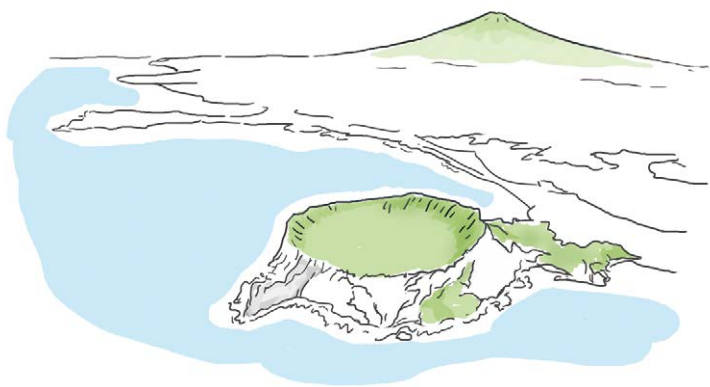


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KNS 2018 Spring 춘계학술발표회

KOREAN NUCLEAR SOCIETY

2018. 5. 16(수)~18(금)
제주 국제컨벤션센터

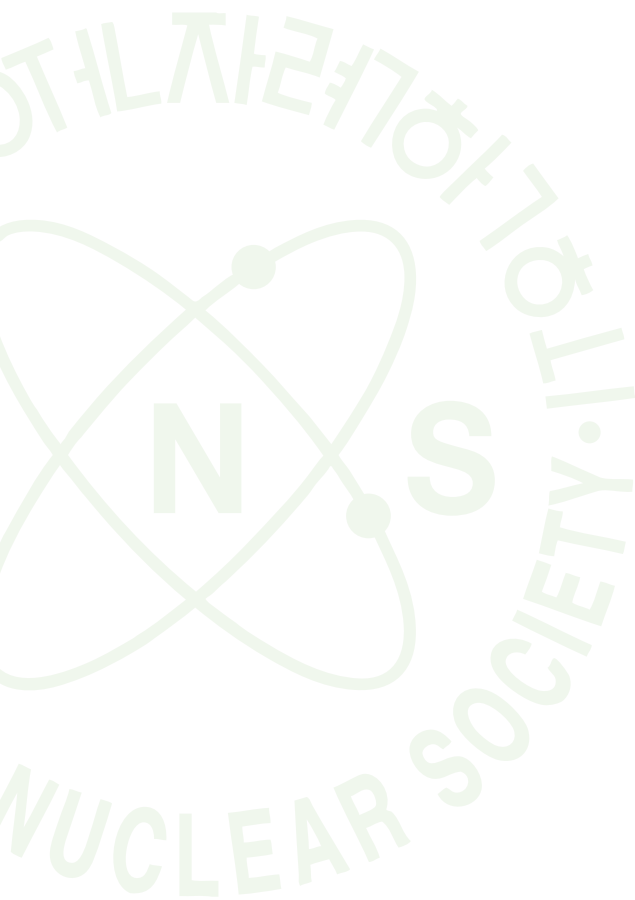


사단법인 한국원자력학회
KOREAN NUCLEAR SOCIETY

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KNS 2018 Spring 춘계학술발표회

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제주 국제컨벤션센터



사단
법인 한국원자력학회
KOREAN NUCLEAR SOCIETY

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38	4분과 핵연료 및 원자력재료(Nuclear Fuel and Materials)
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54	7분과 방사선 방호(Radiation Protection)
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61	10분과 원전건설 및 운영기술(Nuclear Power Plant Construction and Operation Technology)
64	11분과 원자력정책, 인력 및 협력(Nuclear Policy, Human Resources and Cooperation)
67	12분과 원자력계측제어, 인간공학 및 자동원격(Nuclear I&C, Human Factors and Automatic Remote Systems)
71	학생/청년 Competition Session
73	연구부회/지부 활동 및 계획 발표회
74	교통편

[한국원자력학회 특별회원 광고]

학회장 인사말



김학노 학회장

존경하는 우리 원자력학회 회원여러분 안녕하십니까? 학회장 김학노입니다.

서귀포에서 또 뵈게 되어 반갑습니다. 우리 학회와 제주도는 인연을 맺은 지 참 오래되었습니다. 학회의 성장과 더불어 봄철 춘계학술대회는 이곳 서귀포에서 매년 개최하여 왔던 것으로 기억합니다. 멋진 풍경과 맛있는 음식이 우리 회원 분들에게 차려져 있습니다.

지난 추계학술대회에서 저는 회원 여러분께 우리 원자력계가 처해 있는 어려운 환경을 말씀드린 바 있습니다. 당시의 어려운 환경을 돌파하기 위해 신고리 5,6호기 공론화위원회에서 활약한 여러 회원님들께 먼저 경의를 표합니다. 하지만 우리를 둘러싼 상황은 여전히 어렵습니다. 신고리5,6호기의 건설 재개 결정에도 불구하고 원자력연구개발 예산 확보가 여의치 않고, 새로운 원전설계 일감도 없으며, 생산해 놓은 핵연료를 써야할 원전도 점검과 보수기간이 길어져 큰 어려움을 겪고 있는 것입니다.

이와 같은 어려움을 조금이나마 헤쳐 나가고자 작년 12월 27일부터 금년 1월 26일까지 청와대의 국민청원을 두드린 바 있습니다. “원전수출장려 및 미래세대에게 뜻깊은 에너지정책 청원 드립니다.” ① 원전수출을 통해 청년일자리와 줄어드는 공간 챙겨 주시길 청원합니다. ② 미래세대에게 뜻깊은 에너지정책 청원합니다. 라는 것이었습니다. 이 청원에 우리 원자력계가 얼마나 호응하였나를 생각해 보면 진정 허탈한 마음을 금할 수 없습니다. 우리 회원 모두가 이 청원에 답하고 가까운 주변에 우리의 의지를 알려 동참을 호소하였으면 이렇게 까지 참담함을 느끼지 않았을 텐데 하는 마음입니다.

최근 원자력관계 종사자를 조사한 결과를 보면 20만이 넘는 것으로 되어 있습니다. 청원에 참여한 숫자로 보면, 원자력계 종사자들은 정말로 원자력에 애정을 가지고 있나하는 우려가 있습니다. 우리가 처한 이 어려운 현실에 우리가 너무 무관심하지 않나 하는 걱정인 것입니다. 우리가 자부심을 가지고 있다면 주변에 우리의 일을 자랑스럽게 알려, 원자력을 둘러싼 진실을 널리 확산시켜 나갈 수 있을 것인데 참으로 의아스럽기까지 합니다.

존경하는 회원여러분

현재 우리나라는 인구대비 원전밀도가 높다는 이유로 에너지전환정책에서 원전이 천덕꾸러기 신세를 면하지 못하고 있지만, 우리 원전기술은 영국, 사우디아라비아, 체코 등 해외에서 선전을 하고 있습니다. 특히 사우디아라비아와는 SMART를 교두보로 삼아 협력을 확대시키고 있습니다. 해외에서 수출성공 스토리를 만들어야 원자력산업생태계를 유지할 수 있고 이것이 중국에는 가동원전의 안전지킴이 역할을 할 것입니다. 원자력산업생태계가 붕괴되면 중국 부품을 사다가 가동원전의 유지보수에 활용할 수밖에 없는 상황이 자연스럽게 그려집니다. 또한 우수한 공학도를 키워내 원전사업에 투입해야 원자력의 안전도 담보할 수 있다고 생각합니다.

존경하는 회원여러분

이러한 어려움을 돌파하기 위해 원자력계를 비롯한 여러 분야의 분들이 모여 “원전수출 국민행동”을 결성하였고, 국민에게 직접 다가가기 위해 적극적인 움직임을 보이고 있습니다. 학회 회원 여러분들께 이러한 움직임에 힘을 보태도록 하자고 호소한 바 있습니다. 회원 여러분이 원자력계 내부에만 안주하지 말고 외부로 시야를 넓혀 소통의 주체로 거듭나야 합니다. 회원 여러분이 중심이 된 풀뿌리 소통이 필요하고, 회원 여러분들의 자발적이고 적극적인 행동과 참여가 필요한 시점입니다.

존경하는 회원 여러분. 회원 여러분들의 행동을 바라마지 않습니다.

이번 춘계학술대회도 워크숍, 논문발표 등을 통해 경험과 지식의 향연을 즐기시고, 이곳 제주에서 모처럼 멋진 시간을 나누시길 기원합니다.

