son [KHNP-CRI]
- 4-P-22 Consideration of Source Definition on Radioactive Waste Analysis**
Seung Uk Yoo, Sung Hee Park, Moonoh Kim [KONES Corp.]

- 4-P-23 Improvement of Instrumentation and Control for the Evaporation Process**
Yoon-Do Oh, Hyun-Myoung Jung, Na-On Chang, Tack-Jin Kim, Dong-Su Kim [KAERI]
- 4-P-24 Current Status of Radioactive Waste Filter Treatment**
Ji-Hoon Lee, Kyung-Rok Park, Ji-Soo Yoon, Young-Hwan Hwang,
Jung-Kwon Son [KHNP-CRI], Moon-Oh Kim, Na-Rae Lee [KONES Corp.]
- 4-P-25 Review of Ion Exchange Resin Treatment Technology Development Trends**
Seok-Ju Hwang, Younghwan Hwang, Sung-Hoon Hong, Jung-Kwon Son [KHNP-CRI]
- 4-P-26 Proposal of a New Idea for Screening Potential Errors in Radioactive Waste Data Based of Direct and/or Indirect Correlation of Radiological Parameters**
Gun Young Yoon, Jae Hak Cheong [Kyung Hee Univ.]
- 4-P-27 A Preliminary Study on Physical and Radiological Considerations of Soil and Building Radioactivity Measurement Systems for the Decommissioning of NPPs**
Se Geun Lee, Hyeok Jae Kim [KRID]
- 4-P-28 Development of Soft Bag Design Requirements for Phase 3 Disposal Facility**
Narae Lee, Moonoh Kim [KONES Corp.]
- 4-P-29 A Preliminary Study on Technical Demonstration of In-Situ Gamma Spectroscopy Systems for Decommissioning Waste Characterization**
Se Geun Lee, Yong-Won Ma, Do Yeob Kim [KRID]
- 4-P-30 Case Study on the Demonstration Elements of Waste Reduction Technology**
Min-Gyu Choi, DoYeong Mun, Yong Guk Son, Moo-Keun Song [KRID]
- 4-P-31 Integrated Approaches to Analyze Irradiated Materials in Hot Cell Facility of KRID**
Seoha Kim, Junghyun Park, Seung-Ho Lee, Yeong Su Ha [KRID]

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- 4-P-32 A Case Study on Radiochemical Analysis of Non-Fuel Materials in the SFP of PWR**
Kyungho Roh, Jinwon Son, Kiyoun Kim [KHNP-CRI]
- 4-P-33 Development of Radioactive Waste Clearance Procedures for Large Square Concrete Drums Generated at Kori Nuclear Power Plant**
Woo Nyun Choi, Kwangsoo Park, ChungSik Lim, Changkyu Kim, HaeWoong Kim, Donghun Park, Taeseob Lim [Doosan Enerbility],
Young Hwan Hwang, Sunghoon Hong [KHNP-CRI]
- 4-P-34 Cumulative Dose Assessment of Decontaminated Soil From Uranium Conversion Facility Decommissioning Site in KAERI**
YuJeong Choi, Sang-mo Hwang, Sung-Jin Han, Kyung-min Kim, Won-Hyuk Jang [KAERI]
- 4-P-35 Advancing Nuclear Waste Management: Development of KRID's Comprehensive Hot Cell Facility**
Junghyun Park, Seoung-Ho Lee, Seoha Kim, Seokhan Kim, Yeong Su Ha [KRID]
- 4-P-36 Development of a Point Sampler for Efficient In-Tank Sampling Inaccessible to Workers**
Sangbok Lee, Minho Kwak, Seungil Kim [Neosiskorea Co. Ltd.]
- 4-P-37 Analysis of the Immobilization Mechanisms of Technetium and Iodine in Cementitious Materials via Co-Precipitation Experiments**
Yeojin Kim, Jaeyeong Park [UNIST]
- 4-P-38 Methodology for Efficient Disposal of the Fluorescent Liquid Waste Generated From the Operation of LSCs in NPPs**
Hang-Rae Cho, Seok-Ju Hwang, Ji-Soo Yoon, Jung-Kwon Son [KHNP-CRI],
Jun-Seok Nam [KHNP]
- 4-P-39 Review on the Decontamination Performance of Radioactive Liquid Waste Processing System in Domestic NPPs**
Hang-Rae Cho, Ji-Soo Yoon, Seok-Ju Hwang, Jung-Kwon Son [KHNP-CRI],
Hyo-Jin Park [KHNP]

- 4-P-40 Introduction on Overseas Plans to Dispose of High Level Vitrified Form at Deep Geological Repository (DGR) After Reprocessing SF and Vitrifying HLW**
Cheon-Woo Kim, Sunghoon Hong, Young Hwan Hwang [KHNP-CRI]
- 4-P-41 Development of Tritium and Helium-3 Recovery Technology From Gaseous Waste of Gaseous Tritium Light Sources (GTLS)**
Jiseon Kim, Woo-in Lee, Soon-hwan Son [AGENCORE CO., Ltd.]
- 4-P-42 Validation of EDTA Measurement in Radioactive Waste Using the Leaching Method**
Hye Jin Choi, Gye Cheon Choi, Heung Rae Lee, Changryong Lee [Korea Standards Anal. Corp.]
- 4-P-43 Cermet Waste Forms for Immobilization of High Heat-generating Nuclides**
Byeongwan Lee, Ga-Yeong Kim, Jung-Hoon Choi, Ki Rak Lee, Hyun Woo Kang, Hwan-Seo Park [KAERI]
- 4-P-44 Removal Technologies for Volatile Radionuclides ^{14}C and ^3H in Organic Compounds of Radioactive Waste**
Dong-Cheol Kim, Hui-Gyeong Kim, Keun-Teag Park, Min-Young Jung, Mun-Su Han, Eun-Kyung Jang [DAON Technology Co., Ltd.]
- 4-P-45 A Study on Disposal Methods Using Heavy Water Reactor Waste Adsorbent Characteristics**
Minyoung Jung, Dongcheol Kim, Munsu Han, Huigyeong Kim, Keunteag Park [DAON Technology Co., Ltd.]
- 4-P-46 A Simplified Comparison of Safety Assessments for LLW Vault Disposal and VLLW Landfill Trench Disposal Using AMBER Code**
Su Yeon Lee, Jae Hak Cheong [Kyung Hee Univ.]
- 4-P-47 Comparison and Analysis of Clearance Systems for Low Activity Waste in Selected Countries**
Hee Won Lee, Jae Hak Cheong [Kyung Hee Univ.]

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- 4-P-48 Specific Radioactivity Analysis of Activated Metal Using Gamma Spectrometry System and Gamma Counter**
Sangrok Kim, Suhyoung Lee [KIRAMS]
- 4-P-49 Verification of Marine Accident Data From mTIS and Derivation of Marine Accident Frequency for Radiological Risk Assessment in Maritime Transport**
Yoo-Kyoung Shim, Yoonsun Chung [Hanyang Univ.], Kiwon Jang, Ara Go [KINS], Han-Ki Jang [KARA]
- 4-P-50 Experimental Study of Cellulose Degradation in the 1st Phase Domestic Repository and Its Estimated Impact**
Hyun Woo Song, Moonoh Kim [KONES Corp.], Sang June Park, Jun-gi Yeom [KHNP]
- 4-P-51 KRID's Demonstration Plan for the Disposal of Spent Resin Waste Generated From Wolsong NPP PHWR**
Seung Ho Lee, Homyeong Lee, Junghyun Park, Ji Hun Han [KRID]
- 4-P-52 Numerical Analysis on a Hollow Electrode Plasma Torch for Melting Application of Non-combustible Radioactive Wastes**
Nam-Ki Lee, Dong-Hyun Lee, Sang-Yun Paek, Sun-Woo Kim, Hyo-Jeong Kim, Jun-Ho Seo [Jeonbuk Natl. Univ.]
- 4-P-53 Necessity and Effectiveness of Introducing a Disposal Compatibility Review System to Ensure Acceptance of Low-Level Radioactive Waste**
Jaechul Ha, Jinwoo Jeong, Kyunghyun Kwak [KORAD]
- 4-P-54 Study on Feasibility of Plasma Treatment Technology for Concrete Waste With Epoxy Paint Generated by NPPs**
Sunghoon Hong, Young Hwan Hwang, Jeongsu Jeong, Ji-Soo Yoon, Seong-Sik Shin, Jung-Kwon Son, Cheon-woo Kim [KHNP-CRI]

- 4-P-55 Development of Prototype of Handling Device With Radiation Shielding Applied for Large Concrete Drums in Kori Unit 1**
Sunghoon Hong, Young Hwan Hwang, Seong-Sik Shin, Seok-Ju Hwang, Jeongsu Jeong, Jung-Kwon Son, Cheon-woo Kim [KHNP-CRI], Kwangsoo Park, Changgyu Kim [Doosan Enerbility]
- 4-P-56 Review on Sampling Methods for Selecting a Representative Drum of Large Concrete Drums in Kori Unit 1**
Sunghoon Hong, Young Hwan Hwang, Seong-Sik Shin, Seok-Ju Hwang, Jeongsu Jeong, Jung-Kwon Son, Cheon-woo Kim [KHNP-CRI], Kwangsoo Park, Changgyu Kim [Doosan Enerbility]
- 4-P-57 A Study on the Melting Facility for the Treatment of Metallic Radioactive Waste**
Taeseob Lim, Kwangsoo Park, Chungsik Lim, Changkyu Kim, HaeWoong Kim, Woonyun Choi, Donghun Pak, Nari Kim [Doosan Enerbility], Jung-Wook Cho [POSTECH]
- 4-P-58 Development of Immobilization Strategy for Efficient Treatment of Spent Filters**
Moonoh Kim, Narae Lee [KONES Corp.], Jisoo Yoon [KHNP-CRI], Jun-Seok Nam [KHNP]
- 4-P-59 Comparative Analysis of the Economic Feasibility of PC-HIC and PE-HIC**
Moonoh Kim, Hyun Woo Song, Narae Lee [KONES Corp.]
- 4-P-60 The Suggestion for the Waste Acceptance Criteria of the Gyeongju Low- and Intermediate-Level Radioactive Waste Disposal Facility**
Sang June Park, Seongjin Maeng, Minji Park, Jun-Gi Yeom [KHNP], Hyun Woo Song, Moonoh Kim [KONES Corp.]
- 4-P-61 A Review of Glass Waste Form for Radioactive Iodine Immobilization**
Seong-Sik Shin, Sung-Hoon Hong, Jung-Kwon Son, Cheon-Woo Kim, Young Hwan Hwang [KHNP-CRI], Hyun Woo Kang [KAERI]

4-P-62 Development FEP Scenarios and Impacts for the Safe Disposal of Concrete Drums

Seong-Sik Shin, Sung-Hoon Hong, Jung-Kwon Son, Cheon-Woo Kim,
Young Hwan Hwang [KHNP-CRI]

4-P-63 Development of FEP for the Safe Disposal of Concrete Drums

Seong-Sik Shin, Sung-Hoon Hong, Jung-Kwon Son, Cheon-Woo Kim,
Young Hwan Hwang [KHNP-CRI]

4-P-64 Tellurite Glass for Radioactive Iodine Immobilization

Seong-Sik Shin, Sung-Hoon Hong, Jung-Kwon Son, Cheon-Woo Kim,
Young Hwan Hwang [KHNP-CRI], Hyun Woo Kang [KAERI]

4-P-65 Review on Ultrasonic Imaging Methods for Understanding the Interior of Large Concrete Drums in Kori Unit 1

Sunghoon Hong, Young Hwan Hwang, Seong-Sik Shin, Ji-Soo Yoon,
Jeongsu Jeong, Jung-Kwon Son, Cheon-Woo Kim [KHNP-CRI],
Kwangsoo Park, Changgyu Kim [Doosan Enerbility]

4-P-66 Modeling the Pore Water Chemistry During Degradation of Cement Using the PHREEQC Geochemical Software

Myunggoo Kang, Jaechul Ha [KORAD]

4-P-67 Evaluation on Various Non-destructive Methods for Observing Inner Structure of Large Concrete Drums

Sunghoon Hong, Young Hwan Hwang, Seong-Sik Shin, Ji-Soo Yoon,
Jeongsu Jeong, Jung-Kwon Son, Cheon-Woo Kim [KHNP-CRI],
Kwangsoo Park, Changgyu Kim [Doosan Enerbility]

4-P-68 Characterization of Zr Added DG-2 Glass

Young Hwan Hwang, Seong-Sik Shin, Sunghoon Hong, Seok-Ju Hwang,
Jung-Kwon Son, Cheon-Woo Kim [KHNP-CRI]

4-P-69 A Study on Re-Solidification of Boron Concentrates Using Geopolymer

Young Hwan Hwang, Seong-Sik Shin, Sunghoon Hong, Ji-Soo Yoon,
Jung-Kwon Son, Cheon-Woo Kim [KHNP-CRI]

4-P-70 A Study on Pre-Treatment Equipment for Large Concrete Drums

Young Hwan Hwang, Seong-Sik Shin, Sunghoon Hong, Ji-Soo Yoon,
Jung-Kwon Son, Cheon-Woo Kim [KHNP-CRI],
Kwang-Soo Park, Chang Kyu Kim [Doosan Enerbility]

4-P-71 A Review on Management of Intermediate Level Waste and Interim Storage

Young Hwan Hwang, Sunghoon Hong, Seok-Ju Hwang, Ji-Soo Yoon,
Jung-Kwon Son, Cheon-Woo Kim [KHNP-CRI]

4-P-72 A Study on Safety Analysis of Radiation Exposure During Treatment of Large Concrete Drums

Young Hwan Hwang, Seong-Sik Shin, Sunghoon Hong, Ji-Soo Yoon,
Jung-Kwon Son, Cheon-Woo Kim [KHNP-CRI],
Kwang-Soo Park, Chang Kyu Kim [Doosan Enerbility]

4-P-73 A Study on Treatment Technology for Repackaged Large Concrete Drums

Jisoo Yoon, Young Hwan Hwang, Seong Hoon Hong, Seong Sik Shin,
Jung-Kwon Son [KHNP-CRI]

4-P-74 A Study on the Methods for Conditioning and Packaging of Spent Resin Overseas NPPs

Jisoo Yoon, Young Hwan Hwang, Seong Hoon Hon, Jung-Kwon Son [KHNP-CRI]

4-P-75 The Radiation Dose Assessment of the High-Temperature Catalytic Oxidation System for the Treatment of Spent Scintillation Liquid

Jun-Seok Nam, Mikyoung Yang, Suil Bang, Young-Suk Oh [KHNP],
Sung Jun Hong, Keon Hwa Lee [Hana NPE Co.],
Woo Cheol Choi, Jung Ho Song, Tae Hoon Jeon [BRNC Inc.]

**4-P-76 New Insights Into the Influence of Calcium on the Immobilization of
Radioactive Borate Waste in Metakaolin-based Geopolymer Waste Forms**

Byoungkwan Kim, Hyun-min Ma, Wooyong Um [POSTECH],
Brant Walkley [The Univ. of Sheffield], John L Provis [Paul Scherrer Institut]

**4-P-77 Development of Ceramic-Metal Waste Form for Immobilization
of Radioactive Cesium**

Ga-Yeong Kim, Jae-Hwan Yang [Chungnam Natl. Univ.],
Ki-Rak Lee, Jung-Hoon Choi, Hwan-Seo Park [KAERI]

**4-P-78 Vitrification of Cement Solidified Waste Form Containing Boron
Concentrate**

Seong-Sik Shin, Sung Hoon Hong, Jung-Kwon Son, Cheon-Woo Kim,
Young Hwan Hwang [KHNP-CRI]

Decommissioning and Environmental Remediation

제5분과. 제염해체 **구두**

11. 01.(금) 09:00~11:40 / B1F 컨벤션 C

Chair Dongbin Shon [KEPCO E&C], Taewoong Lee [KEPCO KPS]

09:00~09:20 **Geopolymer-Based Encapsulation: A Study on Uranium Immobilization**
Sajid Iqbal, Jong-Il Yun [KAIST]

09:20~09:40 **Underpinning of Corrosion Behavior of Carbon Steel SA106 Gr-B
Between HyBRID and Oxalic Acid**
Kamal Asghar, Miguta Faustine Ngulimi, Sion Kim, Changhyun Roh [UST],
Bum Kyung Seo [KAERI]

09:40~10:00 **Chemical Decontamination Process in a Nuclear Facility**
Miguta Faustine Ngulimi, Sion Kim, Kamal Asghar, Changhyun Roh [UST],
Bum Kyung Seo [KAERI]

10:00~10:20 **Multimodal Approach for Distribution Coefficient Prediction and
Input Feature Importance Analysis**
Seongyeon Na [UNIST], Heewon Jeong, Kyung Hwa Cho [Korea Univ.],
Ilgook Kim, In-Ho Yoon [KAERI]

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

10:40~11:00 Investigating the Solubility of Metal/Metalloid Oxides in Choline Chloride-Based Deep Eutectic Solvents for Selective Recycling of Spent Uranium Catalysts

Kwangseo Kim, Stuart Aberdeen, Woohyun Lim, Shuang Liu, Richard I. Foster, Sungyeol Choi [Seoul Natl. Univ.]

11:00~11:20 New Reference Materials for Quality Assurance/Quality Control in Radioactive Waste Analysis for Nuclear Power Plant Decommissioning

Minju Lee, Yoonhee Jung, Sang-Han Lee [KRISS]

11:20~11:40 Site-Specific Optimization of Radionuclide Remediation Strategies

In-Ho Yoon, Ilgook Kim, Youngho Sihn, Geun-Ho Kim, KwangSeong Jeong, Chan Woo Park [KAERI], Jun-Young Ahn, Seong-Chun Jun, Jong-Hwa Yi [GeoGreen21 Co. Ltd.]

Decommissioning and Environmental Remediation

제5분과. 제염해체 **포스터**

- 전시 10. 31.(목) 09:00~12:00
- 발표 10. 31.(목) 10:00~11:00 / B2F 다이너스티

Reviewer Yusoo Kim [KEPCO E&C], Sang Bum Hong [KAERI]

- 5-P-01 **Laser Cutting Study for Application to Dismantling of Calandria Shells in Heavy Water Reactors**
Jae Sung Shin [KAERI]
- 5-P-02 **Numerical Analysis on Melting Process of Non-combustible Wastes by a Transferred Arc Plasma**
Jun-Ho Seo, Shi-Young Yang, Hyo-Jeong Kim, Dong-Hyun Lee,
Nam-Gi Lee, Son-Woo Kim, Sang-Yun Baek [Jeonbuk Natl. Univ.]
- 5-P-03 **Performance Evaluation of Ion-Exchange Resins Under High-Pressure, Low-Temperature Conditions for Innovative Small Modular Reactor (i-SMR) Systems**
Ukjin Yeo, Stuart Aberdeen, Richard I. Foster, Sungyeol Choi [Seoul Natl. Univ.]
- 5-P-04 **Review of Dose Assessment and DCGL Calculation Process for Decommissioning Nuclear Facilities**
Hyung-Woo Seo, Young-Il Na, Chan-Geun Park, Gang-Woo Ryu [KHNP-CRI]
- 5-P-05 **Remote Monitoring Methodology for Underwater Laser Cutting in Nuclear Facility Dismantlement**
Ikjune Kim, Jonghwan Lee, Jaehyun Ha, Dongjun Hyun, Sungmoon Joo [KAERI]
- 5-P-06 **A Study on Preliminary Considerations for On-Site Dismantling Equipment Preparation and Removal Activities for Planning of Reactor Decommissioning Process**
Haewoong Kim, Kwangsoo Park, Changgyu Kim, Taeseob Lim, Donghun Pak,
Woonyun Choi, Chungsik Lim [Doosan Enerbility]

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- 5-P-07 Introduction to the Decommissioning Cost Estimate Structure of the DeCAT Program**
Chan-Geun Park, Hyung-Woo Seo [KHNP-CRI]
- 5-P-08 Underwater Laser Cutting Process Monitoring Method**
Jonghwan Lee, Dongjun Hyun, Jaehyun Ha, Ikjune Kim, Sungmoon Joo [KAERI]
- 5-P-09 Analysis of Safety Assessment Methodology of Decommissioning NPP by IAEA DeSa Project**
Geon Woo Son, Chang Hee Han, Seung Beom Yoo, Kwang Pyo Kim [Kyung Hee Univ.]
- 5-P-10 Establishment of Infrastructure for Demonstration of Full-System Decontamination Technology**
Do-Yeob Kim, Hyeok-Jae Kim, June-Hyun Kim [KRID]
- 5-P-11 Derivation of Demonstration Requirements for the Introduction of Abrasive Decontamination System for the Decommissioning of Nuclear Power Plants in Korea**
Hyeok Jae Kim, June Hyun Kim, Do Yeob Kim [KRID]
- 5-P-12 A Study on the Evaluation of Cs-137 Adsorption Considering Soil Porosity in the Decommissioned Nuclear Power Plant Site**
Do Won Hyun, Sang Heon Lee, Jong Soon Song [Chosun Univ.]
- 5-P-13 Analysis of SAT Based NPP Decommissioning Education and Training System**
Minhee Kim, Moo keun Song [KRID]
- 5-P-14 Development of a Mobile Decontamination System for Both Modular and On-Site Installation for Radioactive Liquid Waste Treatment at Nuclear Facilities**
Jihyun Kang, Choongsup Byun, Suin Lee, Wonseok Park, Dohyung Kim, Jongyoul Lee [Beautiful Environ. Construction Co., Ltd.], Ilgook Kim, In-Ho Yoon [KAERI]

- 5-P-15 Review on the Parameter Selection Process in the Probabilistic Analysis Using RESRAD on the Site of Decommissioning Nuclear Facilities**
Hyung-Woo Seo, Young-Il Na, Chan-Geun Park, Gang-Woo Ryu [KHNP-CRI]
- 5-P-16 Review of Exposure Pathways for Evaluating Dose of the Site, Buildings, and Nearby Locations When Using the RESRAD Codes**
Hyung-Woo Seo, Young-Il Na, Chan-Geun Park, Gang-Woo Ryu [KHNP-CRI]
- 5-P-17 A Case Study on Measurement Methodology in Planning Phase of Scoping Survey and Characterization Survey**
Hyungi Byun, Jaehoon Byun, Juyub Kim [FNC], Seokyoung Ahn [Pusan Natl. Univ.]
- 5-P-18 Effect of Jahn-Teller Distortion on Iodine Sequestration of CuAl Layered Double Hydroxides**
Jueun Kim, Wooyong Um [POSTECH]
- 5-P-19 Case Study of Characteristics of Radioactive Aerosol Generation Based on Cutting Media and Filtration System**
Donghun Pak, Kwangsoo Park, Chungsik Lim, Changgyu Kim, Haewoong Kim, Woonyun Choi, Taeseob Lim [Doosan Enerbility]
- 5-P-20 Regeneration of Spent Ion Exchange Resin Using a Bipolar Membrane Cell**
Sang Yoon Park, Byung Seon Choi, Shin Yoeng Lee, Byung Gwan Kang, Won Keun Son [Innochemtech]
- 5-P-21 Development of a Mobile Scattering Dust Removal System Using Plasma Technology to Manage Dust Generated From NPP Decommissioning Sites**
Dong-Gyun Lee, SeokYoung Ahn [Pusan Natl. Univ.]
- 5-P-22 A Study on Safe Dismantling Methods and Sequences for Asbestos-Containing Insulation in the Turbine Building of Kori Unit 1**
ChungSik Lim, Kwangsoo Park, Changkyu Kim, HaeWoong Kim, Woonyun Choi, Donghun Pak, Taeseob Lim, Nari Kim [Doosan Enerbility]

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- 5-P-23 Radiation Monitoring Based Radioactive Contaminated Soil Decontamination System**
Seongjoo Kang, Myeonghoon Joo, Sangwook Lee, Youngjoo Song, Doocheol Kim, Sanghyun Jeong, Jiyang So [DSENTEC Inc.]
- 5-P-24 Development of Equipment for Sampling From Radioactive Waste Drums**
Hye Jin Kim, Jung-Min Oh, Wook Jae Yoo, Kyu-Tae Park, Bo-Bae Cho, Sung-Ryul Kim, Ji-Ung Kim, Ba-Ro Lee, Hyun-Young Shin, So-Yun Jeong, Chan-Hee Park [Orbitech Co., Ltd.]
- 5-P-25 Optimization of Decontamination Equipment for the Treatment of Radioactive Waste Generated During Decommissioning of Nuclear Power Plant**
Suk Bon Yoon, Hyun Min Kim, Sukwon Jung, Gangwoo Ryu, Jin-Won Son [KHNP-CRI]
- 5-P-26 Review of Domestic and International Operating Cases for the Establishment of a Decommissioned Radioactive Waste Treatment Facility**
Suk Bon Yoon, Hyun Min Kim, Sukwon Jung, Gangwoo Ryu, Jin-Won Son [KHNP-CRI]
- 5-P-27 Microwave Treatment System for Activated Carbon Radioactive Waste for Upcycling Technology of B₄C Neutron Absorber**
Ki Rak Lee, Hwan-Seo Park, Ga Yeong Kim [KAERI]
- 5-P-28 Separation of Hydrogen Isotopes Using Platinum Incorporated Mesoporous Silica Composite With Hydrophobic Polymer via the Liquid Phase Catalytic Exchange System**
Daeuk Kang, Hyung-Ju Kim [UST], Chan Woo Park [KAERI]
- 5-P-29 Radiological Impact of Radioactive Waste Treatment Facility Accidents During Nuclear Power Plant Decommissioning**
Hyeonyeong Lee, Chang-Lak Kim [KINGS]
- 5-P-30 Analysis of System Decontamination Effectiveness in Different System Decontamination Scope**
Jeseok Song, Chang-Lak Kim [KINGS]

- 5-P-31 The Evaluation of CRUD Inventory in Equipment and Pipes of Decontamination Flow Path Before and After Full System Decontamination (FSD) Using the MicroShield Software Program**
Hyo-kyoung Lee, Chang-Lak Kim [KINGS]
- 5-P-32 A Study on Radiation Shielding Plan of Estimated High Radioactivity Area During Chemical Decontamination in Kori-1**
Taewoong Lee, Seongmin Jo, Kihyun Cho, Kichul Kim, Junghyun Lee, Sunghyun Lee [KEPCO KPS]
- 5-P-33 A Study on Optimization of Monitoring System for Radiation Dose Rate During Chemical Decontamination in Kori-1**
Taewoong Lee, Mikyung Hwang, Seongmin Jo, Kihyun Cho, Kichul Kim, Junghyun Lee, Sunghyun Lee [KEPCO KPS]
- 5-P-34 A Study on Estimation of Collective Dose for Pre-Treatment Workers in Separation Process of a Spent HEPA Filters Using PIMAL Phantom**
Taewoong Lee, Yongho Cho, Seongmin Jo, Kihyun Cho, Kichul Kim, Junghyun Lee, Sunghyun Lee [KEPCO KPS]
- 5-P-35 Preparation of Full System Decontamination of Kori #1 NPP**
Hyun-Jun Jo, Cho-rong Kim, Ji-hwan Yu [KHNP-CRI]
- 5-P-36 Design of the Working Space-Type Vacuum Chamber and the Operating Element Equipment of a Vacuum Induction Melting System**
Sung-Ryul Kim, Jung-Min Oh, Kyu-Tae Park, Ba-Ro Lee, Chan-Hee Park, Bo Bae Cho, Ji-Ung Kim, Hye-Jin Kim, Hyun-Young Shin, So-Yun Jeong, Oh-il Kwon, Wook Jae Yoo [Orbitech Co., Ltd.]
- 5-P-37 Improving Cutting Quality Based on Different Cutting Speeds of SS400 Thick Plate by Optimizing Fiber Laser Pulse Parameters**
Dong-Hyun Kim, Moo-Keun Song, Min-Gyu Choi, Yong-Won Ma, Yong-Guk Son [KRID]
- 5-P-38 Development of Real-Time 3D Gamma-ray Imaging System**
Min Chul Kim, Young Il Na, Ji Hwan Yu [KHNP-CRI]