2018년 5월

김 학 노 학회장

2018년 춘계학술발표회 전체행사 일정표

5월 16일(수)										5월 17일(목)										5월 18일(금)									
등록 (12:30 ~ 17:30)										등록 (08:00 ~ 17:30)										등록 (08:00 ~ 16:30)									
09:00 - 10:00	10:00 - 11:00	11:00 - 12:00	12:00 - 13:00	13:00 - 14:00	14:00 - 15:00	15:00 - 16:00	16:00 - 17:00	17:00 - 18:00		09:00 - 10:00	10:00 - 11:00	11:00 - 12:00	12:00 - 13:00	13:00 - 14:00	14:00 - 15:00	15:00 - 16:00	16:00 - 17:00	17:00 - 18:00		09:00 - 10:00	10:00 - 11:00	11:00 - 12:00	12:00 - 13:00	13:00 - 14:00	14:00 - 15:00	15:00 - 16:00	16:00 - 17:00	17:00 - 18:00	
201A 2F	[D] 가상원자로 (Virtual Nuclear Reactor) 개발 전략 수립									[5A] 원자력 영수력 공동발표									201A 2F	[5C] 원자력 영수력 공동발표									201A 2F
201B 2F	[J] 국내 안전기준 현황 및 개선방향									[11A] 원자력정책, 인력 및 협력 공동발표									201B 2F	[11B] 원자력정책, 인력 및 협력 공동발표									201B 2F
202A 2F	[C] 원자로 허브헤드 통합부 제어기술 개발 현황									[4A] 핵연료 및 원자력제로 공동발표									202A 2F	[4C] 핵연료 및 원자력제로 공동발표									202A 2F
202B 2F										[4B] 핵연료 및 원자력제로 공동발표									202B 2F	[4D] 핵연료 및 원자력제로 공동발표									202B 2F
203 2F	[K] 원자력과 신재생 시너지 창출 가능 방안 모색									[5B] 원자력 영수력 공동발표									203 2F	[5D] 원자력 영수력 공동발표									203 2F
삼다홀A 3F	[H] 에너지 정책 변화에 따른 원전 안전성 확보와 극한재해 대응 이슈									[6A] 원자력 안전 공동발표									삼다홀A 3F	[6C] 원자력 안전 공동발표									삼다홀A 3F
삼다홀B 3F										[6B] 원자력 안전 공동발표									삼다홀B 3F	[6D] 원자력 안전 공동발표									삼다홀B 3F
한라홀A 3F																			한라홀A 3F										한라홀A 3F
한라홀B 3F																			한라홀B 3F										한라홀B 3F
3층 로비										포스터논문 전시 및 발표 [자자 발표시간 13:00 ~ 15:00]									3층 로비	포스터논문 전시									3층 로비
300 3F	[원자력계 원로 초청 워크숍] 원로와 원전기술인 만남의 날																		300 3F	[10A] 원전건설 및 운영기술 공동발표									300 3F
301 3F	[A] 연구용원자로 시운전 경험									[2A] 원자로물리 및 계산과학 공동발표									301 3F	[2D] 원자로물리 및 계산과학 공동발표									301 3F
302 3F	[B] 안전한 사용후핵연료 처리를 위한 과학기술인 워크숍									[2B] 원자로물리 및 계산과학 공동발표									302 3F	[2C] 원자로물리 및 계산과학 공동발표									302 3F
303A 3F	[E] 원전 안전 및 기자재산업 활성화를 위한 원전부품전시 및 각종 기술 워크숍									[9A] 원자공학 및 핵융합기술 공동발표									303A 3F	[10B] 원전건설 및 운영기술 공동발표									303A 3F
303B 3F	[G] 방사선안전의 융복합 미래전략연구 포럼									[7A] 방사선 방호 공동발표									303B 3F	[10C] 원전건설 및 운영기술 공동발표									303B 3F
304 3F																			304 3F										304 3F
400 4F	[J] APR1400 RCP Seal 국산화 개발 및 장시간 S80시 Seal Loca 성능검증									[8A] 방사선 이용 및 기기 공동발표									400 4F	[8B] 방사선 이용 및 기기 공동발표									400 4F
401A 4F	[D] 다수기 리스크 평가 워크숍									[3A] 원자력시설해체 및 방사성폐기물관리 공동발표									401A 4F	[3B] 원자력시설해체 및 방사성폐기물관리 공동발표									401A 4F
401B 4F										[1A] 원자로시스템기술 공동발표									401B 4F	[1B] 원자로시스템기술 공동발표									401B 4F
402A 4F	[I] 4차 산업혁명 핵심기술의 원자력분야 연구 및 적용방안									[12A] 원자력계측제어, 인간공학 및 자동원격 공동발표									402A 4F	[12C] 원자력계측제어, 인간공학 및 자동원격 공동발표									402A 4F
402B 4F	[F] 원전 화재방호 선진화를 위한 기술개발									[12B] 원자력계측제어, 인간공학 및 자동원격 공동발표									402B 4F	[12D] 원자력계측제어, 인간공학 및 자동원격 공동발표									402B 4F
탈라홀B+C 5F										참가자 중식									탈라홀B+C 5F	참가자 중식									탈라홀B+C 5F
오산빌 5F										제80차 평의위원회									오산빌 5F										오산빌 5F

※ 참관자부 총회 : 5월 16일(수) 13:00 ~ 20:00

학술발표회 회의장 배치도

2F

- ① 201 A, B
- ② 202 A, B
- ③ 203



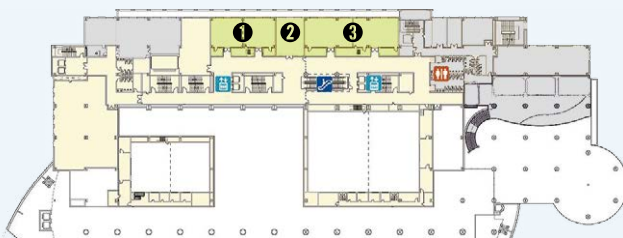
3F

- ① 301 A, B ② 302 ③ 300
- ④ 303 A, B ⑤ 304 ⑥ 삼다홀 A, B
- ⑦ 한라홀 A, B ⑧ 델리시아(레스토랑)
- ⑨ 델리뷰



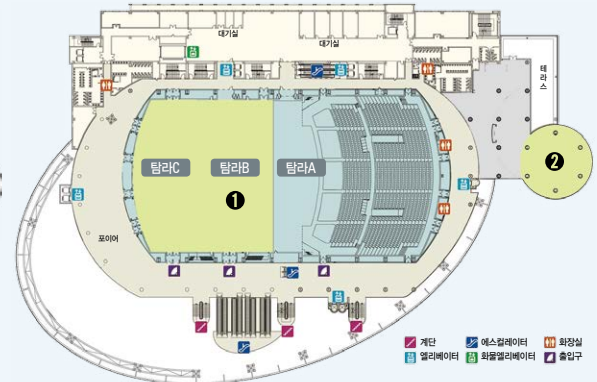
4F

- ① 401 A, B
- ② 400
- ③ 402 A, B



5F

- ① 탐라홀 A, B, C
- ② 오션뷰



한국원자력학회 제30대 임원진

회장



김학노

수석부회장



김명현

부회장



김용균



나기용



정범진

감사



유계현



조건우

고급정책연구소 소장



민병주

부소장



임채영

총무이사



이영일



정 익

학술이사



김성중



장창희

사업이사

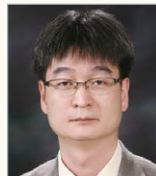


김신환

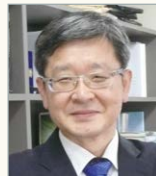


조범진

편집이사



심형진



정동욱

재무이사



박문규



이현철

홍보협력이사



조석진



한봉오

한국원자력학회 원자력이슈위원회 위원

위원장



김명현

부위원장



윤종일

임명직 위원



김광표



김교윤



김군태



김민규



김찬형



김창락



김한곤



양준연



유호식



전경락



정 익



조천형



조형규

당연직 위원



김경두



김봉환



김용희



김현준



김홍표



나만균



박영섭



연제원



오병훈



이창희



제무성



주형국

한국원자력학회 소통위원회 위원

[소통위원회]