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- 5-P-39 A Review of the Condition Assessment of Low-Level Waste Containers at the Low-Level Storage Building at Western Waste Management Facility in Canada**
Jin-Won Son, Gang-woo Ryu, Suk-Bon Yoon [KHNP-CRI]
- 5-P-40 A Review on Overseas NPPs DCGL Evaluation of Buried Piping**
Gang Woo Ryu, Young Il Na, Hyung Woo Seo, Kwang Ho Jo [KHNP-CRI]
- 5-P-41 A Study on the Selection of Site-Specific Input Parameter for Overseas NPPs Soil DCGL**
Gang Woo Ryu, Young Il Na, Hyung Woo Seo, Kwang Ho Jo [KHNP-CRI]
- 5-P-42 A Review of the L&ILW Criteria and Management Plan in Canada From Existing International Criteria and Experience**
Jin-Won Son, Gang-woo Ryu, Kyung-ho Roh [KHNP-CRI]
- 5-P-43 A Review on the Process and Construction of Nuclear Power Plants Decommissioning in Domestic and Overseas**
Suk-Won Jung, Suk-Bon Yoon, Hyung-Woo Seo [KHNP-CRI]
- 5-P-44 Radiological Characteristics of Structure and Concrete of the Decommissioning Nuclear Power Plant**
Hyuchang Choi, Jihwan Yu, Hyunmin Kim [KHNP-CRI]
- 5-P-45 Radiological Characteristics of Systems of the Decommissioning Nuclear Power Plant**
Hyuchang Choi, Jihwan Yu, Hyunmin Kim [KHNP-CRI]
- 5-P-46 Preliminary Study on the Evaluation of Radioactive Contamination in Concrete Structures Generated During the Decommissioning of Nuclear Power Plants**
Seongjin Maeng, Sang June Park, Minji Park [KHNP],
Seyoung Yu, Sang Hoon Lee [Kyungpook Natl. Univ.]

- 5-P-47 Comparison of FDP Dose Evaluation Input Data for Kori-1 and Wolsung-1**
Young-Il Na, Hyung-Woo Seo [KHNP-CRI]
- 5-P-48 Review of Plant Design for Preventing Leakage From Radioactive Materials**
Young-Il Na, Hyung-Woo Seo [KHNP-CRI]
- 5-P-49 Fixation of Decommissioning Waste and Measurement Method of Structural Stability at KRR 1&2**
Junhyuck Im, Dooseong Hwang, Junhee Lee, Minyoung Kang, Geun-Ho Kim [KAERI]
- 5-P-50 A Study on the Application of Electrolyte Regeneration-based Electrochemical Decontamination Technology for Clearance of Radioactive Metallic Waste Generated During NPPs Decommissioning**
Jun-Yeol An, June-Hyun Kim, Saebinna Lee [KRID]
- 5-P-51 Evaluation of Calibration Factor for Scan Survey to Identify Area of Elevated Activity in Various Detection Conditions**
Sang Bum Hong, Su Jung Min, Bum Kyoung Seo [KAERI]
- 5-P-52 Dose Assessment Considerations for Subsurface Contamination for Decommissioning Site Release**
Sang Bum Hong, Su Jung Min, Geun Ho Kim, Bum Kyoung Seo [KAERI]
- 5-P-53 Development of a Methodology for Verifying the Plant Inventory Database Quantity Evaluation**
Jin-Yoo, ChangSok Cho, Seonggon Kim, Gyumin Bae [Nucl. Eng. Serv. & Solut.], Sanggyoon Chang [KEPCO E&C], Jongseo Choi [DAEWOO Eng. & Construction Co., Ltd.]
- 5-P-54 Design of a CECE System and Performance Analysis of Hydrophobic Catalysts for Light Water Detritiation**
Chan Woo Park, Daeuk Kang, Hyung-Ju Kim, Hee-Man Yang, Young-Ho Shin [KAERI]

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- 5-P-55 Performance Evaluation of Wet-Proofed Catalysts for Liquid Phase Catalytic Exchange (LPCE)**
 Chan Woo Park, Hyung-Ju Kim, Hee-Man Yang, Young-Ho Shin, Jong-Yun Kim, Sang Ho Lim [KAERI]
- 5-P-56 Case Study of Residual Radioactivity Assessment for Sites Release**
 SuJung Min, GeunHo Kim, BumKyoung Seo, SangBum Hong [KAERI]
- 5-P-57 Stabilization of Residues From the Carbonization Process Using Glass Composite Materials**
 Jaewoong Hwang, Jaseung Koo [Chungnam Natl. Univ.], Keunyoung Lee [KAERI]
- 5-P-58 MCNP Model for Estimation of Radioactivity Source Term in a Pressurized Heavy Water Reactor System**
 Yong Nam Kim, Sanghwa Shin, Chang-Lak Kim [KINGS], Do Hyun Kim [KFE]
- 5-P-59 Three Phase AC (Alternative Current) Arc Plasma Torch System for Treatment of Liquid Radioactive Wastes**
 Dong-Hyun Lee, Nam-Ki Lee, Hae-Won Park, Sang-Yun Paek, Chang-Woo Park, Ye-Gyeom Lee, Jun-Ho Seo [Jeonbuk Natl. Univ.]
- 5-P-60 Effect of Seawater on Distribution Coefficient and Interaction Cesium and Strontium With Clay Minerals**
 In-Ho Yoon, Ilgook Kim, Youngho Sihn, Geun-Ho Kim, KwangSeong Jeong, Chan Woo Park [KAERI]
- 5-P-61 A Review on Example of SSC Recategorization Process for Decommissioning of Nuclear Power Plants**
 Jihwan Yu, Hyunjun Jo, Minchul Kim, Hyuchang Choi, Sukwon Jung [KHNP-CRI]
- 5-P-62 A Study on Groundwater Site Conceptual Model Template for Nuclear Power Plants**
 Jihwan Yu, Hyunjun Jo, Minchul Kim, Hyuchang Choi, Sukwon Jung [KHNP-CRI]

- 5-P-63 An Analysis on Design of an Autonomous System for Radiological Characterization**
Jihwan Yu, Hyunjun Jo, Minchul Kim, Hyuchang Choi, Sukwon Jung [KHNP-CRI]
- 5-P-64 A Study on Enhancing Clearance of Radioactive Spent Activated Carbon From NPPs Through Parameter Optimization Using RESRAD-Onsite**
Seongmin Jo, Taewoong Lee, Kihyun Cho, Heechul Yoon, Kichul Kim, Junghyun Lee [KEPCO KPS]
- 5-P-65 Key Aspects of Demonstrating of Radiation Scanning Robotics in Compliance With the MARSSIM Revisions**
Yong-Won Ma, Se Geun Lee, Dong Hyun Kim, Min Gyu Choi, Yong Guk Son, Moo-Keun Song [KRID]
- 5-P-66 Tensile Test and Fixture Fabrication for Miniature Tensile Specimens**
Wook Sang Jeon, Young Gwan Jin, Young Jun Kim, Seung Je Baik [KAERI]
- 5-P-67 Fabrication of Fixture for Specimen Imaging Inside a Hot Cell**
Wook Sang Jeon, Young Gwan Jin, Young Jun Kim, Seung Je Baik [KAERI]

Radiation Environment and Safety

제6분과: 방사선환경 및 안전 **구두**

10. 31.(목) 15:40~18:00 / B1F 카펠라

Chair Hyojin Kim [DIRAMS], Hyungteak Kim [KAERI]

15:40~16:00 Bioaccessibility of Cs- or/Co- contaminated Media Using in Vitro Assay and Human Biokinetic Modeling

Nurul Syiffa Mahzan, Nur Shahidah Abdul Rashid, Kyungwon Kim,
Wooyong Um [POSTECH]

16:00~16:20 Development of Fast Compton/Coded-Aperture Hybrid Gamma-ray Imaging System

Junyoung Lee, Goeun Lee, Taehyeon Eom, Jaeho Cho, Sehyun Jang,
Chan Hyeong Kim [Hanyang Univ.]

16:20~16:40 Development of Combined 1D & 2D Numerical Model for Hydrological Transport of Radionuclides

Ugyu Jeong, Kiwon Kang, Youjin Oh, Jaeyeong Park [UNIST]

16:40~17:00 Developement of Compound Tritium Protection Mask

You Ha Lee, Se Yup Lee [Korea Nucl. Eng. Co., Ltd.]

17:00~17:20 Dose Conversion Coefficients for Radiation Workers in Various Exposure Scenarios

Min Chae Kim, Sora Kim, Yoomi Choi, Jiyeon Kim, Byung Il Min,
Kyungsuk Suh [KAERI], Chan Hyeong Kim [Hanyang Univ.]

17:20~17:40 Estimation of Residual Fission Product Radioactivity at North Korea's Punggye-ri First and Sixth Nuclear Test Sites
Hongmo Park [KINS]

17:40~18:00 Research on the Development of a Mobile Facility for Radioactive Laundry Waste Treatment Using Surfactants Concentration Technology and Photooxidation Technology
Dong-Yeon Kim, Sung-Hyeon Kim, Do-Hyun Kim [NILEPLANT Co.,Ltd.]

Radiation Environment and Safety

제6분과: 방사선환경 및 안전 **포스터**

- 전시 10. 31.(목) 09:00~12:00
- 발표 10. 31.(목) 10:00~11:00 / B2F 다이너스티

Reviewer Jinhwan Kim [KAERI], Kyung Taek Lim [Sejong Univ.]

- 6-P-01 Design Guideline and Performance Evaluation Methods for Radiation Monitors With Small Size and Light Weight Power Supply**
Sung-Ho Lee [KAERI]
- 6-P-02 Development of the First Principle Model for Fault Detection and Diagnosis on the Heating, Ventilation and Air Conditioning (HVAC) System in the Nuclear Fuel Cycle Facility**
Hyojik Lee, Woo Jin Jo, Sang Jin Park, Seung Nam Yu [KAERI],
Wonseok Oh [Hanbat Natl. Univ.]
- 6-P-03 Effect of Irradiation on Micro Hardness of Baffle Former Bolt Removed From Pressurized Water Reactor**
JinHo Park, Young Gwan Jin, Seong Sik Hwang [KAERI], Seungjin Oh [KHNP-CRI]
- 6-P-04 Development of an Autonomous Mobile Robot for Detecting Harmful Gases and Radiation in Confined Spaces**
YongTae Shin, JongGyu Kim [CROWN Technol. Hold. Co., Ltd.],
WonSeok Kim [POSTECH]
- 6-P-05 Preliminary Field-Test of Main Component Diagnosis System of HVAC Equipment in Fuel Cycle Facility**
Sang-Jin Park, Eui Kwang Jeong, Seungnam Yu [KAERI]

- 6-P-06 Introduce of the Performance Procedures of the Whole Body Counter**
Si Young Kim, YongHo Jin, Jung-Kwon Son [KHNP-CRI]
- 6-P-07 Optimization of the Scintillator Geometry in a Phoswich Detector for Alpha Activity Assessment in Nuclear Emergency**
Jaehun Lee, Hyeonmin Lee, Hee Reyoung Kim [UNIST]
- 6-P-08 Precautions for Using the Internationally Applied Offsite Dose Calculation Code for Nuclear Power Plants (NRCDOSE3) - Suspected Errors and Causes**
In Gyu Chang, Jae Hak Cheong [Kyung Hee Univ.]
- 6-P-09 A Study on U-235 Enrichment Measurement Technique Without Suitable Standard Materials: Challenges, Analysis, and Alternative Methods**
Woojin Kim, Jinho Ryu [KINAC]
- 6-P-10 Development of Safe Handling Facilities and Technologies for Tritium Metering and Dispensing**
Yong-mok Cho, Seung-chul Shin, Soon-hwan Son [AGENCORE CO., Ltd.]
- 6-P-11 Dose Rate Estimation Based on Radioactivity Analysis Scenario in Hot Cell Facility**
SeongHee Park, SeungUk Yoo, MoonOh Kim [KONES Corp.]
- 6-P-12 Development of a TDCR System Using Digital Coincidence Counting**
Tanapol Dachviriyakij [UST], Jong Man Lee, Byoung Chul Kim, Kyoung Beom Lee, Yeong Jae Park, Dong Hye Heo, Tae Hee Kim, Ka-Young Park [KRISS]
- 6-P-13 Biokinetic Modeling of U Based on ICRP Occupational Intakes of Radionuclides**
Hyun Woo Lee, Yoon Sun Chung [Hanyang Univ.], Si wan Noh, Cheol Hyun Kang, Seung Kyu Lee, In Su Chang [KAERI]

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- 6-P-14 Safety Analysis of Radiological Exposure Due to Melting Furnace Explosions in Wolsong Nuclear Power Plant's Radioactive Waste Facility**
Sim-Gwon Wee, Chang-Lak Kim [KINGS]
- 6-P-15 EPR Culture Survey of Emergency Personnel at Nuclear Research Facilities**
Sohyeon Lee, Bongseok Kim, Hyun Ki Kim [KAERI]
- 6-P-16 Derivation of Dose Rate Correction Factor of Mobile Detector According to Scanning Rate**
Hyeonmin Lee, Seung Hun Shin, Hee Reyoung Kim [UNIST]
- 6-P-17 Comparative Review of Overseas Off-Site Dose Calculation Code Status**
Seok-Ju Hwang, Si-Young Kim, Hang-Rae Cho, Jung-Kwon Son [KHNP-CRI]
- 6-P-18 Analysis of Individual-Based Dose Assessment Methods for Public Living Near Nuclear Power Plant**
Byung Min Lee, Jae Seok Kim, Min Seok Park [KIRAMS]
- 6-P-19 Comparison of the Impact for Dose Assessment According to Use the Latest Statistic Data**
Nayun Choi, Soyun Kim [KINS], Jae Hak Cheong [Kyung Hee Univ.]
- 6-P-20 Performance Test Results of Reading Capability for Personal Dosimeters of Nuclear Power Plants Last Five Years**
Si Young Kim, YongHo Jin, Jung-Kwon Son [KHNP-CRI]
- 6-P-21 Development of a VR Training Program for Validation of Internal Contamination Monitoring Standard Operating Procedure (SOP)**
Kihoon Kim, MinSeok Park [KIRAMS]

- 6-P-22 Addressing the Detrimental Impact of Cooling System Malfunction and Long-Term Inactivity on Quantulus 1220 Background Levels**
Myeong Hoon Joo, Sang Hyun Jeong, Young Ju Song, Doo Cheol Kim, Ji Yang So, Seong Joo Kang, Sang Wook Lee [DSENTEC Inc.],
Sung Hyun Joo, Jae Gyeong Choi, Byung In Min [In-je Univ.]
- 6-P-23 Feasibility Assessment of Two Dosimeter Algorithm Based on Machine Learning**
Soo Hyeok Lee, Hwi Joon Jeong, Kyungmin Kim, Kyung Taek Lim [Sejong Univ.],
Hyoungtaek Kim [KAERI]
- 6-P-24 Development of Visualization Algorithms for Monitoring National Radiation Dose Rate Changes in the Event of a Nuclear Accident**
Jae Wook Kim, Min Beom Heo, Hee Kwon Ku, Sang Hun Shin [FNC],
Hyun Jin Boo, Tae Hee Kim, Byung Gi Park [Soonchunhyang Univ.]
- 6-P-25 Design and Assessment of Aerosol Sampling System According to ANSI N13.1 for Nuclear Facilities**
Sung-Ho Lee [KAERI]
- 6-P-26 Development of a Marine Environment Exposure Dose Assessment Model for Marine Radiological Accident**
Sora Kim, Dong-Kwon Keum, Yoomi Choi, Jiyeon Kim, Minchae Kim,
Hyeon-Jeong Kim, Byung-Il Min, Kihyun Park, Kyung-suk Suh [KAERI]
- 6-P-27 A Study on the Thorium in Urine Analysis by ICP-MS Following Nitric Acid Dilution**
Cheol Hyun Kang, Hyun Woo Lee, Jong Il Lee, In Su Chang [KAERI]
- 6-P-28 Enhancing Environmental Monitoring: LTL System Development in PRIDE**
Youngwoo Kwon, YoungSang Lee, Seonho Noh [KAERI]
- 6-P-29 Review of Graded Approach for Environmental Monitoring and Assessment Activities in Nuclear Emergency**
Bongseok Kim, Hyun Ki Kim [KAERI]

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- 6-P-30 Study on Applicability of Smear Paper Through Machine Learning for Beta Nuclide Identification**
Min Ji Kim, Hee Reyoung Kim [UNIST]
- 6-P-31 Monte Carlo Simulations to Investigate the Coincidence Summing Correction Factors for Urine Bioassay**
Kihoon Kim, MinSeok Park, Minsub Kim [KIRAMS]
- 6-P-32 Performance Evaluation of Wireless Communication for Drone-based Aerial Radiation Monitoring System**
Min Beom Heo, Jae Wook Kim, Hee Kwon Ku, Sang Hun Shin [FNC]
- 6-P-33 Reproducing the Asymmetry Vortex of Historical Typhoons Through Best-Track Analysis**
Hyeon-Jeong Kim, Byung-Il Min, Yoomi Choi, Ji Yoon Kim [KAERI]
- 6-P-34 Numerical Simulation of Coastal Debris Movement With Random Walk Tracking Considering Tidal and Meteorological Effects**
Hyeon-Jeong Kim, Byung-Il Min, Yoomi Choi, Ji Yoon Kim [KAERI]
- 6-P-35 Integrating FVCOM With Typhoon Parameter Models for Storm Surge Analysis**
Hyeon-Jeong Kim, Byung-Il Min, Yoomi Choi, Ji Yoon Kim [KAERI]
- 6-P-36 A Methodological Review on the Development of Adsorbents for Extracting Dissolved Resources From Seawater**
Ji Eun Park, Wook Sohn [KHNP-CRI]
- 6-P-37 A Case Study on the Radiological Environmental Monitoring Program for Decommissioning of NPP**
HyunMin Kim, Choi Hyu-Chang [KHNP-CRI]

- 6-P-38 Real-Time Monitoring and Safety Management System for Worker Protection in Complex Nuclear Decommissioning Environments**
MunSu Han, DongCheol Kim, Minyoung Jung, KeunTeag Park, Huigyeong Kim [DAON Technol. Co., Ltd.]
- 6-P-39 Exploring the Utility of U-234/U-238 Ratio in Groundwater at Gyeongju Disposal Facility for Managing Radiation Exposure to Resident**
Seung hyeong Lee, Sang Hun Lee, Eun-Sang Park, Min Seong Kim [KORAD]
- 6-P-40 Environmental Survey and Analysis for Hotspot Localization in the Radiation Areas**
Giyeon Kim, Hyun Young Kim, Yewon Kim, Myungsoo Kim, Jaeyeong Jang, Heejun Chung [KINAC]
- 6-P-41 Study on the Quench Correction Curves for Low Level Tritium Measurement**
Seongkyeong Cho, Jong Man Lee [UST], Kyoung Beom Lee, Yeong Jae Park, Dong Hye Heo, Tae Hee Kim, Byoung Chul Kim [KRISS]
- 6-P-42 A Study on Self-Absorption and Coincidence Summing Correction Factors for Soil Sample**
Ka-Young Park, Jong Man Lee, Kyoungbeom Lee, Tae Hee Kim, Dong-Hye Heo, Yeong Jae Park, Byoung-Chul Kim [KRISS]
- 6-P-43 Gaseous Tritium Light Sources (GTLs) Testing Facility Construction**
Sung-Hoon Jung, Seung-chul Shin, Soon-hwan Son [AGENCORE CO., Ltd.]
- 6-P-44 Comparison of Storm Surge Simulations of Identical Typhoons Using Prediction Systems Developed by Different Institutions**
Byung-Il Min, Hyeon-Jeong Kim [KAERI], Hwa-Young Lee [KHOA], Hyoung-Seong Park [NDMI]

Radiochemistry and Nuclear Chemistry

제7분과. 방사화학 **구두**

11. 01.(금) 09:00~11:40 / 2F 아제나&리겔

Chair Sang-Han Lee [KRISS], Hee-Kyung Kim [KAERI]

Invited Speaker

09:00~09:20 Opportunities and Challenges in Developing Technology for Uranium Extraction From Seawater

Wook Sohn, Jieun Park [KHNP-CRI]

09:20~09:40 Fabrication of Electrospun Nanofibrous Adsorbents for Radioactive Nuclides and Useful Element

YoungWoong Kim, Hyunseok Kim, Geun Tae Pak, Sihyun Kim, Tae Hyeon Kim, Keun-Woo Lee, Taek Seung Lee [Chungnam Natl. Univ.], Hee-Man Yang [KAERI]

09:40~10:00 Comparative Effects of Organic and Inorganic Ligands on Uranium Release From Uranophane

Salkenova Zarina, Wooyong Um [POSTECH]

10:00~10:20 Visible-NIR Absorption Spectroscopic Investigation on the Formation of Calcium Neptunyl(VI) Tricarbonate Complex

Hyeongjin Kim, Yongheum Jo [Hanyang Univ.], Seonggyu Choi, Sangki Cho, Hee-Kyung Kim, Hye-Ryun Cho [KAERI]

10:20~10:40 Break Time

10:40~11:00 Burnup Determination of HAMP by Chemical Methods

Hyejin Cho, Namuk Kim, Yang-Soon Park, Minjae Ha, Tae-Hong Park,
Hye-Ryun Cho, Jai Il Park [KAERI]

**11:00~11:20 Study on the Characterization of Colloidal Particles in
Groundwater Using LIBD and NTA Techniques**

Euo Chang Jung, Sang-Ho Lee, Wansik Cha, Kyeong Min Lee, Hye-Ryun Cho,
Hee-Kyung Kim [KAERI]

11:20~11:40 ANN-Based Pulse Shape Discrimination in KAERI-NDP System

Hwijoon Jeong, Kyung Taek Lim [Sejong Univ.],
Jinhwan Kim, Junhyeok Kim, Byunggun Park [KAERI]

Radiochemistry and Nuclear Chemistry

제7분과: 방사화학 포스터

- 전시 10. 31.(목) 15:00~18:00
- 발표 10. 31.(목) 16:00~17:00 / B2F 다이너스티

Reviewer Junhyuck Kim [KAERI], Jeongmook Lee [KAERI]

7-P-01 Study of Radiochemical Separation of Pu and Am Isotopes in Metal Samples With Anion Exchange Resin and TRU Resin

Myung Ho Lee, Hee Seung Lim, Young Jae Maeng, Chang Hoon Lee [KRIST],
Myeong Pil Kim [Korea Standards Anal. Corp.]

7-P-02 Electrochemical Approaches to the Study of Metal Redox Reactions in Molten Hydroxide Mixtures

Suhyeon Lee, Hyunjin Boo, Suhyun Kim, Sunkyung Park, Tae Hee Kim,
Byung Gi Park [Soonchunhyang Univ.]

7-P-03 Chemical and Electrochemical Pretreatment of Radioactive Elements for Analysis of Radioactive Waste

Sang-Eun Bae, Chan-Yong Jung, Jeong Eun Kim, Hwakyung Jeong,
Junhyuck Kim [KAERI]

7-P-04 Development of a Separation Method for Metallic Radionuclides in Low and Intermediate Level Radioactive Waste

Jieun Choi, Soo Bin Park, Seungil Park [Orbitech Co., Ltd.]

7-P-05 Thermal Oxidation of Non-Stoichiometric Uranium Oxides and Decomposition of Uranyl Nitrate Hexahydrate at High Temperatures

Hyeonjin Eun [KAIST], Hyolee Kim [Jeju Natl. Univ.], Kyeongtae Park,
Jaeyeon Park [UNIST], Hyeongjin Kim, Yongheum Jo [Hanyang Univ.],
Kwangheon Park [Kyung Hee Univ.], Won Pyo Jeong, Seungyeon Choi [KONICOF]

- 7-P-06 Validation of Sr-90 Separation and Quantification by Carbonate Precipitation in Radioactive Waste**
YunHan Lee, DongGyu Lee, JunHwi Bang, Chang Ryong Lee, Heung Nae Lee, JeongSoo Kim [Korea Standards Anal. Corp.]
- 7-P-07 Facile Hydrothermal Synthesis of Magnetic Prussian Blue/Maghemite Composite for Selective Cesium Ion Removal**
Hye Ran Noh, Youngjin Cho, Dong-Woo Lee, Tae-Hyeong Kim, Jeongmook Lee, Jong-Yun Kim, Tae-Hong Park, Sang Ho Lim [KAERI], Kyung-Tae Ko [KBSI]
- 7-P-08 Raman and FTIR Spectroscopic Studies of Uranophane and Sklodowskite as Solubility-limiting Solid Phases in Oxidic Groundwater**
Wansik Cha, Hye-Ryun Cho, Hee-Kyung Kim, Euo Chang Jung [KAERI]
- 7-P-09 Validity Verification for ^{129}I Separation and Quantitative Methods**
DongGyu Lee, HyoWon Kim, KwyHwan Cho, KyoungHo Han, JeongSoo Kim, KeChon Choi [Korea Standards Anal. Corp.]
- 7-P-10 Shielded Window Maintenance of KAERI Chemical Hot Cell**
Min-jae Ha, Hyung Kwon Lee, Hye-Ryun Cho, Jai Il Park [KAERI]
- 7-P-11 Separation of Niobium in Radioactive Waste Samples by Precipitation of Iron(III) Hydroxide**
Kwang Soon Choi, Seung-chul Park, Heejin Ahn, Mee Suk Song [Green Radiation Co., Ltd.], Kyunghun Jung, Jungbo Yoo [KAERI]
- 7-P-12 Disadvantages of the Sequential Separation for Nonvolatile DTM Nuclides**
Kwang Soon Choi, Seung-chul Park, Heejin Ahn, Mee Suk Song [Green Radiation Co., Ltd.]
- 7-P-13 Comparative Analysis of Treatment Efficiency Based on Conditions of Radioactive Liquid Waste High-Speed Treatment System Using Nano-Catalyst**
So-Yun Jeong, Hyun-Young Shin, Wook-Jae Yoo, Chan-Hee Park, Bo-Bae Cho, Sung-Ryul Kim, Jung-Min Oh, Ba-Ro Lee, Ji-Ung Kim, Hye-Jin Kim, Kyu-Tae Park [Orbitech Co., Ltd.], Seung-Joo Lim [KAERI]