위원장 겸 대변인 부위원장 겸 대변인



송종순



정용훈

위원



이기복



이윤실



이재영



이현철



임채영



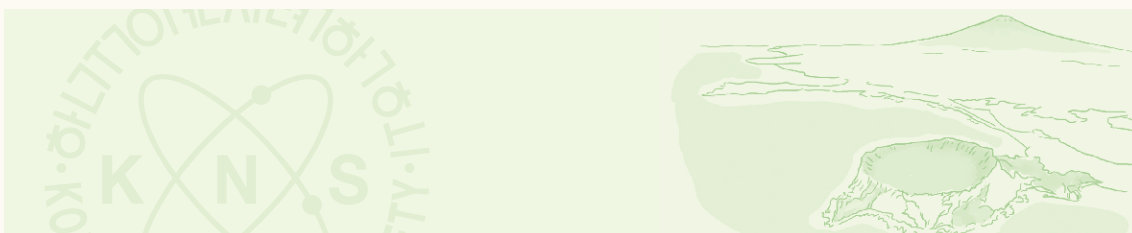
정범진



정승영



조석진



한국원자력학회 편집위원회 위원

위원장



나만균

국내 부위원장



구양현



김은희



최기용

국외 부위원장



Shinya Nagasaki



Hideo Nakamura



Won Sik Yang

국내 위원



김용균



김용희



김윤재



김원준



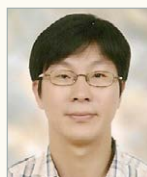
김인규



김창락



문주현



선광민



신형기



심형진



임호곤



정동욱



정명조



정범진

국외 위원



Akio Gofuku



Didier Jacquemain



John C. Jin



Jean Noirot



Horst-Michael Prasser



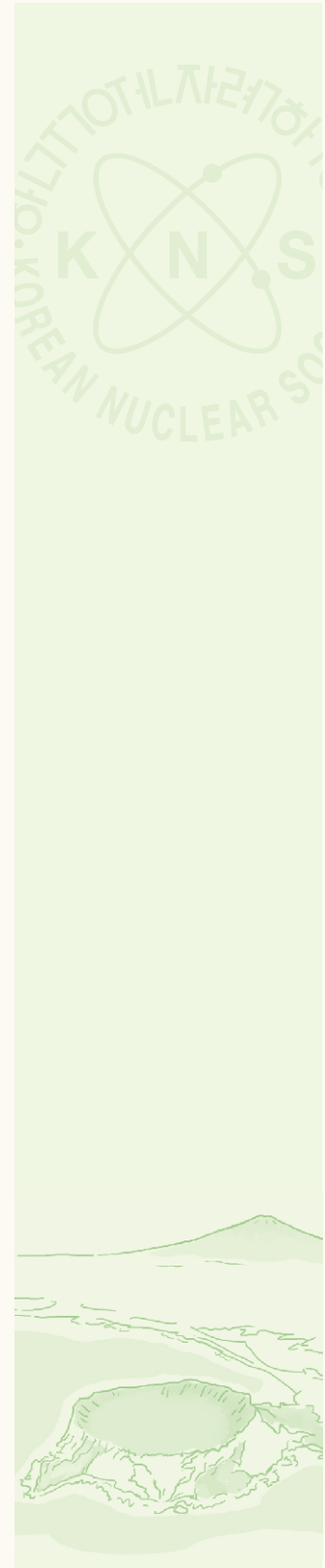
Shripad Revankar



Guanghui Su



Belle R. Upadhyaya



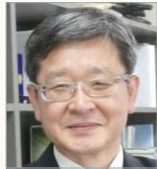
한국원자력학회 연구부회장/차기연구부회장 · 지부장

연구부회장/차기연구부회장

원자로시스템기술



주형국



정동욱

방사선 방호



김봉환



황원태

원자로물리 및 계산과학



김용희



김용희

방사선 이용 및 기기



이창희



이창희

원자력시설해체 및 방사성폐기물관리



연제원



정종태

양자공학 및 핵융합기술



오병훈



김종원

핵연료 및 원자력재료



김홍표



유종성

원전건설 및 운영



박영섭



김윤호

원자력열수력



김경두



김경두

원자력정책, 인력 및 협력



김현준



이기복

원자력 안전



제무성



양준언

원자력계측제어, 인간공학 및 자동원격



나만균



정연섭

국내외 지부장



김승평
광주/전남/전북 지부



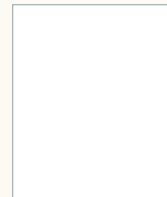
이재영
대구/경북 지부



김창락
부산/울산/경남 지부



양원식
미국 지부



UAE 지부



강기식
IAEA/Europe 지부

청년지부



최성열 지부장

여성지부



강문자 지부장

학생지부



김효전 지부장



김종현 지도교수

한국원자력학회 포상 및 장학위원회 위원/사무국

위원장



김명현

사무총장



남장수

위원



김성중



김지현



김태룡



배성만

실장



민현정



어근선



이상덕



이찬복



임인철

대리



송지현



장선영



장창희



주형국



조재선

직원



이연화



조창석



지계광



최성민



유진원

개회식 및 특별강연 일정

| 일시 2018년 5월 17일(목) 15:30 ~ 17:50

| 장소 한라홀 (3F)

일 정	프로그램
	[사회 : 정익 총무이사]
	국민의례
	개회사 : 김학노 학회장
	축 사 : 최원호 과학기술정보통신부 거대공공연구정책관
15:30 ~ 16:00	2017 춘계학술발표회 우수논문상 시상
	2017 춘계학술발표회 학생/청년 Competition Session 시상
	2017 춘계학술발표회 원자력정책, 핵비확산 및 원자력 국제협력 분야 청년 Competition Session 시상
	2018년도 한국원자력학회 장학증서 수여, PHYSOR 장학증서 수여
16:00 ~ 16:55	특별강연 I 조 석, 경희대학교 국제대학원 교수 에너지 전환시대의 원자력
16:55 ~ 17:50	특별강연 II 한삼희, 조선일보 수석논설위원 리스크 인식의 비합리성은 극복가능한가

만찬 행사 일정

| 일시 2018년 5월 17일(목) 18:00 ~ 19:30

| 장소 탐라홀 B, C (5F)

일 정	프로그램
	[사회 : 장창희 학술이사]
	장내 안내말씀
	인사말 : 김학노 학회장
	참가자 만찬
18:00 ~ 19:30	2018년 춘계학술발표회 분과별 우수포스터 시상
	경품 추첨 행사
	[경품 협찬 특별회원]
	한국원자력의학원, 한국원자력환경공단, 한전원자력연료(주)

특별강연

| 일시 2018년 5월 17일(목) 16:00 ~ 17:50 | 장소 한라홀 (3F)



조 석

경희대학교
국제대학원 교수

에너지 전환시대의 원자력

전 세계적으로 에너지 전환 시대라고 합니다. 국내적으로는 탈 원전의 목소리가 높고 원자력 계는 어려운 시간을 보내고 있습니다. 부안, 후쿠시마와 원전비리로 대표되는 위기의 시간과 더불어 원자력 르네상스의 시기를 반성해 봅니다. 그리고 역사 속에서 원자력 계는 어떠한 비전을 가지고 있었는가 하는 의문을 던져 봅니다. 이데올로기로서의 원전에서 벗어나려는 비전은 있었는지, 기후변화 시대 원전의 갈 길에 대한 고민은 치열했는지를 같이 생각해 봅니다.

눈을 돌려 세계의 흐름을 개괄적으로나마 살펴보겠습니다. 미국 트럼프 행정부의 파리 협약 탈퇴와 셰일가스를 품에 안은 행복한 고민, 독일의 에너지 전환과 탈핵, 기후변화 리더십을 통한 중국의 큰 그림, 그리고 대안 부재로 과거로 돌아가는 일본의 불가피한 선택 등을 살펴보겠습니다.

마지막으로 지금 우리가 해야 할 일이 무엇인지를 고민해 봅니다.

원자력은 전기를 만들 수 있는 여러 에너지원 중의 하나일 뿐이라는 생각의 기반 위에서, 기후변화 시대의 원자력의 역할과 원자력 산업의 생태계 정비에 위한 노력 등을 같이 생각해 보기로 합니다.



한삼희

조선일보
수석논설위원

리스크 인식의 비합리성은 극복가능한가

2009년 8월 미국에서 렉서스 급가속 사고로 경찰관 가족 4명이 사망했다. 가속페달 복원력 약화가 원인이었다. 7년간 21명이 같은 원인 사고로 사망했다. 연간 300만대당 1명 꼴 사망 확률이다. 육조 사망 사고 연 68만분의 1, 비행기 추락 사망 35만분의 1, 계단 낙상 사망 15만분의 1, 교통사고(미국) 사망 6000분의 1에 비해 미미한 수치다. 그러나 도요타는 900만대를 리콜해야 했다.

2004년 우크라이나 대선 후보 빅토르 유셴코는 정부 보안국의 독살 시도로 얼굴이 곰보 투성이가 됐지만 당선됐다. 유셴코가 섭취한 독극물 다이옥신 양은 2.4mg으로 추정된다. 한국 정부가 정한 하루허용섭취량의 750만배다. 유셴코는 2만547년분 양을 먹고도 5년 대통령직을 별 탈 없이 수행했다.

미국에선 육골분 사료 통제가 시작된 1997년 이전 태어난 소에서 3마리의 광우병 소가 확인됐다. 영국에선 1996년까지 76만마리 광우병 소가 소비된 후 166명의 인간광우병 환자가 확인됐다. 이 수치들을 감안하면 한국이 연 100만 마리씩 미국소를 수입할 경우 인간광우병 발생 확률은 기껏 1000년에 한 명 수준이다. 그렇지만 2009년 광우병 사태가 국가 전체를 흔들어댔다.

운스키어(UNSCEAR)는 28개국 80명이 2년 조사해 낸 보고서에서 “후쿠시마에서 심각한 방사선 건강 피해는 확인 안된다”고 했다. 후쿠시마 방사능 오염 지역에서 평생 살아도 CT 한장 찍는 것(7.4mSv)보다 약간 많은 10mSv 수준 추가 피폭을 받는다는 것이다. 사고 원전 작업 인부 2만5000명의 피폭량은 평균 12mSv 수준으로 추정됐다.

인간은 비합리적인 리스크 인식에 지배받는다. 원자력은 특히 적대적, 비합리적 리스크 인식에 노출될 조건을 갖췄다. 원자력계가 그걸 극복하는 것은 굉장히 힘든 과제다. 특히 이해당사자인 원자력계 주장은 잘 받아들이지 않는다. 타 전문가 집단의 이해와 지지의 저변을 넓혀가야 한다.

2018년 춘계학술발표회 수상자 명단

| 시상식 2018년 5월 17일(목) 15:30

| 장 소 한라홀 (3F)

학술발표회 우수논문상 (2017 추계학술발표회 발표논문)

성명	소속	성명	소속
김동건	한양대학교	임창환	경희대학교
김형규	한국원자력연구원	최원익	한국원자력연구원
배윤영	한국원자력연구원	한혜진	한양대학교
유쾌환	조선대학교	한태영	한국원자력연구원
이준엽	부산대학교	Muhmood ul Hassan	한국과학기술원
이혜린	세종대학교		

학생 / 청년 Competition Session (2017 추계학술발표회 발표논문)

성명	소속	구분
Boravy Muth	세종대학교	최우수상
Owais Ahmed Waseem	한국과학기술원	
홍기원	충남대학교	우수상
이은별	한국원자력연구원	

2017 추계 원자력정책, 핵비확산 및 원자력 국제협력 분야 청년 Competition Session

성명	소속	구분
이은희	한국원자력통제기술원	최우수상
정희영	한국원자력안전기술원	우수상

장학생 명단

| 수여식 2018년 5월 17일(목) 15:30

| 장 소 한라홀 (3F)

2018년도 한국원자력학회 장학생

학 교 명	성 명
경북대학교	Nur Syamsi Syam
경희대학교	강범준 조성동 박재형
단국대학교	이민혜
동국대학교	전건우 주원태 김영준
부산대학교	김광민
서울대학교	임재욱 조창현 전승민
세종대학교	김준영
영남대학교	강동민
울산과학기술원	이민호

학 교 명	성 명
제주대학교	고승환 이지은
조선대학교	구영도 정원선 이대일
중앙대학교	이은혜
포항공과대학교	이청원
한국과학기술원	김효이 이동현 하재민
한양대학교	이재신 김예진 차지환
한전 국제원자력대학원 대학교	Md Tanvir Hasan

PHYSOR 장학생

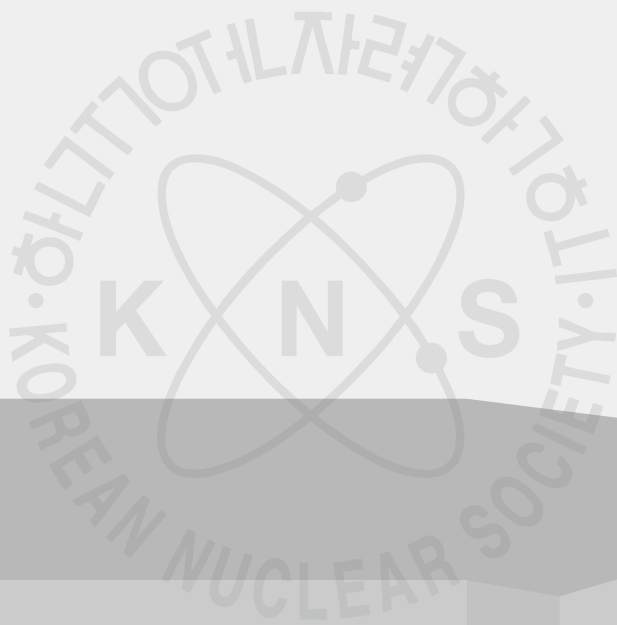
성 명	소 속
조예슬	경희대학교

KOREAN NUCLEAR SOCIETY

KNS 2018 Spring

2018 춘계학술발표회

Workshop



A

연구용원자로 시운전 경험

| 일시 · 장소 2018년 5월 16일(수) 13:00~17:50 · 제주 국제컨벤션센터, 3층 301

| 주최 한국원자력학회 원자물리 및 계산과학 연구부회

일 정	내 용
12:30 ~ 13:00	등 록
13:00 ~ 13:10	개회사, 김용희 (KAIST)
13:10 ~ 13:40	유체계통 플러싱 및 시운전, 서경우 (KAERI)
13:40 ~ 14:10	JRTR 시운전 시험 및 계통/설비 인계, 김승남 (대우건설)
14:10 ~ 14:50	원자로 설치 및 가동전 검사, 추연석/허형 (KAERI)
14:50 ~ 15:20	종합계통시험 및 출력제어 성능시험, 방대인 (KAERI)/이윤상 (수산ENS)
15:20 ~ 15:40	휴 식
15:40 ~ 16:20	첫 임계 및 영출력/저출력 시험, 박지성 (KAERI)
16:20 ~ 16:50	출력상승 및 출력운전 시험, 김홍철 (KAERI)
16:50 ~ 17:20	전원상실 및 유량상실 시험, 이병희 (KAERI)
17:20 ~ 17:50	요르단연구용원자로 노물리시험 규제경험, 이재준 (KINS)

| 기타사항 - 등록비 : 50,000원 (석식 제공)

- 문의처 : 박지성 / 한국원자력연구원 / 010-7297-8113 / jspark13@kaeri.re.kr

B

안전한 사용후핵연료 관리를 위한 과학기술인 워크숍

| 일시 · 장소 2018년 5월 16일(수) 13:00~18:00 · 제주 국제컨벤션센터, 3층 302

| 주최 한국원자력학회 원자력시설해체 및 방사성폐기물관리 연구부회

일 정	내 용
12:45 ~ 13:15	등 록
13:30 ~ 13:35	개 회 (연제원, 연구부회장)
13:35 ~ 13:45	축 사 (곽재규 서기관, 과학기술정보통신부)
13:45 ~ 13:55	인사말 (송기찬 소장, KAERI)
14:00 ~ 14:25	사용후핵연료 분야 주요 이슈 (윤종일 교수, KAIST)
14:25 ~ 14:50	사용후핵연료 사업 추진 현황 (정윤창 부장, KHNP)
14:50 ~ 15:15	사용후핵연료 특성 분야 (안상복 부장, KAERI)
14:15 ~ 15:40	사용후핵연료 운송 저장 분야 (최우석 실장, KAERI)
15:40 ~ 15:50	휴 식
16:00 ~ 16:25	사용후핵연료 건식저장 분야 (이성기 부장, KEPCO NF)
16:25 ~ 16:50	사용후핵연료 영구처분 분야 (백민훈 부장, KAERI)
16:50 ~ 17:30	사용후핵연료 공론화 분야 (조성경 교수, 명지대학교)
17:30 ~ 18:00	질의 응답
18:10 ~ 18:40	이 동
18:40 ~	만 찬

| 기타사항 - 등록비 : 50,000원 (석식 제공)

- 문의처 : 임상호 / 한국원자력연구원 / 042-868-2105 / slim@kaeri.re.kr

C

원자로 하부헤드 흡집부 정비기술 개발 현황

| 일시 · 장소 2018년 5월 16일(수) 13:30~18:00 · 제주 국제컨벤션센터, 2층 202A

| 주최 한국원자력학회 핵연료 및 원자력재료 연구부회

일 정	내 용
13:30 ~ 14:00	등 록
14:00 ~ 14:10	핵연료 및 원자력재료 연구부회장 인사, 김홍표(KAERI)
	좌장 : 황성식(KAERI)
14:10 ~ 14:40	한빛 5호기 원자로 용기 흡집발생 및 현재까지의 현황, 김홍표(KAERI)
14:40 ~ 15:10	가압경수로 1차측 피복재 관련 요건, 김진겸(KINS)
15:10 ~ 15:40	원전압력용기 및 배관의 보수교체활동에 대한 최신 ASME code case 개발 동향, 송상우 (KIMS)
15:40 ~ 16:00	휴 식
	좌장 : 이경호(KHNP-CRI)
16:00 ~ 16:30	한빛 5호기 원자로용기 피복재 흡집부 정비기술개발 현황, 이경호(KHNP-CRI)
16:30 ~ 17:00	원자로 내부 흡집부 정비방안 검토, 공창식 (두산중공업)
17:00 ~ 17:30	원자로 용기 클래드 흡집부 Ni도금 보수방안, 황성식 (KAERI)
17:30 ~ 18:00	종합토의
18:00 ~	저녁식사

| 기타사항 - 등록비 : 50,000원 (발표집 및 저녁식사 제공)

- 문의처 : 최민재 / KAERI / 042-868-2368 / mjchoi@kaeri.re.kr

D

가상원자로 (Virtual Nuclear Reactor) 개발 전략 수립

| 일시 · 장소 2018년 5월 16일(수) 13:00~18:00 · 제주 국제컨벤션센터, 2층 201A

| 주최 한국원자력학회 원자력 열수력 연구부회

일 정	내 용
13:00 ~ 13:30	등 록
13:30 ~ 13:40	환영사 : 김경두 (원자력 열수력 연구부회장, KNS) 양준언 (한국원자력연구원 원자력안전 · 환경연구소장, KAERI)
	사회 : 이재룡(KAERI)
13:40 ~ 14:20	가상원자로 개발 전략 수립, 윤한영 (한국원자력연구원, KAERI)
14:20 ~ 14:50	5호기 슈퍼컴퓨터 도입 및 활용, 염민선 (한국과학기술정보연구원, KISTI)
14:50 ~ 15:20	슈퍼컴퓨터 기반 한국형 기상 수치 모델 개발, 김정한 (한국형수치예보모델개발사업단, KIAPS)
15:20 ~ 15:30	휴 식
15:30 ~ 16:00	미국 가상원자로 통합 플랫폼(MOOSE) 개발 배경 및 현황, 조영철 (세종대학교)
16:00 ~ 16:30	가상현실(Virtual Reality) 시스템 개발, 김민아 (한국과학기술정보연구원, KISTI)
16:30 ~ 16:50	휴 식
16:50 ~ 17:30	패널 토론
18:00 ~	저녁식사

| 기타사항 - 등록비 : 50,000원 (석식 제공)