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- 7-P-14 Method Validation of Iodine-129 Radiochemical Analysis in Metal Samples**
Kwangeun Lee, Sora Choi, Jung Bo Yoo, Mun Ja Kang [KAERI]
- 7-P-15 Evaluation of Pre-Treatment Process for the Determination of Radionuclides in Soil Waste**
Jung-Weon Choi, Jung Bo Yoo [KAERI]
- 7-P-16 Sequential Separation Method for H-3 and C-14 Isotopes Using a Distillation Apparatus**
Hee Seung Lim, Myung Ho Lee, Young Jae Maeng, Chang Hoon Lee [KRIST]
- 7-P-17 DFT-Enhanced Deep Learning Model for Predicting Ion Interaction Coefficients of Specific Ion Interaction Theory**
Sangki Cho, Hye-Ryun Cho [KAERI]
- 7-P-18 Formation of Salt Droplets From Molten MgCl_2 -NaCl Salt by Helium Bubbling**
Dokyu Kang, Yong Zun Cho, Chang Hwa Lee [KAERI]
- 7-P-19 Purification and Measurement of Oxygen/Oxide Level in MgCl_2 Containing Molten Salt**
Dongjun Shin, Taeho Kim, Changhwa Lee [KAERI]
- 7-P-20 Catalyst Performance Test System for the Production of Enriched Heavy Water**
Hye Jin Cho, Nguyen Van Toan, Chan Woo Park, Dong Woo Lee, Junghwan Park, Sang Ho Lim, Jong-Yun Kim [KAERI]
- 7-P-21 Comparison and Evaluation of Pre-Treatment Methods for Chemical Separation of Sr-90 and Tc-99 Difficult-to-Measure Radionuclides in Decommissioning Waste**
Eunmi An, Homyong Lee, Yeong Su Ha [KRID]

- 7-P-22 Measurement of Uranium Concentration Using Time-Resolved Laser Fluorescence Spectroscopy (TRLFS) (Program for Fostering Convergence of Human Resources in Back-end Nuclear Fuel Cycle 2024)**
Jeongbeen Lee [Dongguk Univ.], Byungdoo Kang [Kyung Hee Univ.], Seungmo Yeon, Jisoo Jung, Jong-Il Yun [KAIST]
- 7-P-23 Study on the TCS Effect According to Sample Location in Gamma Nuclide Analysis of Low- and Intermediate Level Radioactive Waste**
Seok Han Kim, Junghyun Park, Seung-Ho Lee, Yeong-su Ha [KRID]
- 7-P-24 Characterization of Uranyl Nitrate Solution With Laboratory-Based EXAFS (Program for Fostering Convergence of Human Resources in Back-end Nuclear Fuel Cycle 2024)**
Minsik Jeon [Sejong Univ.], Seokjoo Yoon, Jong-Il Yun [KAIST]
- 7-P-25 A Study on the Analysis Results of Spent Activated Carbon From Nuclear Power Plants**
Ji Eun Park, Kahee Jeong, Sooyeon Lim, Yujeong Shin, Wook Sohn [KHNP-CRI]
- 7-P-26 Electrochemical and Physical Behaviors of $ZrCl_4$ in Molten NaCl-KCl Salt**
Kyeongtae Park, Jaeyeong Park [UNIST]
- 7-P-27 Processing of Individual Particle Data for True Coincidence Summing Evaluation in Gamma-ray Detection Using MCNP 6.3**
Kyunghun Jung, Simon Oh, Woojin Jo, Jung Bo Yoo [KAERI]
- 7-P-28 Evaluation of the Representativeness and Accuracy of Cold-Finger Method for Molten Salt**
Dongmin Kim, Jihye Park, Hyeongbin Kim, Wonseok Yang, Sungyeol Choi [Seoul Natl. Univ.]
- 7-P-29 A Study of Gamma MDA Reduction in Accordance With Cobalt Removal in Radioactive Spent Resin**
Sooyeon Lim, Kahee Jeong, Ji-eun Park, Wook Sohn [KHNP-CRI]
- 7-P-30 Modeling of HPGe System Based on Monte Carlo Simulation**
Kahee Jeong, Sooyeon Lim, Ji Eun Park, Wook Sohn [KHNP-CRI], Young-Su Kim [KAERI]

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- 7-P-31 Evaluation of Gross Alpha Radioactivity by Spillover**
Kahee Jeong, Sooyeon Lim, Ji Eun Park, Wook Sohn [KHNP-CRI]
- 7-P-32 Preliminary Test of Gamma and Gross Alpha Specific Radioactive Evaluation for Low-Radioactivity Waste Resin Disposal**
Kahee Jeong, Sooyeon Lim, Ji Eun Park, Wook Sohn [KHNP-CRI]
- 7-P-33 Effects of Radiolysis Products on pH Changes in Iodine and Organic Acid Solutions**
Jei-Won Yeon [KAERI]
- 7-P-34 Electrochemical Analysis of Uranium Intermetallic Compounds in Molten LiCl-KCl Salts (Program for Fostering Convergence of Human Resources in Back-end Nuclear Fuel Cycle 2024)**
Gun-Woo Yoon [Hanyang Univ.], Kwangseo Kim [Seoul Natl. Univ.],
Jae-An Lee [Sejong Univ.], Han-Min Lee [Kyung Hee Univ.],
Jun Woo Park, Jong-Il Yun [KAIST]
- 7-P-35 Synthesis and Analysis of C-S-H Colloids Using Multi-Angle Dynamic Light Scattering and Electrophoretic Light Scattering (Program for Fostering Convergence of Human Resources in Back-end Nuclear Fuel Cycle 2024)**
Gyutaek Kang [Sejong Univ.], Eunbi Kang, Jihu Lee [Dongguk Univ.],
Chongmyung Jin [Seoul Natl. Univ.], Hyeonjin Eun, Seungwoo Lee, Jong-Il Yun [KAIST]
- 7-P-36 Estimating the Electroneutrality of Fission Products in Molten Chloride Fast Reactor**
Seokjoo Yoon, Jun Woo Park, Hyeonjin Eun, Jong-Il Yun [KAIST]
- 7-P-37 Solvent Effects on Electrochemical Reduction of U(VI) to U(IV) in Nitric Acid and Perchloric Acid Solutions**
Sehwa Bae [Chungnam Natl. Univ.], Seungwoo Lee, Hyeonjin Eun, Jun Woo Park,
Jong-Il Yun [KAIST]
- 7-P-38 New Methodology for Describing Oxidizing Condition of Used Chloride-based MSR Salt**
Ju Ho Lee, Chang Hwa Lee [KAERI]

- 7-P-39 Characterization of Soil-derived Colloids in the Aquatic Environment: Colloid Stability Depending on Clay Minerals and Solution Chemistry**
Kyeong Min Lee, Youngbeom Kim, Su Chang Kim, Hye-Ryun Cho, Sang-Ho Lee, Hee-Kyung Kim [KAERI]
- 7-P-40 Measurement of Rheological Characteristics of Various Molten Salt**
Hyeoneui Hong, Taehoon Park, Wonseok Yang, Jihun Kim, Sungyeol Choi [Seoul Natl. Univ.]
- 7-P-41 Evaluation of True Coincidence Summing Effects With Varying Detection Geometry in Gamma-Spectroscopy**
Junhyuck Kim, Hye-Ryun Cho, Jae Il Park [KAERI]
- 7-P-42 Development and Implementation of Laboratory Information Management System (LIMS) for Enhancing Analysis Reliability in KHNP CRI**
Sooyeon Lim, Kahee Jeong, Ji-eun Park, Wook Sohn [KHNP-CRI]
- 7-P-43 Development of an Automated Platform for Reliable Data Collection in Molten Salt Experiments**
Saehyun Choi, Jihun Kim, Wonseok Yang, Taehoon Park, Richard I. Foster, Sungyeol Choi [Seoul Natl. Univ.]
- 7-P-44 Corrosion Behavior of Inconel 625 in NaCl-KCl-MgCl₂ Molten Salt: Effects of Heat Treatment and Electrochemical Dehydration**
Joonha Park, Kyeongtae Park, Jaeyeong Park [UNIST]
- 7-P-45 Preliminary Study on Analytical Methods for Fe and Ni in Radionuclide Analysis of Radioactive Waste**
Homyung Lee, Eunmi An, Yeong su Ha [KRID]
- 7-P-46 Development of a Monitoring and Detection System for Sodium Leaks in Sodium-Cooled Fast Reactors (SFR)**
Beom Kyu Kim, Geun Dong Song, Seung Heon Baek, Jeong Ho Hwang, Yeong Ho Son, Jae Hun Lee [FNC]

7-P-47 Activity Standardization of ^{55}Fe by the Triple-to-Double Coincidence Ratio Method

Agung Agusbudiman, Kyoung Beom Lee, Jong Man Lee [UST],
Byoung Chul Kim, Dong Hye Heo, Tae Hee Kim [KRISS]

7-P-48 Comparison of Wet Oxidation and Combustion Methods for the Analysis of Tritium and ^{14}C in Concrete Samples

Sora Choi, Kyungwon Suh, Jung Bo Yoo [KAERI]

7-P-49 Optimization of Combustion Temperature for the Analysis of Tritium and ^{14}C

Sora Choi, Mun Ja Kang, Jung Bo Yoo [KAERI]

7-P-50 Bayesian Approach to Periodic Validation of Scaling Factors

Wook Sohn, Jieun Park, Sooyeon Lim, Kahee Jeong [KHNP-CRI]

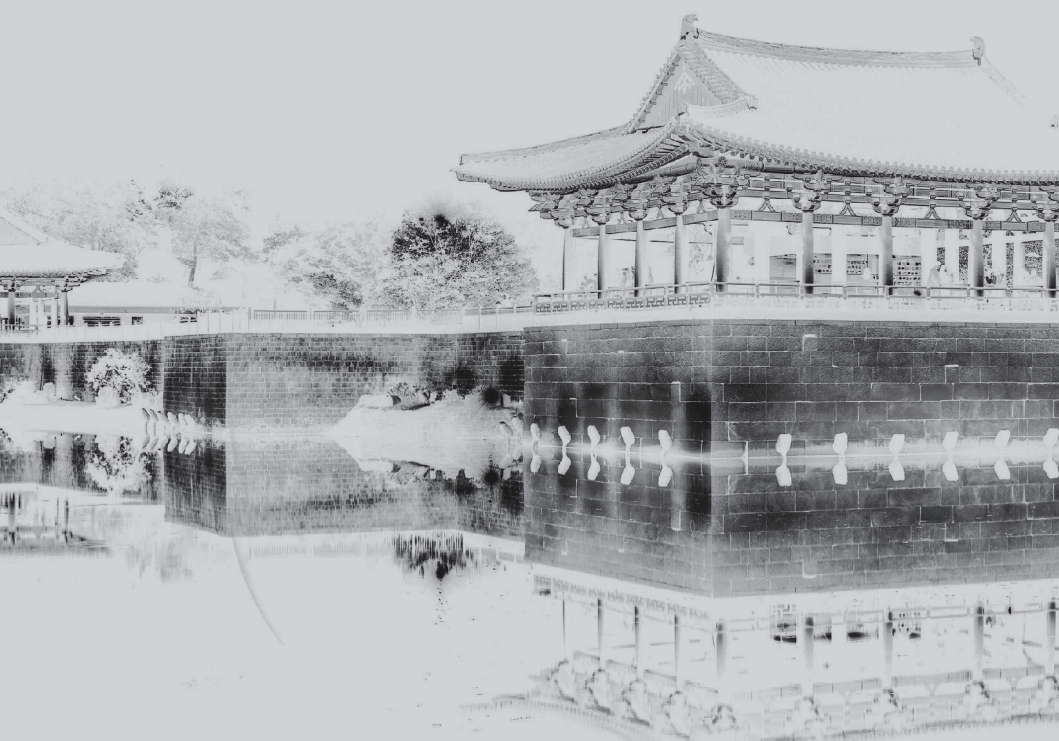
7-P-51 Colorimetric Quantification of Eu(III) in Superheated and Pressurized Aqueous System

Ranyeong Choi, Jun-Yeop Lee [Pusan Natl. Univ.]