- 문의처 : 이재룡 / 한국원자력연구원 / 042-868-4850 / jrlee@kaeri.re.kr

E

다수기 리스크 평가 워크숍

| 일시 · 장소 2018년 5월 16일(수) 13:00~18:00 · 제주 국제컨벤션센터, 4층 401
| 주최 한국원자력학회 원자력 안전 연구부회, 다수기 PSA 규제검증 기술개발 사업단

일 정	내 용
13:00 ~ 13:30	워크숍 참가자 등록
13:30 ~ 13:40	환영사 (제무성, 원자력 안전연구부회 부회장)
13:40 ~ 14:10	규제기관의 다수기 리스크 평가 연구 현황 (제무성, 한양대)
14:10 ~ 14:40	산업계의 다수기 리스크 평가 수행 현황 및 전망 (나장환, 한수원)
14:40 ~ 15:10	연구계의 다수기 리스크 평가 연구 현황 및 전망 (임호곤, KAERI)
15:10 ~ 15:30	휴 식
15:30 ~ 16:00	설계초과지진에 대비한 미국원전의 안전성 확보방안 (황규호, Simpson Guperetz & Heger)
16:00 ~ 16:30	다수기 쓰나미 PSA 수행 방법 및 현안 (한상훈, KAERI)
16:30 ~ 17:00	다수기 지진 PSA 수행 방법 및 현안 (임학규, KINGS)
17:00 ~ 17:20	휴 식
17:20 ~ 18:00	패널 토의 (박재우 (좌장), 황규호, 제무성, 임호곤, 나장환, 임학규, 한상훈)

| 기타사항 - 등록비 : 50,000원 (식식 제공)
- 문의처 : 장승현 / 한양대학교 / 010-4235-9496 / jsh872@hanyang.ac.kr

F

원전 화재방호 선진화를 위한 기술개발

| 일시 · 장소 2018년 5월 16일(수) 14:00~18:00 · 제주 국제컨벤션센터, 4층 402B
| 주최 한국원자력학회 원자력 안전 연구부회, 한국원자력안전기술원, 한국원자력연구원

일 정	내 용
14:00 ~ 14:40	원전 케이블 난연성능 및 연소생성물에 대한 연구현황, 문영섭 (KINS)
14:40 ~ 15:20	원전 화재방호 안전성 강화를 위한 기술개발 현황, 임혁순 (KHNP)
15:20 ~ 16:00	철골구조물 화재 건전성평가 수행경험, 김홍기 (KEPCO E&C)
16:00 ~ 16:30	휴 식
16:30 ~ 16:55	화재PSA 기술개발 현황, 강대일 (KAERI)
16:55 ~ 17:10	성능기반 화재방호 프로그램: 국내 원전 적용성, 황미정 (KAERI)
17:10 ~ 17:40	화재방호 관련 국제공동연구 현황, 이상규 (KINS)
17:40 ~ 18:00	Wrap Up

| 기타사항 - 등록비 : 무료 (식사 제공 없음)
- 문의처 : 문영섭 / KINS / 042-868-0758 / k728mys@kins.re.kr
정용훈 / KAERI / 042-868-2708 / jungyh@kaeri.re.kr

G

방사선의학의 융복합 미래전략연구 포럼

| 일시 · 장소 2018년 5월 16일(수) 14:00~17:00 · 제주 국제컨벤션센터, 3층 303B

| 주최 한국원자력학회 방사선 방호 연구부회

일 정	내 용
14:00 ~ 14:05	개회사 (전문위원)
14:05 ~ 14:10	환영사 (연구부회장)
	좌장: 정인수 (한국원자력의학원)
14:10 ~ 14:30	4차 산업 혁명과 방사선의학의 미래 발전 방안, 조청원 교수 (서울과학기술대학교)
14:30 ~ 14:50	의료용 사이클로트론 기술 개발, 정인수 박사 (한국원자력의학원)
14:50 ~ 15:10	의료 동위원소 활용 융복합기술 개발, 김정영 박사 (한국원자력의학원)
15:10 ~ 15:30	방사선 의학연구를 위한 종합 방사선 조사시설 고도화, 박승우 박사 (한국원자력의학원)
15:30 ~ 15:50	Coffee break
	좌장: 박종국 (한국원자력의학원)
15:50 ~ 16:10	ICT-바이오 융합 연구 프로세싱 및 연구 사례, 오동인 교수 (경희대학교)
16:10 ~ 16:30	노령화 사회에서의 방사선 바이오 산업, 이재연 박사 (한국원자력의학원)
16:30 ~ 16:50	방사선 의학 R&D 미래 전략, 김용한 연구기획팀장 (한국원자력의학원)
16:50 ~ 17:00	〈맺음말 (전문위원)〉

| 기타사항 — 등록비 : 50,000원 (석식 제공)

— 문의처 : 박종국 / 원자력의학원 / 010-6305-3888 / jkpark@kirams.re.kr

H

에너지 정책 변화에 따른 원전 안전성 확보와 극한재해 대응 이슈

| 일시 · 장소 2018년 5월 16일(수) 13:00~18:00 · 제주 국제컨벤션센터, 3층 삼다홀

| 주최 한국원자력학회 원전건설 및 운영기술 연구부회

일 정	내 용
13:00 ~ 13:10	등록
13:10 ~ 13:30	축사 및 개회사
13:30 ~ 14:00	특별 강연 新에너지정책 환경에서의 원전 안전성 확보 방안, 송중순 교수(조선대)
14:00 ~ 14:30	원전의 안전성, 어떻게 공감을 얻을 것인가?, 이청구(前 KHNP 부사장)
14:30 ~ 15:00	Coffee Break
15:00 ~ 15:30	안전성 증진을 위한 사고관리 추진 방향, 정용훈 교수(KAIST)
15:30 ~ 16:00	다수기 극한재해 확률론적 안전성 평가 현황과 전망, 임학규 교수(KINGS)
16:00 ~ 16:30	주제 발표 원전 대형지진 종합 대책 현황과 방향, 이현우 박사(KINS)
16:30 ~ 17:00	사고관리계획서 및 스트레스테스트 사업 현황, 양승태 팀장(KHNP)
17:00 ~ 18:00	Open Discussion 및 폐회

| 기타사항 — 등록비 : 무료 (식사 제공 없음)

— 문의처 : 남기훈 / 한국수력원자력 안전처 / 054-704-3257 / kihoonnam@khnp.co.kr

APR1400 RCP Seal 국산화개발 및 장시간 SBO시 Seal LOCA 성능검증

| 일시 · 장소 2018년 5월 16일(수) 14:00~17:30 · 제주 국제컨벤션센터, 4층 400

| 주최 한국원자력학회 원전건설 및 운영기술 연구부회, 두산중공업(주), 한국원자력연구원

일 정	내 용
14:00 ~ 14:10	Workshop Opening Remarks(부회장, 총괄과제책임자(한원연/두산중) 등)
14:10 ~ 14:30	APR1400RCP Seal 설계, 제작, 시험 기술 국산화 개발 및 의의 (추성민 / 두산중)
14:30 ~ 14:50	SBO Seal LOCA 시험요건 및 절차 (조석 / 한원연)
14:50 ~ 15:10	APR1400 국산화 RCP Seal 설계특징 및 성능검증 (이종일 / 두산중)
15:10 ~ 15:30	장시간 SBO 조건 RCP Seal LOCA 검증시험 결과 (김석 / 한원연)
15:30 ~ 16:00	휴식시간
16:00 ~ 16:30	RCP Seal LOCA 해외 현황 및 추세 (김민석 / 한기SD)
16:30 ~ 16:50	RCP 성능시험 기술 개발 (배병연 / 한원연)
16:50 ~ 17:20	APR1400 국산화 RCP Seal 구조적 건전성 평가(김민철 / 두산중)
17:20 ~ 17:30	Workshop Closing Remarks

| 기타사항 - 등록비 : 무료 (석식 제공)

- 문의처 : 추성민 / 두산중공업 / 055-278-5763 / sungmin.chu@doosan.com

국내 안전기준 현황 및 개선 방향

| 일시 · 장소 2018년 5월 16일(수) 13:00~18:00 · 제주 국제컨벤션센터, 2층 201B

| 주최 한국원자력학회 원자력정책, 인력 및 협력 연구부회, 한국원자력안전기술원, 한국수력원자력(주)