7-P-52 Development and Verification of a Radiometric Analysis Method for Sn-113 in RI Waste From Non-Nuclear Industries

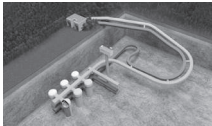
Sangjun Han, Bogil Kim, Yongju Shin, Hyegyeong Ha, Junseok Kim,
Wooju Hong [RMTEC Co., Ltd.], Taeyong Noh, Daehee Kim [WITTECH]

Technical Tour



중·저준위 방사성폐기물 처분시설 견학

- ◆ 일 시 2024. 11. 01.(금)
- ◆ 장 소 경북 경주시 문무대왕면 동해안로 1249(봉길리 58)
- ◆ 신청방법 추계학술발표회 웹페이지 - Program - Technical Tour - '견학신청 바로가기'
- ◆ 참가대상 워크숍 또는 학술발표회 등록자 [선착순 마감] ※ 인원 : A팀 20인 (오전), B팀 20인 (오후)
- ◆ 처분시설 주요 견학 정보

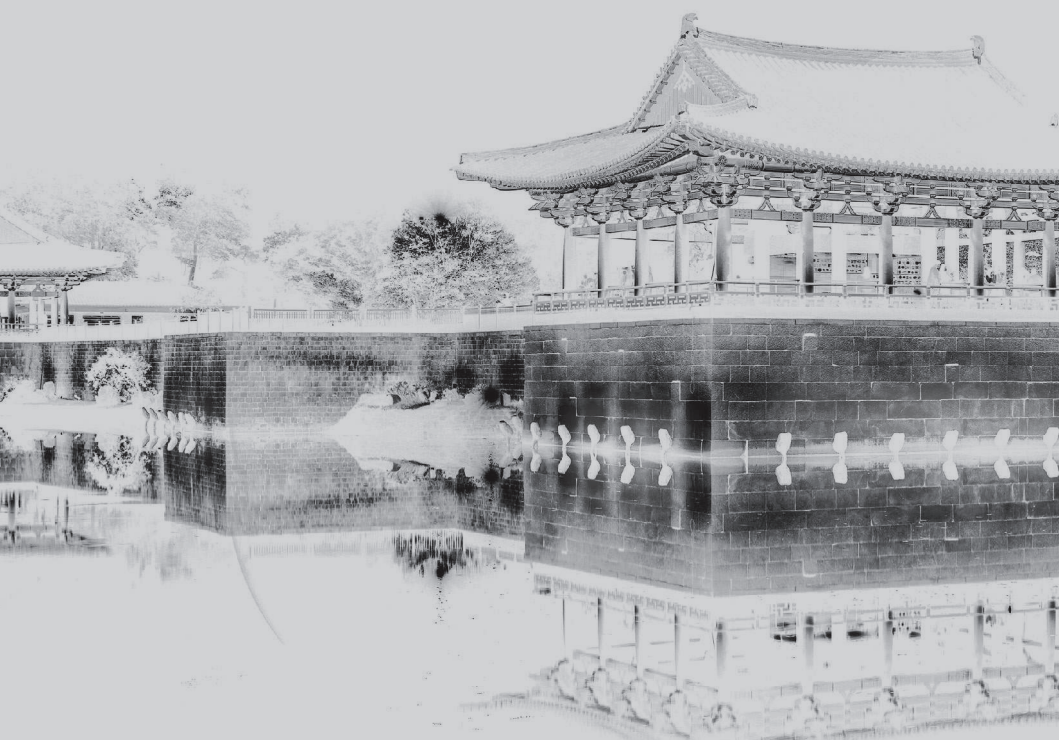
장 소	주요내용	조 감 도	소요시간
코라디움	처분시설 소개 및 방사선 안전교육		20분
지상지원시설	방폐물 인수·검사·저장 시설견학		25분
1단계 동굴처분시설	진입동굴, 사일로 견학 (방사선관리구역)		35분
2단계 표층처분시설	건설현장 견학		20분

◆ 처분시설 견학프로그램 일정(안)

구 분	시 각	소요시간	내용
A 오전견학	09:20 ~ 10:00	40분	이동(행사장 → 코라디움)
	10:00 ~ 11:40	100분	중저준위 방폐물 처분시설 견학
	11:40 ~ 12:20	40분	이동(코라디움 → 행사장)
B 오후견학	13:20 ~ 14:00	40분	이동(행사장 → 코라디움)
	14:00 ~ 15:40	100분	중저준위 방폐물 처분시설 견학
	15:40 ~ 16:20	40분	이동(코라디움 → 행사장)

※ 견학 방문 시 신분증(여권 등) 필수 지참

Parallel Events



한국원자력환경공단(KORAD)

2024 방사성폐기물관리 연차보고대회

- ◆ 일 시 2024.10.31.(목) 10:00
- ◆ 장 소 경주 라한셀렉트 컨벤션 B+C
- ◆ 주 관 한국원자력환경공단

◆ 일정 및 내용

10:00	개회사 및 축하	조성돈 이사장 [KORAD] 김진 국장 [산업부] 정재학 회장 [KRS]
10:20	방폐물관리사업 성과 발표 (사업 성과 및 혁신전략/동반성장)	한동훈 팀장 [KORAD] 최용석 팀장 [KORAD]
10:45	시상식 - 방사성폐기물 관리 유공자 표창 장관상 (10인), 이사장상 (5인) - 인력양성사업 우수자 시상 장관상(1인), 이사장상 (2인), 학회장상 (1인)	<시상> 조성돈 이사장 [KORAD] 김진 국장 [산업부] 정재학 회장 [KRS]
10:55	기념 촬영	

한국원자력환경공단(KORAD)

고준위방폐물 관리 전문인력 양성 특별세션(학생 포스터 발표)

◆ 전 시 10. 30.(수) 15:00~18:00

◆ 발 표 10. 30.(수) 15:30~17:00 / B1F 컨벤션 Foyer

◆ 발표논문

KORAD-P-01 Criticality and Shielding Assessment for Deep Disposal Facilities Based on Horizontal Disposal

Nak Woong Yang, Min Sik Jeon, Ji Hwan Ma, Seok Geun Cho.
Chang-Je Park [Sejong Univ.]

KORAD-P-02 Scenario and Modelling of Concrete Deterioration Using GoldSim for Radioactive Waste Management

Yong Hee Han, Sang Ryeol Yoon, Dong Geon Jang, Jun Yeong Park,
Hyun Jin Yu, Ki Tae Yang, Jong Soon Song [Chosun Univ.]

KORAD-P-03 Feasibility of Time-Series InSAR for Monitoring the Stability of Underground Disposal Facility

Joonbeom Park, Seonjae Yoo, Jin Chon, Taewook Kim, Hyangsun Han,
Woodon Jeong [Kangwon Natl. Univ.]

KORAD-P-04 Improving Seismic Imaging Using Unsupervised Anomaly Detection

Chanha Park, Jaehoon Cho, Junhyun Kim, Chanhee Lee,
Woodon Jeong [Kangwon Natl. Univ.]

KORAD-P-05 Fractures Development History and Paleostress Change in the Gijang Coastal Outcrops

TaeYong Hyun, Minkyu Kim, and Young-Seog Kim [Pukyong Natl. Univ.]

KORAD-P-06 Calcium Carbonate Minerals for Sr Ionic and Mineral Substitution: Experiments and Quantum Mechanical Modeling

DongHoon Kim, TaeWoong Son, YoungJae Kim [Pukyong Natl. Univ.]

KORAD-P-07 Establishing a Social Safety Net for High-Level Radioactive Waste

Seo Jin Choi, Min Ji Kim, Jun Hee Kim, Yeon Jung Ryu, Eun Gyeong Park,
Hea In Shin, Yeo Jin Jeong, Min Woo Jeon, Jung Hoon Kim,
Yeon Hee Kang [Catholic Univ. of Pusan]

KORAD-P-08 Establishing a Safety Culture for High-Level Radioactive Waste

Hyo Won Lee, Jun Young Kwon, Ri Yun Kim, Su A Park, Si Eun Park,
Seong Min Shin, Ji Hyeong Lee, Chae Yeon Lee, Sung Hee Yang,
Yong In Cho [Catholic Univ. of Pusan]

KORAD-P-09 The Impact of Residents' Self-Determination on Coping Behavior in Radioactive Waste Disposal Facility Siting: An Analysis of the Moderating Effect of Social Capital

Ji-Hwan Oh, Seong-Hyeon Kim, Ha-Eun Lee, Dong-Jin Jeong,
Eun-Young Hong [Ajou Univ.]

KORAD-P-10 A Study on the Effectiveness of Nuclear Energy-Related Education: Application of the Pre-Post Control Group Comparative Experimental Method

Yun-Ah Pi, Sih-Yein Lee, Sun-young Lee, Hyo-I Yoo, Hye-Ji Han [Ajou Univ.]

KORAD-P-11 A Multidimensional Acceptance of High-Level Radioactive Waste Disposal Facility Siting: Focusing on Reluctant Acceptance

Ye-Seo Yang, Su-Been Park, Hyun-Bi Ahn, Tae-Yeong Kim, Hye-Ji Han [Ajou Univ.]

KORAD-P-12 Research on the Formation Mechanisms of NIMBY (Not In My Backyard) Attitudes: Focusing on the Case of a High-Level Waste Repository

Chae-Eun Lee, Jeong-Woo Park, Min-Hee Kim, Jun-Hyuk Choi,
Eun-Young Hong [Ajou Univ.]

KORAD-P-13 An Exploration of the Factors Influencing Changes in the Acceptance of Nuclear Power Plants and High-Level Radioactive Waste Disposal Facilities

Myeong-Seong Kim, Jin-Seong Kim, Min-Seok Jang, Seok-Hwa Jeong,
Chang-Geun Yun [Ajou Univ.]

사용후핵연료관리핵심기술개발사업단(iKSNF)

R&D 우수성과 발표회

- ◆ 일 시 2024. 10. 31.(목) 11:00
- ◆ 장 소 경주 라한셀렉트 2F 아제나
- ◆ 주 관 사용후핵연료관리핵심기술개발사업단

◆ 일정 및 내용

11:00	개회 및 프로그램 안내	이다원 [iKSNF]
11:05	인사말	김경수 단장 [iKSNF]
11:10	프로세스 기반 종합성능평가 체계(APro) 통합코드 베타버전 1.0 구축	김정우 [KAERI]
11:20	사용후핵연료 저장용 캐니스터의 용접부 잔류응력 저감을 위한 버닝 공정장치 개발	조상순 [KAERI]
11:30	처분환경변화에 따른 벤토나이트 특성 평가 체계 구축	류지훈 [KAERI]
11:40	중수로 건식저장시설 사일로(캐니스터) 내부검사시스템 개발	나태형 [KHNP-CRI]
11:50	질의응답	
12:00	사업단 과제 품질관리 방안 (실태점검 운영 계획 설명)	오현석 [iKSNF]
12:20	질의응답	
12:30	폐회	

한국수력원자력(KHNP)

중·저준위 방사성폐기물 처리·처분 마스터플랜 설명회

- 일 시 2024.10.31.(목) 15:30
- 장 소 경주 라한셀렉트 컨벤션 A
- 주 관 한국수력원자력(KHNP)

일정 및 내용

15:30	인사말	오영석 [KHNP]
15:35	‘24년도 중·저준위 방폐물 마스터플랜 신규사업 추진 경과 발표 • 마스터플랜 간략소개(추진체계/처리사업 육성) • ‘24년도 방폐물 처리환경 조성 및 사업참여 유도성과 • ‘24년도 마스터플랜 핵심과제 수행 결과 및 ‘25년 과제 설명 • 현장 토의 내용 종합	염준기 [KHNP]
16:45	Break Time	
	세부 추진 과제 발표	
17:00	• 중·저준위 방사성폐기물 생태계 활성화 추진계획 • 중·저준위 방폐물 처분장 활용도 제고를 위한 처분 적합성 확보 방안 • 자체처분 추진 현황 및 활성화 계획 • 고선량 폐필터 처리 계획 • 대형 콘크리트 드럼 처리 및 처분적합성 평가 기술개발	정현우 [KHNP] 박상준 [KHNP] 김기정 [KHNP] 남준석 [KHNP] 황영환 [KHNP]

The 15th Technical Information Exchange Meeting on Decommissioning and Waste Management (Closed Meeting)

- ◆ **Date** 2024. 10. 30.(Wed.) 13:15 ~ 2024.11. 01.(Fri.) 12:00
- ◆ **Venue** Capella Hall, Lahan Select, Gyeongju
- ◆ **Organized by** KAERI (in conjunction with KORAD)

Program I

2024. 10. 30.(Wed.) 13:15 ~ 18:00

Program II

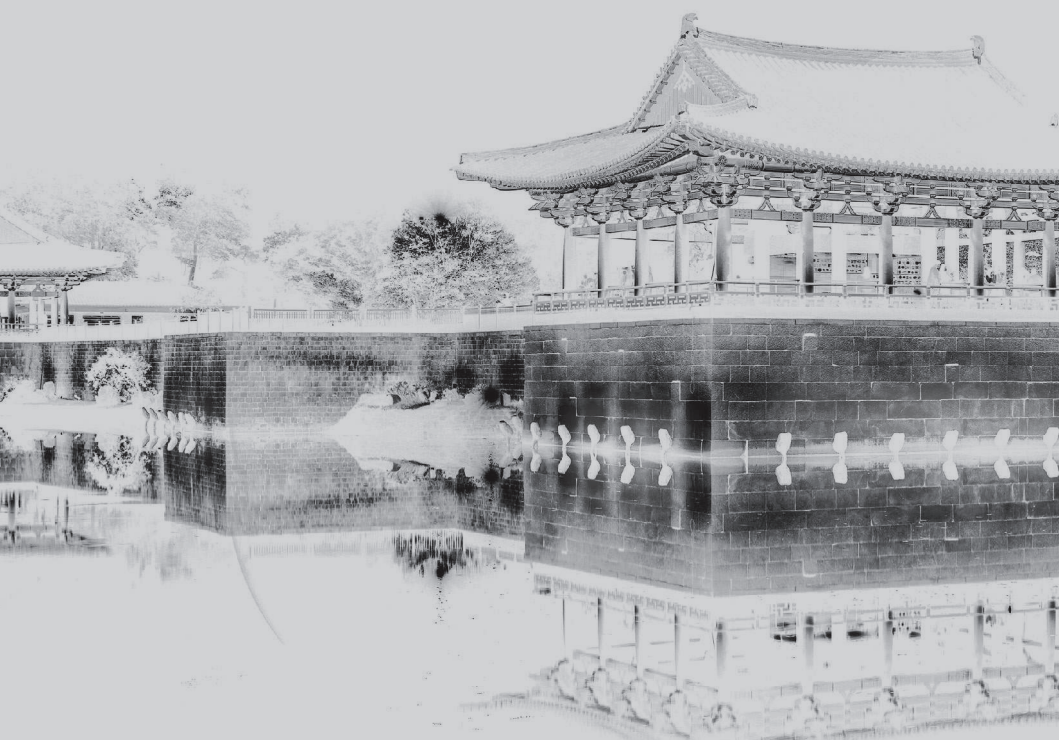
2024. 10. 31.(Thr.) 9:00 ~ 12:00

Program III

2024. 11. 01.(Fri.) 10:00 ~ 12:00

- ◆ **Registration Fee**
- KRW 200,000

General Information



01 행사장소

- ◆ 위치 경북 경주시 보문로 338 라한셀렉트 경주
- ◆ Tel 054-748-2233
- ◆ 홈페이지 <https://www.lahanhotels.com/gyeongju/ko/main.do>