일 정	내 용
13:00 ~ 13:30	등 록
13:30 ~ 13:45	환영사 : 김현준 (한국원자력학회 원자력정책연구부회장) 축 사 : 김인구 (한국원자력안전기술원 부원장)
13:45 ~ 14:15	원자로시설 분야 안전기준 현안 및 개정 방향 (안승훈, KINS 안전기준실장)
14:15 ~ 14:45	중대사고 법제화와 향후 과제 (김군태, KINS 중대사고리스크평가실)
14:45 ~ 15:15	원자력 안전규제의 개념 및 안전기준의 법적 성격 (장군현, KINS 안전기준실)
15:15 ~ 15:30	휴 식
15:30 ~ 16:00	해외 안전기준 현황 및 시사점 (변충섭, KHNP 중앙연구원 기술기준팀장)
16:00 ~ 16:30	가동 원전에 최신 기술기준 적용을 통한 안전성 극대화 방안 (정성규, KEPCO E&C 미래전력기술연구소 재료연구기술그룹장)
16:30 ~ 17:00	KEPIC 개발 현황 및 개선 방안 (손명성, KEPIC 인증제도팀장)
17:00 ~ 18:00	패널토의 및 Floor 질의응답 (김효정, 글로벌원자력전략연구소 부소장)

| 기타사항 - 등록비 : 무료 (식사 제공 없음)

- 문의처 : 윤영식 / KINS 안전기준실 / 010-2221-0612 / ysyoon@kins.re.kr

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원자력과 신재생 시너지 창출 가능 방안 모색

| 일시 · 장소 2018년 5월 16일(수) 13:00~17:00 · 제주 국제컨벤션센터, 2층 203

| 주최 한국원자력학회 원자력정책, 인력 및 협력 연구부회

일 정	내 용
13:00 ~ 13:15	환영사
13:15 ~ 13:45	원자력-신재생 상생 방안, 박상덕 수석연구위원, 서울대 원자력정책센터
13:45 ~ 14:15	신재생에너지와 전력망, 전력품질영향, 정승민 교수, 한밭대 전기공학과
14:15 ~ 14:45	초고온원자로와 고온열 활용방안, 김민환 부장, KAERI 고온가스로개발부
14:45 ~ 15:00	휴 식
15:00 ~ 15:30	에너지 자립섬 기술요건, 황우현 본부장, 한국전력 제주본부
15:30 ~ 16:00	원자력 신재생 연계의 향후과제, 임만성 교수, KAIST 원자력 및 양자공학과
16:00 ~ 16:50	전체 토론
16:50 ~ 17:00	폐회사

| 기타사항 - 등록비 : 50,000원 (석식 제공)

- 문의처 : 조소빈 / KAIST 원자력 및 양자공학과 / 010-9996-0450 / chosobin@kaist.ac.kr

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4차 산업혁명 핵심기술의 원자력분야 연구 및 적용방안

| 일시 · 장소 2018년 5월 16일(수) 13:00~17:45 · 제주 국제컨벤션센터, 4층 402A

| 주최 한국원자력학회 원자력 계측제어, 인간공학 및 자동원격 연구부회

일 정	내 용
13:00 ~ 13:30	등 록
13:30 ~ 13:40	환영사, 나만균 (연구부회장)
13:40 ~ 14:10	Big Data Strategy for Supporting NPP Operation and Maintenance, 정재천 (KINGS)
14:10 ~ 14:40	4차 산업혁명과 AI - Machine Learning and Deep Learning, 김현민 (KAERI)
14:40 ~ 15:10	4차 산업혁명 기술을 적용한 원자력발전소 감시 및 진단분야 기술개발 현황, 김대웅 (KHNP)
15:10 ~ 15:40	원자로 안전 감시 및 제어를 위한 인공지능 기반 기술, 유용균 (KAERI)
15:40 ~ 16:00	휴 식
16:00 ~ 16:30	자율운전 중소형원자로 ATOM 시스템 특성 및 연구개발 현황, 김용희 (KAIST)
16:30 ~ 17:00	원자로 자율운전을 위한 가상원자로 개발, 성승환(KAERI)
17:00 ~ 17:30	4차 산업혁명 연계 3D 레이저 프린팅 적용 기능성 소재 제조기술, 김현길 (KAERI)
17:30 ~ 17:45	토론 및 질의응답

| 기타사항 - 등록비 : 50,000원 (석식 제공)

- 문의처 : 윤소훈 / 조선대 / 010-2802-3670 / dbsthgns@naver.com



원전 안전 및 기자재산업 활성화를 위한 원전부품설비 인/검증 기술 워크숍

| 일시 · 장소 2018년 5월 16일(수) 14:00~18:00 · 제주 국제컨벤션센터, 3층 303A

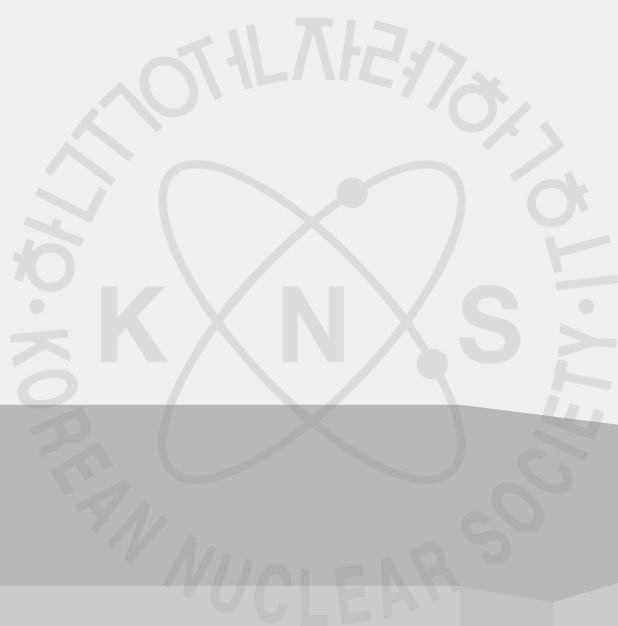
| 주최 한국원자력학회 원전건설 및 운영기술 연구부회 (한국기계연구원 공동주최)

일 정	내 용
14:00 ~ 14:10	인사말, 김용진 (한국기계연구원)
14:10 ~ 14:40	안전관련 설비 공급관련 기기검증(EQ)과 일반규격품 품질검증(CGID), 홍영희 (한수원 중앙연구원)
14:40 ~ 15:10	내환경 검증과 원전기자재 수명관리, 고성실 (KONEQ)
15:10 ~ 15:40	CGID 현황과 디지털부품 CGID 유의사항, 왕찬식 (한전기술)
15:40 ~ 16:00	Coffee Break
16:00 ~ 16:30	원전 부품 · 설비 통합 인 · 검증 정보지원시스템 구축, 정선철 (한수원 중앙연구원)
16:30 ~ 17:00	원전 부품 · 설비 인검증 기술교육 프로그램, 윤득원 (한전기술)
17:00 ~ 17:30	원전 부품 · 설비 검증체계 개선 기술개발 현황, 김영중 (한국기계연구원)
17:30 ~ 18:00	종합 토의

| 기타사항 - 등록비 : 무료 (석식 제공)

- 문의처 : 이태현 / 한국기계연구원 / 042-868-7350 / thlee07@kimm.re.kr

분과별 논제 및 발표자



1A
5. 17 (목)**경수로/중소형로/연구로**
(Light Water Reactor/Small-Medium Size Reactor/Research Reactor)

| 좌장 김지환(Ji Hwan Kim), 서경우(Kyoungwoo Seo)

| 발표장소 401B

- 09:00 EU-APR Safety Features Reflecting Recent European Requirements
Ji Hwan Kim and Keun Seong Lee(KHNP CRI)
- 09:20 Assessment of the EU-APR Standard Design Versus the European Utility Requirements
Cedric Declercq and Andrew Ballard(TE), Giovanni Ferraro(EDF)
- 09:40 Development of a Passive Residual Heat Removal System with an Air Cooling Component of the ATOM System
Gwang Hyeok Seo, Min Wook Na, Doyoung Shin, and Sung Joong Kim(HYU),
Yonghee Kim and Jeong Ik Lee(KAIST)
- 10:00 Study on Various Direct Contact Heat Exchanger Types for Dry Cooled Waste Heat Removal System in SMRs
Jangsik Moon and Yong Hoon Jeong(KAIST), Yacine Addad(KUSTAR)
- 10:20 A Preliminary Safety Classification of a Hybrid Low Power Research Reactor
Hyeonil Kim, Donghyun Kim, Jong Pil Park, Su-Ki Park, and Cheol Park(KAERI)
- 10:40 Coffee Break
- 11:00 Commissioning Test and Experience for Pool Water Management System in an Open-pool Type Research Reactor
Ki-Jung Park, Dae-Young Chi, Kyoungwoo Seo, and Seong-Hoon Kim(KAERI)