02 교통편

◆ 자가차량 이용

출발지	소요시간	운행 경로
서울	약 4시간 30분	영동고속도로 → 중부내륙고속도로 → 상주영천고속도로 → 경주IC → 경주 라한호텔
대전	약 2시간 30분	대전IC → 경부고속도로 → 경주IC → 경주 라한호텔
부산	약 1시간 30분	경부고속도로 → 경주IC → 경주 라한호텔

◆ 열차편

운행구간	열차종류	운행시간(주중)	소요시간	요금(원)	
				특실	일반실
서울-경주	KTX	05:13~21:33 하루 27회 운행	2시간 15분	69,000	49,300
부산-경주	KTX	05:20~22:10 하루 21회 운행	35분	15,800	11,000
대전-경주	KTX	06:14~22:04 하루 22회 운행	1시간 5분	36,100	25,800
	SRT	06:30~23:34 하루 16회 운행	1시간 5분	33,300	22,900

◆ 경주 → 라한호텔 이동방법

1. 버스: 약 1시간 소요

- 경주역에서 50번 버스 승차 → 시외버스·고속버스터미널정류장 하차 → 10번 버스 승차
- 경주역에서 710번 버스 승차 → 라한셀렉트·테디베어박물관 하차 → 도보로 219m 이동

2. 택시: 약 30분 소요 (요금 약 25,000원)

◆ 버스편

운행구간	운행시간(주중)	소요시간	요금(원)	
서울(경부)-경주	첫차 07:00 ~ 막차 18:10 (하루 7회 운행)	3시간 35분	우등	프리미엄
경주-서울(경부)	첫차 06:30 ~ 막차 21:30 (하루 11회 운행)		33,400	41,400
부산(종합)-경주	첫차 06:20 ~ 막차 22:00 (하루 50회 운행)	50분	일반	우등
경주-부산(종합)	첫차 07:00 ~ 막차 22:40 (하루 50회 운행)		6,000	7,700

◆ 경주시외버스터미널 → 라한호텔 이동방법

1. 버스 : 약 1시간 소요

- 경주역에서 50번 버스 승차 → 시외버스·고속버스터미널정류장 하차 → 10번 버스 승차
- 경주역에서 710번 버스 승차 → 라한셀렉트,테디베어박물관 하차 → 도보로 219m 이동

2. 택시 : 약 30분 소요 (요금 약 25,000원)

※ 별도의 셔틀버스 운행하지 않으며, 위의 정보는 변동이 있을 수 있음.

03 숙박

◆ 학회 회원가 제공호텔

호텔명	주소	객실타입	금액	예약마감
경주 라한호텔	경북 경주시 보문로 338 라한셀렉트 경주	디럭스 트윈룸(힐뷰)	140,000	10월 11일 (금)까지 (선착순 마감)
		디럭스 트윈룸(레이크뷰)	180,000	
		패밀리 트윈룸(힐뷰)	160,000	
		패밀리 트윈룸(레이크뷰)	200,000	

◆ 숙박 예약 안내

1. 신청방법 : 학술발표회 홈페이지(conf.krs.or.kr) - General Information - Hotel
- 숙박예약신청서 다운로드 및 작성 - 이메일 송부 신청
2. 문 의 처 : Tel. (02)2204-9627 E-mail. ysho0113@lahanhotels.com

◆ 취소시 위약금 안내

- ※ 입실 3일전 : 객실료의 50%
- ※ 입실 1일전 : 객실료의 100%

◆ 기타 숙박시설

*기준인원 : 1인				
호텔명	주소	객실타입	금액	예약마감
경주 코모도호텔	경상북도 경주시 보문로 422	슈페리어 트윈 로	139,000	1.2km,
		슈페리어 트윈 레이크	159,000	차량 2분
경주 더케이호텔	경상북도 경주시 엑스포로 45	트리플(후면)	130,000	2.2km,
		트윈(후면)	130,000	차량 5분
경주 베니키아 스위트로호텔	경상북도 경주시 보문로 465-37	스탠다드 더블	110,000	2.2km,
		스탠다드 트윈	115,000	차량 5분
경주 힐튼호텔	경상북도 경주시 보문로 484-7	프리미엄 트윈	198,550	1.8km,
		디럭스트리플	224,362	차량 4분

※ 상기 숙박금액은 네이버(<https://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 관광안내

◆ 행사장 주변 관광지

* 출처: 경주문화관광 (<https://www.gyeongju.go.kr/tour>)

덕봉정사

주 소 | 경주시 정자3길 11-6

신라 오악(五岳) 중 동악으로 불렸던 경주의 명산 토함산. 이 토함산을 병풍처럼 두른 마동의 별 잘 드는 기슭에 덕봉정사가 자리한다. 기록에 따르면 조선시대 문신이었던 덕봉 이진택이 귀향하여 학문을 닦고 후학을 양성하던 건물이 있던 자리에 증손자인 이우영이 광무9년(1905)에 그를 기리고자 정사를 지었다.



독락당

주 소 | 경주시 안강읍 옥산서원길 300-3

독락당은 이름 그대로 홀로임을 즐기는 집이다. 자연과 벗 삼았기에 외롭지 않은 집. 옥산서원과 멀지 않은 곳에 자리한 독락당은 조선 성리학의 기반을 다진 회재 이언적 선생이 귀향하여 7년 동안 살면서 학문에 매진한 곳이다. 퇴계 이황의 글씨로 알려진 '옥산정사' 현판이 걸려 있는 건물은 낮은 기단 위에 세운 앞면 4칸, 옆면 2칸의 단정한 모습이다. 독락당이 자연과 벗 삼은 집이라는 수식어를 갖게 된 데에는 곳곳의 자연 친화적 건축 장치들이 보여서다. 특히 독락당 옆 담장을 뚫어 나무 살을 끼운 창문은 외부의 수려한 경관을 집 안으로 끌어들이는 의도가 엿보이는 재기발랄한 장치이다.



영지 둘레길

주 소 | 경주시 외동읍 패흥리, 영지

코 스 | 영지석불좌상-영지 설화 공원-영지 둘레길(약 2km 코스)

아사달은 백제의 유명한 석공이었다. 불국사 다보탑과 석가탑을 축조하기 위해 신라에 온 아사달을 오매불망 기다리는 부인 아사녀. 남편을 보기 위해 서라벌에 온 그녀는 불국사로 찾아갔지만 일이 모두 끝나기 전에는 부군을 볼 수 없고, 탑이 완성되면 못에 그림자가 비칠 것이라 이야기를 듣고는 물가로 갔다. 하염없이 남편을 기다리다 그리움에 지쳐 못에 몸을 던졌다.



스퀘어가든22

주 소 | 경주시 불국신택지2길 22

진현동이 걸을 맛, 놀 맛 나는 곳으로 진화에 진화를 거듭하는 중이다. 유스호스텔이 밀집해 있던 불국사 앞의 상가 구역은 단체 여행의 쇠락과 여행 트렌드의 변모로 차갑게 식어 갔다. 그러던 이곳에 선명하고 강렬한 색채가 뿌려지고 있다.

곳곳에 개성 있는 카페와 식당, 공방과 문화공간이 들어서고 있다.



국립경주박물관

주 소 | 경주시 일정로 186

이용시간 | 박물관 주요 전시관: 10:00-18:00(토요일 및 공휴일 19:00까지)

워낙 볼거리 많은 경주라 이곳저곳 다 보고 싶은 마음을 이해 못 하는 바는 아니다. 그럼에도 불구하고, 꼭 여기에서만큼은 한나절 온전한 시간을 내어줬으면 하는 곳이 바로 박물관이다. 천년 신라의 A to Z를 살필 수 있는 곳이기도 하고 그와 동시에 귀한 문화유산을 장벽 없이 쉽게 만날 수 있는 곳이기도 하기 때문이다. 국립경주박물관을 깊고 깊게 즐겨보기를 권한다.곳곳에 개성 있는 카페와 식당, 공방과 문화공간이 들어서고 있다.



월정교

주 소 | 경북 경주시 교동 274

관람시간 | 09:00-22:00(문루 전시관 10:00-22:00)

남천(문천) 위를 수놓고 선 그림 같은 목조교량 월정교. 신라시대 월성과 남쪽 지역을 잇는 통로였고, 원효대사와 요석공주의 사랑이야기가 얹힌 사랑의 길이기도 하다. 월정교란 이름은 <삼국사기>에 통일신라 경덕왕 19년 “궁궐 남쪽 문천에 월정교, 춘양교 두 다리를 놓았다.”는 기록을 통해 알려졌다.



첨성대

주 소 | 경북 경주시 인왕동 839-1

관람시간 | 09:00-22:00(11월-2월 21:00까지)

‘동양 최고(最古)의 천문대’ 첨성대는 알면 알수록 과학적인 석축물이다. 위는 둥글고 아래는 네모진 첨성대의 모양은 하늘과 땅을 형상화했다. 첨성대를 만든 365개 내외의 돌은 1년의 날수를 상징하고, 27단의 돌단은 첨성대를 지은 27대 선덕여왕을, 꼭대기 정자석까지 합치면 29단과 30단이 되는 것은 음력 한 달의 날수를 상징한다.



대릉원

주 소 | 경북 경주시 황남동 일원
관람시간 | 09:00-22:00(입장 마감 21:30)

경주 시가지인 황남동에 자리한 대릉원은 약 12만 6,500㎡의 넓은 땅에 23기의 신라시대 고분이 모여 있는 고분공원이다.



동궁과 월지

주 소 | 경북 경주시 원화로 102
관람시간 | 09:00-22:00(입장 마감 21:30)

동궁과 월지를 찾아야 하는 시간은 이견 없이 저녁이다. 좀 더 구체적으로는 사진 찍기 가장 좋은 시간대라는 매직아워(magic hour)에 찾는다면 금상첨화. 해 넘어가는 시간이 이리도 길었던가, 라는 생각이 머릿속을 스치며 지루함이 스멀스멀 올라오려는 즈음. 임해전을 비롯한 복원 건물에 조명이 스며들기 시작한다.



황리단길

주 소 | 경주 황남동, 사정동 일대
찾아가기 | 대릉원후문 또는 내남사거리 검색, 고속/
시외버스터미널에서 도보로 5-10분, (구)경주역에서 도보 15분

황리단길은 경주에서 가장 젊은 길이다. 2~3년 전부터 젊은이들이 모여들기 시작해 분위기가 좋은 카페, 아기자기한 소품, 기념품 가게, 개성 있는 식당들이 들어섰다. 지금 이 순간에도 황리단길 어느 곳에는 새 가게가 문을 열 준비를 하고 있다.



불국사

주 소 | 경북 경주시 불국로 385 불국사
전 화 | 054-746-9913
홈페이지 | <http://www.bulguksa.or.kr>

진심을 다해 기도하면 한 가지 소원은 반드시 이루어진다는 희망의 이야기가 전해지는 해동용궁사. 득남불, 학업성취불 등 저마다의 소원을 간직한 불상 앞에서 잠잠히 마음속 소원을 빌어 보자. 동해 최남단의 무한한 푸름이 당신의 소원을 더욱 간절하게 만들어 줄 것이다.



경주월드

주 소 | 경주시 보문로 544
전 화 | 1544-8765
홈페이지 | www.gjw.co.kr

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국내 최초! 90도 수직 다이브 코스터 [드라켄]
거칠게 움직이는 360도, 더블 허리케인 메가톤급 스릴 [크라크]
전 세계 단 두개만 있는 패밀리 서틀코스터!
신상 롤코 [발키리]



경주중앙시장

주 소 | 경주시 금성로 295
전 화 | 금, 토, 일요일 18:00-23:00
홈페이지 | <http://www.gjcentermarket.com/>

야경 구경도 식후경, 도보여행의 마지막 코스는 아식 천국 '중앙시장'이다. 동궁과 월지에서 중앙시장까지는 거리가 제법 되니 길을 여력이 남아 있으면 도보로, 체력이 고갈되었다면 대중교통을 이용할 것을 추천한다. 중앙시장은 100여년의 역사를 자랑하는 경주의 대표시장 중 한 곳이다. 경주사람들은 경주역 인근의 성동시장을 뒷시장, 중앙시장을 아랫시장 이라고 부른다.

제22회 정기총회 및 2024 추계학술발표회

발행인

정재학

발행처

한국방사성폐기물학회

주 소

대전광역시 유성구 대덕대로 989번길 111
한국원자력연구원 원자력사업기술지원동(E7) 202호

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신진기획인쇄사

Tel +82-42-638-7887

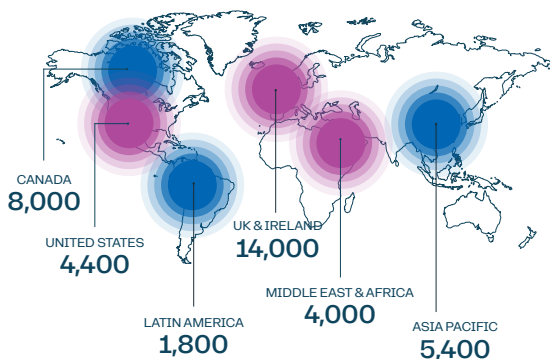


Our global workforce of
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We're AtkinsRéalis, a world-leading design, engineering and project management organization. We connect people, data and technology to transform the world's infrastructure and energy systems.

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From designing entire cities to delivering nuclear power stations and transforming manufacturing systems, we focus our business in the areas that the most impact on the way we all live and the resources we demand from the planet.



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& Places



Defence



Industrial



Minerals
& Metals



Nuclear



Power
& Renewables



Transportation



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& Design



Project
& Program
Management



Project
Delivery



Operations
& Maintenance



Capital



Decommissioning



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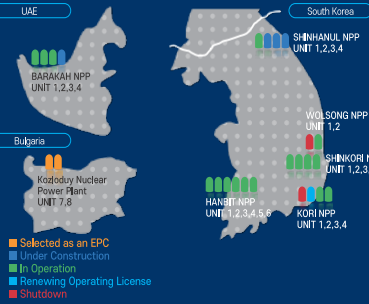
서울특별시 구로구 디지털로33길 55, 901호 (주)지오그린21 Tel. 02-6330-2500 Fax. 02-6330-2507

Large-Scale Nuclear Power Business

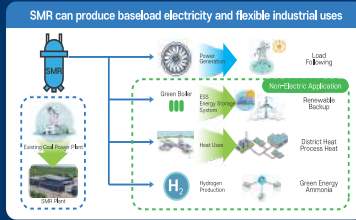
Since 1971, Hyundai E&C has constructed

Total 24 units of NPP in UAE & S. Korea

Barakah Nuclear Power Plant, UAE



SMR (Small Modular Reactor)



First of a Kind Project

Location	Palisades NPP, Covert, Michigan
Type	PWR (Pressurized Water Reactor)
Capacity	600MWe (300MWe X 2units) - Holtec International SMR



Nth of a Kind Project

Potential US Project



Green Energy Business

New Market Challenger for Hydrogen

Contemporary needs to Carbon free, HDEC is extending Hydrogen Business



Fuel Cell, Korea
Location : Anyang/Korea
Capacity : PAFC: 16.72MW (440W × 38Units)
Duration : '20 ~'24 ~ 4Q '25



Green Hydrogen Electrolysis
Location : Buan/Korea (Ministry of Trade, Industry and Energy)
Duration : Jun '22 ~ May '25



Green Hydrogen Pre-Feed
Location : Jeju/Korea
Capacity : 12.5MW
Duration : Aug '23 ~ Dec '23



Global Experience

6 continents, 62 nations, 885 projects

Since Hyundai E&C first advanced into a foreign country in 1965, it has performed more than 885 projects in 62 countries worldwide, growing as a global leader.



Major Projects

EUROPE & CIS

Hotel Hyundai, Mladostok, Russia
Sofia Welfare Center for the Disabled, Bulgaria
Tallmarjan Power Plant, Uzbekistan
The Third Bosphorus Bridge, Turkey

ASIA

Bitecco Financial Tower, Vietnam
Jagrawa Toll Road, Indonesia
Jemuna Multipurpose Bridge, Bangladesh
Pattani-Narathiwat Highway, Thailand
Penang Bridge, Malaysia
Sunted City, Singapore
South Commuter Railway, Philippines
Yamuna Bridge, India

MIDDLE EAST

Barikin Nuclear Power Plant, UAE
Arch-Spinbuilding & Repair Yard (ASRY), Bahrain
Agiba Port, Jordan
Dubai Eye, UAE
Harmed Medical City, Qatar
Jaber Causeway Maritime Bridge, Kuwait
Jeddah Industrial Harbor, Saudi Arabia
National Museum of Qatar, Qatar
South Pars Field Development, Iran

LATIN AMERICA

Bello Wastewater Treatment Plant, Colombia
Chocoma Bridge, Chile
Panama Metro Line 3, Panama
Punta del Tigre COPP, Uruguay
Peru Chinchero International Airport

AFRICA

Azito Phase III Extension Project, Republic of Cote d'Ivoire
Bakara Combined Cycle Thermal Power Plant, Algeria
Four Seasons Hotel, Egypt
Jinja Bridge, Uganda
Tunis Sports Center, Tunisia
Zawia Combined Cycle Thermal Power Plant, Libya

NORTH AMERICA & PACIFIC

Cable-stayed bridge over the Fraser River, Canada
Dredging works for Bunbury Port, Australia
Housing complex, Guam
Jang Bogo Antarctic Research Station
The Antarctic King Sejong Research Station, Yonki
Hydroelectric Dam, Papua New Guinea



과학기술정보통신부



산업통상자원부



원자력안전위원회

국민 안심을 위한 사용후핵연료 저장 · 처분 기술개발 및 기술가치 확산 선도기관

iKSNF

사용후핵연료관리핵심기술개발사업단

사용후핵연료 저장
안전성 실증 기술 확보

사용후핵연료 처분안전성
규명 및 실증 기반 구축

사용후핵연료 심층처분시스템
안전규제 기반 구축



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한전KPS는 국민과 함께 대한민국의 밝은 미래를 만들어 갈 것을 약속합니다.

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글로벌 에너지 솔루션 리더 한전KPS**



한전KPS의 역할

한전KPS는 국가경제의 핵심 기반산업인 전력산업 최일선 현장에서 발전 및 송전설비에 대한 무결점 정비서비스를 제공하고 있습니다.
한전KPS는 최고 수준의 기술력으로 고객사 전력설비가 최고의 성능을 발휘할 수 있도록 그 역할을 다하고 있습니다.

지에스중공업(주)은

장인(丈人)정신을 바탕으로 원전 기자재 제작과 정비서비스의 길을 걸은 원자력전문기업.

★ **고객의 마음으로** 고객과 함께하고, **지금 나의 모습을** 보며 미래를 꿈꾸는 기업

★ 사훈(社訓) : 1. 생각은 자유롭게, 2. 행동은 정작하게, 3. 품질은 정확하게

★ 보유 인증서 : KEPIC-MN, ISO9001&45001

★ 주요 공급사 : 한국수력원자력, 한전KPS, 두산중공업, 효성중공업, 대림산업 등

※ 주요 제작품 : 방사성제염/실증설비, 원전연료 취급/저장/이송용기 등



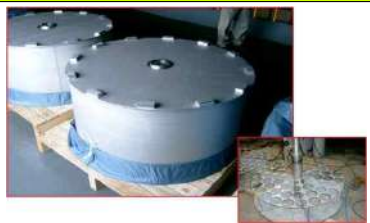
경수로원전 연료취급/이송설비



KN-18 연료이송용기 진공배기장치



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VITZRO

VITZRO NEXTECH

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비츠로넥스텍은 액체로켓엔진의 제작기술을 국내 최초로 개발하여, 상세설계, 제작분야에서 독보적인 기술력을 보유하고 있습니다.

또한 가속기제작 전문업체로서 특히 선형 가속기 분야에서 국내 최고의 기술력을 보유하고 있으며, 소재, 설계, 생산, 설치 및 서비스 부분까지 관리 시스템을 갖추고 이를 바탕으로 국내 가속기(양성자, 중이온, 광가속기) 제작뿐만 아니라 해외 시장에 참여하고, KSTAR, ITER 프로젝트를 통해 핵융합 장치 전문 제작 업체로 발돋움하고 있습니다.

더불어 플라즈마 시스템 설계/제작/진단/계측/운영기술 등, 플라즈마 분야 전반에 걸친 국내 최고의 기술력과 노하우를 가지고 있습니다. 플라즈마 시스템 구축뿐만 아니라, 이 기술을 이용한 폐기물 처리, 응용장비 사업을 하고 있고, 석탄 가스화 및 초고온 내열소재 생산을 위하여 고순도 플라즈마 시스템 연구개발을 수행함으로써 친환경 녹색 성장을 이바지하고 있습니다.

주요 사업



• 우주항공



• 플라즈마



• 물리가속





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Godo-tech offers high, medium and low-resolution detector systems, signal processing electronics, and gamma spectroscopy software for the qualification and quantification of gamma emitting nuclides.



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주요산업분야

- 원자력 & 에너지 플랜트
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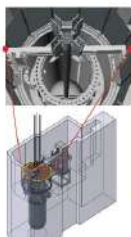


NUCLEAR DECOMMISSIONING

Doosan provides decommissioning engineering services for radiation structures and large equipment based on its design, manufacturing and service capabilities for NPP's main equipment. The design of the dismantling process develops the cutting method, dismantling sequence and cutting plan according to the characteristic evaluation results. Doosan also supplies self-developed decommissioning equipment and performs dismantling work directly.

Dismantling of Reactor Pressure Vessel (RPV)

In-situ Remote Dismantling System



Applied Technology	Advantage
- Cutting method: Oxygen gas - Remote control - Two robot + Safety Manipulator - Cutting Capability: Max. 500 mm	- Minimization of worker exposure - Prevent the spread of contamination - Multi-function - Cutting, Handling, Support etc.

Dismantling of Steam Generator

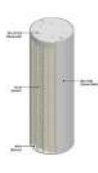


Applied technology	Advantages
Cutting method: Circular saw Remote control Information function No extend oil used or rest of Cutting capability: Max. 170 mm	Cutting method: Thermal saw Ignite control Thin hollow combination No need of oil used or rest of Cutting capability: Max. 4,300 mm
Cutting method: Wire saw Remote control Flexible cutting function No extend oil used Cutting capability: Max. 4,300 mm	Cutting for complex structure Minimization of worker exposure Minimize secondary waste Excellent space utilization
Cutting method: Thermal saw Remote control Transferable combination No extend oil used or rest of Cutting capability: Max. 4,300 mm	Cutting for complex structure Minimize secondary waste

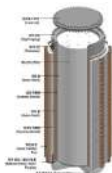
CASK

Doosan is one of the best Cask Manufacturing Companies in the world, especially. Doosan entered into Cask business in 1990 and delivered Cask for Kori NPP in 2002 and Cask for Hanbit and Cask for Hanul NPP in 2007. In 2014, Cask were supplied for Japanese client and in 2021, MAGNASTOR casks has been fabricated and exported to TMI NPP in USA.

Since 2015, Doosan has developed the optimized Cask model in Korea. By 2018, Doosan DSS-21 & 24 system has been developed in cooperation with NAC. In 2019, Metal Storage Overpack(MSO-37)Cask models of Doosan has been developed and by 2022, the design license of U.S.NRC will be approved.



Canister & Basket
[TSC]



MAGNATRAN
[U.S. NRC Design Licensed]



Transfer Cask
[MTC]



MAGNASTOR-MSO
[U.S. NRC Design Licensed]



Dry Storage System - MAGNASTOR

MAGNASTOR is the first ultra-high-capacity storage system to obtain U.S. NRC license, and the best option for dry storage cask system in Korea in consideration of the approved design with U.S. NRC license, safety and manufacturing maintenance efficiency because it is the proven dry storage system through long term operation.

U.S. NRC - Design Licensed MSO

U.S NRC design license for MSO(Metal Storage Overpack) has been obtained in January of 2023. MSO design is the advanced design of the existing MAGNASTOR VCC(Vertical Concrete Cask) with the enhanced structural integrity.

원자력 특수강 소재 전문업체 하이메트(주)

📍 경기도 김포시 양촌읍 황금 1로 50 🌐 <http://himet.co.kr>

01 회사소개

하이메트(주)는 1975년 회사 창립 이래 50여년간 축적된 경험과 기술력을 바탕으로 듀플렉스 스테인레스강을 비롯한 각종 고품급 내식성 주강품 생산의 선두 주자 역할을 하여 왔습니다.

제작 공급한 펌프, 밸브를 비롯한 각종 산업용 주강 부품들은 전세계의 원자력발전소, 화력발전소 해수 담수화 플랜트 등으로 납품, 사용되고 있으며 이를 통하여 국내외의 고객으로부터 두터운 신뢰를 구축하였습니다.

저희 회사의 임직원 모두는 회사 경영 핵심가치인 "최상의 품질과 납기 준수를 통한 고객 만족"을 지속적으로 실천하기 위하여 열정과 지혜를 모아 최선을 다 할 것을 다짐합니다.

02 주요 생산제품 및 설명



Pump Casing

플랜트 및 발전소에 사용되는 대형 스테인레스 펌프 소재 제작



Turbine Casing

대형용인 터빈케이싱을 가공까지 제작



Safety Valve

LNG선박에 사용되는 안전밸브 소재 제작



시멘트설비부품

소모재인 시멘트 설비부품 소재를 제작하고 있고 국내 시장점유율이 40% 이상임



Impeller

제품의 난이도가 높아 높은 기술력이 필요함



Compressor

펌프, 밸브와 마찬가지로 숙련된 높은 기술력이 필요



Butterfly Valve

선박 부품 제작에 필수적인 전세계 각종 선급인증서를 보유



일반산업기계부품

제품의 육, 금형등의 보유로 인해 전일장벽이 높음

03 인증서 현황

ISO / 9001:2015
ISO / 14001:2015
ISO / 45001:2018

Classification
Societies
LR, DNV, BV, GL,
ABS, RINA, NK, KR

JIS G5121
Japan
Industrial Standard
Manufacturing
Certificate

PED
Pressure Equipment
Directive

한국수력원자력
협업업체인증서

Energy Up, Tomorrow

탄소 배출 없는 청정 에너지로
탄소중립 시대의 새로운 미래를 그려갑니다

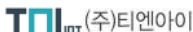
미래의 에너지 솔루션
소형모듈원자로 (SMR) •

안전성과 경제성을 동시에
APRI400 •

탄소배출 제로
대용량 수소 생산 •

해외에서 입증된 기술력
원전수출 사업확대 •

후 원 사



한국방사성폐기물학회 The 22nd General Meeting and 2024 Autumn Conference

제22회 정기총회 및 2024 추계학술발표회