1B
5. 18 (금)**소듐냉각고속로 (Sodium-Cooled Fast Reactor)**

| 좌장 윤정(Jung Yoon), 김형모(Hyungmo Kim)

| 발표장소 401B

- 09:00 Design Characteristics of N₂ Brayton Cycle Power Conversion System Coupled with an SFR in Terms of Thermal Balance and Cycle Efficiency
Jung Yoon, Jaehyuk Eoh, and Hyungmo Kim(KAERI), Dong Eok Kim(CAU), Moo Hwan Kim(POSTECH)
- 09:20 Development of a Thermal-Hydraulic Analysis Code for an IHX-Combined Steam Generator with Serpentine Tube Bundles
Hyungmo Kim, Dehee Kim, Jung Yoon, and Jaehyuk Eoh(KAERI),
Namhyeong Kim and Moo Hwan Kim(POSTECH), Dong Eok Kim(CAU)
- 09:40 CRDM Performance Tests of PGSFR
Jae-Han Lee and Sung-Kyun Kim(KAERI)
- 10:00 Scaling Analysis for Scale Down in RVCS Air Natural Circulation Experimental Facility
Koung Moon Kim and Ho Seon Ahn(INU), Ji Hwan Hwang and Dong Wook Jerng(CAU)
- 10:20 Development of a One-Dimensional Analysis Code for Integrated Steam Generator with Helical Tubes Using a Three-Fluid Heat Transfer System
Namhyeong Kim and Moo Hwan Kim(POSTECH),
Hyungmo Kim, Dehee Kim, Jung Yoon, and Jaehyuk Eoh(KAERI)
- 10:40 Coffee Break

- 11:00 Preliminary Study of Sodium-Water Reaction in the PCSG
Siwon Seo and Bongjin Ko(ACT Co., Ltd.), Jaeyoung Lee(HGU), Sangji Kim(KAERI)
- 11:20 Simulation of Whole-Pin Furnace (WPF) Tests using Finite Element Method with Stress-reduction Concept
Hyun-Woo Jung, Hyun-Kyu Song, and Yun-Jae Kim(KU)
- 11:40 A Compartment Design Insight of Potential Sodium Fire using SOFIRE II
Kag Su Jang, Kil Jung Kim, Hyun Kyu Lee, and Young Sik Jang (KEPCO E&C)

1C

5. 18 (금)

고온가스로 (High Temperature Gas Cooled Reactor)

| 좌장 사인진(Injin Sah), 김찬수(Chan Soo Kim)

| 발표장소 401B

- 13:30 Market Analysis for the Diversification of Nuclear Energy Utilization Using VHTR in Korea
Sang IL Lee and Deok Hoon Kye(HEC), Jae Sak Koo(KONES)
- 13:50 Verification of GAMMA+ for Multi-Dimensional Heat Transfer in a Prismatic Core
Sung Nam Lee, Nam-Il Tak, and Hong-Sik Lim(KAERI)
- 14:10 Comparative Study between Two Reduced-Scale Test Results for Air-Cooled RCCS Scaling Law
Chan Soo Kim(KAERI), Darius Lisowski(ANL), Goon Cherl Park(SNU)
- 14:30 Preliminary Estimation of Channel Deformation and Heat Transfer Performance in a Printed Circuit Heat Exchanger
Byung Ha Park, Injin Sah, and Eung-seon Kim(KAERI)
- 14:50 Evaluation of Mechanical Properties for Alloy 800H Base and Weld Metals
Woo-Gon Kim, Jae-Young Park, InJin Sah, Eung-Seon Kim, and Mim-Hwan Kim(KAERI), Seon-Jin Kim(PKNU)
- 15:10 Coffee Break
- 15:30 Tensile Property of the Diffusion-Welded Alloy 617 at Elevated Temperatures
Injin Sah, Woo-Gon Kim, and Eung-Seon Kim(KAERI), Jong-Bae Hwang(CNU)
- 15:50 Design and Transient Analysis of a Trans-critical CO₂ Rankine Cycle for Nuclear Marine Application
Seong Jun Bae, Bongseong Oh, and Jeong Ik Lee(KAIST)
- 16:10 Experimental Study of Magnetic Bearing Instability under Supercritical CO₂ Cooled MMR Conditions
Do Kyu Kim, Seung Joon Baik, and Jeong Ik Lee(KAIST)

1D

5. 17 (목)

- 18 (금)

경수로/중수로/연구로

(Light Water Reactor/Heavy Water Reactor/Research Reactor) – Poster

| 좌장 김현길(Hyun Gil Kim), 정종엽(Jong Yeob Jung)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P01D01 Potential of Applying Liquid Air Energy Storage to Large-scale Nuclear Power Plants for the APR1400 Application
Jin Young Heo and Jeong Ik Lee(KAIST)
- P01D02 Validation of Turbulent Momentum Mixing of MATRA-S Code for CNEN 4x4 Single Phases Flow Mixing
Mazen Baamer (KACARE), Juhung Lee, Hyuk Kwon, and Bon-Seung Koo(KAERI)
- P01D03 Validation Study of MATRA Code for PNL 7by7 Flow Blockage Test
Hyuk Kwon, Kyong-Won Seo, Seoung-Jin Kim, Juhung Lee, and Dae-Hyun Hwang(KAERI)

-
- P01D04 DEM Analysis on Jamming Probability of Ball-type Secondary Shutdown System for a Small Modular Reactor
Su-San Park and Eung Soo Kim(SNU)
- P01D05 Review of the Property Differences of Hydrogen and Deuterium for the Accident Consequences in CANDU Reactors
Jong Yeob Jung, Yong Mann Song, and Jun Ho Bae(KAERI), Sunil Nijhawan(PROLET)
- P01D06 Design Evaluation of Beam Tubes in a Research Reactor
Yeonseok Choo, Hyokwang Lee, Jongoh Sun, and Gyeongho Kim(KAERI)
- P01D07 A Numerical Study of Air Entrainment by the Pipe Rupture Size for Downward Flow Research Reactor
Minkyu Jung, Ki-Jung Park, Kyoungwoo Seo, and Seong-Hoon Kim(KAERI)
- P01D08 Mock-up Tests for Multiple Welds of Zircaloy Specimen
Jeong-Soo Ryu, Hyun Gil Kim, and Tae Kyu Kim(KAERI)
- P01D09 Performace Test of Prototype SSDM for KJRR with on a Simulated Normal Operating Condition
Jihoon Lee, Sanghaun Kim, Hyokwang Lee, Gyeongho Kim, and Yeon-Sik Yoo(KAERI)
- P01D10 A Study on Improvement of Initial Drop Time for Bottom-mounted Control Rod Drive Mechanism with a Hybrid Type Electromagnet in Upward Core Research Reactor
Hyung Huh, Ji-Hoon Lee, Sang-Haun Kim, Yeon-Seok Choo, Jong-Oh Sun, Hyo-Kwang Lee, Yeon-Sik Yoo, and Kyong-Ho Kim (KAERI)
- P01D11 The Function and Formation of Hot Water Layer in Research Reactors
Dae-Young Chi, Yong-Seok Choi, Kyoung Woo Seo, and Seong Hoon Kim(KAERI)
- P01D12 Platform Design inside the Reactor Pool for Stable Flow of the Hot Water Layer in the Research Reactor
Hyun-gi Yoon, Kyoung-woo Seo, and Seong-hoon Kim(KAERI)
- P01D13 Comparison of large LWR to SMR under LOCA for Future Development of Autonomous Operation Algorithm
Min-Gil Kim and Jeong Ik Lee(KAIST)
- P01D14 Layout Study of Supercritical CO₂ Power System for Waste Heat Recovery System
Yoonhan Ahn, Han Seo, Jae Eun Cha, and Heung June Chung(KAERI)
-

1E 소듐냉각고속로/고온가스로 (Sodium-Cooled Fast Reactor/High Temperature Gas Cooled Reactor) – Poster

5. 17 (목) – 18 (금) | 좌장 이성남(Sung Nam Lee), 김병연(Byeong-Yeon Kim) | 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P01E01 Experimental Study of CO₂ Based Gas Mixture Power Cycle Application to the Nuclear System
Seungjoon Baik, Dokyu Kim, and Jeong Ik Lee(KAIST)
- P01E02 Study of Critical Flow for Supercritical CO₂ Turbomachinery Seal Design
Min Seok Kim, Seong Jun Bae, Bong Seong Oh, Jin Su Kwon, and Jeong Ik Lee(KAIST)
- P01E03 Opportunities and Challenges of Online Monitoring Systems for Sodium Leak Detection with Internet of Things
Byeong-Yeon Kim, Hyeong-Yeon Lee, Min-Hwan Jung, Da-Young Gam, and Ji-Young Jeong(KAERI)
- P01E04 Development of Beta Version of TRACE-SFR Code and Component Test Assessments
Andong SHIN, Yong Won CHOI, and Min Ki CHO(KINS)
- P01E05 Experimental Investigation of Heat Loss on a Heat Exchanger in a Sodium Test Facility
Joonki Kim, Hyungmo Kim, Youngchul Jo, and Ji-Young Jung(KAERI)
- P01E06 Parametric Design Study for Cooling System of EVTM Cask of the PGSFR
Jungmin Park, Jae-Han Lee, and Sung-Kyun Kim(KAERI), Dongwon Lee(USW)
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- P01E07 Conceptual Operating Procedures for STELLA-2
Chungho Cho, Byung-Ho Kim, Youngil Cho, Yong Bum Lee, Jong-Man Kim, and Ji-Young Jeong(KAERI)
- P01E08 Numerical Simulation of H₂SO₄ Thermal Decomposer for a VHTR Helium Loop-based SI Hydrogen Production Test Facility
Youngjoon Shin, Taehoon Lee, Juho Lee, Kiyoung Lee, Changkeun Jo, and Minhwan Kim(KAERI)
- P01E09 Mechanical Design for Key Dimensions of Printed Circuit Heat Exchanger
Yong Wan Kim, Ji Ho Kang, and Eung Seon Kim(KAERI)
- P01E10 Design Study of Surface-Cooled Centrifugal Compressor in a Supercritical CO₂ (S-CO₂) Brayton Cycle
Yongju Jeong, Jin Young Heo, Seong Kuk Cho, and Jeong Ik Lee(KAIST)
- P01E11 Nuclear Graphite Inhomogeneity as Revealed by Nonuniformity of Oxidation Rates and New Billet Qualification Requirements
Se-Hwan Chi(KAERI), Cristian I. Contescu and JoJo Lee(ORNL), Geun-Seok Choi(KEA)
- P01E12 Analysis of Condensation Effect of Supercritical CO₂ Radial Compressor
Jeong Yeol Baek, Seong Gu Kim, and Jeong Ik Lee(KAIST), Si Woo Lee(Jinsolturbo Machinery Co., Ltd.), Yacine Addad(KUSTAR), Jae Eun Cha(KAERI)
- P01E13 Heat Transfer Correlations for the CO₂ 2-phase Flow Near the Critical Point
In Woo Son, Seong Jun Bae, and Jeong Ik Lee(KAIST)
- P01E14 Effect of Backswept Angle Changes on Supercritical CO₂ Centrifugal Compressor Performance
Seong Kuk Cho, Yongju Jeong, and Jeong Ik Lee(KAIST)
- P01E15 One-Dimensional Model for Fission Product Plateout and Circulating Coolant Activities in a HTGR
Nam-il Tak, Sung Nam Lee, and Chang Keun Jo(KAERI)
- P01E16 Lab-Scale Experimental Apparatus to Study Plate-out Characteristics of Metallic Fission Products on the Flow Channel of VHTR Heat Exchanger
SungDeok Hong, Nam-Il Tak, Byung Ha Park, EunSeon Kim, and MinHwan Kim(KAERI)
- P01E17 Preliminary FEM Analysis of Diffusion Bonding Process of Alloy 617 Plates
Ji-Ho Kang, Yong-Wan Kim, Injin Sah, and Eung Seon Kim(KAERI)
- P01E18 Development of Accelerated PCHE Off-design Performance Model for Optimizing Power System Control Strategies in S-CO₂ Power Conversion System of Nuclear Power Plant Applications
Jinsu Kwon and Jeong Ik Lee(KAIST)
- P01E19 Application of Isothermal Turbine to a Simple Recuperated Cycle for KAIST Micro Modular Reactor
Bong Seong Oh, Jin Young Heo, and Jeong Ik Lee(KAIST)
-

2A

5. 17 (목)

원자로물리 일반 I (Reactor Physics General I)

| 좌장 홍서기 (Sergi Hong), 김도현(Do Heon Kim)

| 발표장소 301

- 09:00 A Criticality Safety Analysis of PWR Spent Fuel Storage Pool with Burnup Credit and Axial Burnup Profile
Kyu Jung Choi, Ye Seul Cho, and Ser Gi Hong(KHU)
- 09:20 A Comparative Study of Recycling Options for High Consumption of TRU using PWR Fuel Assemblies
Ye Seul Cho, Dae Hee Hwang, and Ser Gi Hong(KHU)
- 09:40 Analysis of Effective Gadolinium Depletion Model
Jiwon Choe, Sooyoung Choi, and Deokjung Lee(UNIST)
- 10:00 A Flexible One-node CMFD Algorithm for Multi-group Diffusion and SP_3 Equations In Hexagonal Geometry
Seongdong Jang, Woong Heo, and Yonghee Kim(KAIST)
- 10:20 Coffee Break
- 10:40 Combination of Burnable Poison Pins for 24 Months Cycle PWR Reload Core
Aiman Dandi, MinJae Lee, and Myung Hyun Kim(KHU), Soon Ki Kim and Sang Rin Shon(KEPCO NF)
- 11:00 Analyses of the B&W-1810 and KRITZ-2 Critical Experiments with nTRACER
Sori Jeon and Han Gyu Joo(SNU)
- 11:20 Validation of the Thermal Neutron Scattering Cross Sections for Heavy Water Generated by the Molecular Dynamics Simulation
Haelee Hyun, Do Heon Kim, and Young-Ouk Lee(KAERI)
- 11:40 Design of LEU Fuel Assembly Using Artificial Neural Network at Kyoto University Critical Assembly
Song Hyun Kim, Wooyong Um, and Moo Hwan Kim(POSTECH), Cheol Ho Pyeon(Kyoto U)

2B

5. 17 (목)

원자로해석 방법론 I (Reactor Analysis Method I)

| 좌장 박호진(Ho Jin Park), 육승수(Seungsu Yuk)

| 발표장소 302

- 09:00 Adaptation of Critical Buckling by Monte Carlo Method to DeCART2D Calculations for TCA Critical Facility
Ho Jin Park and Jin Young Cho(KAERI)
- 09:20 Monte Carlo Simulation of Total Cross Section Measurement of ^{nat}W using Time-of-Flight Method
Jong Woon Kim, Hyeong Il Kim, and Young-Ouk Lee(KAERI)
- 09:40 GPU-based Parallel Krylov Linear System Solver for CMFD Calculation in nTRACER
Junsu Kang and Han Gyu Joo(SNU)
- 10:00 A Study on Optimization of Albedo Boundary Conditions for the Deterministic Truncation of Monte Carlo Solutions
Inhyung Kim and Yonghee Kim(KAIST)
- 10:20 Coffee Break
- 10:40 Efficient Parallelization Strategy of STREAM for Three-dimensional Whole-core Neutron Transport Calculation
Sooyoung Choi and Deokjung Lee(UNIST)

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- | | |
|-------|---|
| 11:00 | Generation of Exact Discontinuity Factors for Nodal Expansion Method Using 2 by 2 Nodes per Assembly
HyeonTae Kim, Woosong Kim, and Yonghee Kim(KAIST) |
| 11:20 | Multi-physics Coupled Reactor Core Analysis System of RAST-K2.0 with CTF and FRAPCON
Hanjoo Kim, Jinsu Park, Jiwon Choe, Jiankai Yu, and Deokjung Lee(UNIST) |
| 11:40 | A Study on In-situ Two-group SPH Factor Correction in GET-Based Pin-by-Pin Core Analysis
Hwanyael Yu and Yonghee Kim(KAIST) |
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5. 18 (금)

원자로해석 방법론 II (Reactor Analysis Method II)

| 좌장 이현철(Hyun Chul Lee), 김종운(Jong Woon Kim)

| 발표장소 302

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|-------|--|
| 09:00 | Performance Comparison of Linear System Solvers for CMFD Acceleration on GPU Architectures
Namjae Choi, Junsu Kang, and Han Gyu Joo(SNU) |
| 09:20 | Inline Critical Boron Concentration Search Iteration with p-CMFD Feedback in Continuous-Energy Monte Carlo Simulation
YuGwon Jo and Nam Zin Cho(KAIST) |
| 09:40 | α -Adjoint Weighted Kinetics Parameter Estimation in the Monte Carlo α -Iteration
Donghun Kim and Hyung Jin Shim(SNU) |
| 10:00 | A Diffusion-based 3D FEM Analysis for Assessment of Reactivity Change due to Core Deformation in an SFR
Woong Heo and Yonghee Kim(KAIST) |
| 10:20 | Coffee Break |
| 10:40 | Comparison of ENDF/B-VIII.0 and ENDF/B-VII.1 McCARD Results for Criticality Benchmark and TMI-1 Pin Problems
Ho Jin Park, Haelee Hyun, and Jin Young Cho(KAERI) |
| 11:00 | Burnup Adaptation Model in STREAM/RASTK Code System
Peng Zhang, Jiwon Choi, Sooyoung Choi, and Deokjung Lee(UNIST) |
| 11:20 | Massive Parallel Computation for an Efficient Whole Core Transport Calculation
Jin Young Cho and Seungsu Yuk(KAERI) |
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5. 18 (금)

원자로물리 일반 II (Reactor Physics General II)

| 좌장 박창제(Chang Je Park), 조유권(YuGwon Jo)

| 발표장소 301

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|-------|--|
| 09:00 | Neutronic Analysis on Conceptual Design of Dual-Fluid Fusion-Fission Hybrid System for Waste Transmutation
Seong Hee Hong and Myung Hyun Kim(KHU) |
| 09:20 | Sensitivity and Uncertainty Analysis for UAM TMI-1 Pin-cell with UNIST Monte Carlo Code MCS
Yunki Jo, Jiankai Yu, Hyunsuk Lee, and Deokjung Lee(UNIST) |
| 09:40 | Neutronic Feasibility of a Small Lead-cooled Breed and Burn Fast Reactor
Chihyung Kim and Yonghee Kim(KAIST) |
| 10:00 | A Monte Carlo-Diffusion Two-step Analysis of an Soluble-Boron-Free SMR Using Centrally-Shielded Burnable Absorber
Xuan Ha Nguyen and Yonghee Kim(KAIST) |
| 10:20 | Coffee Break |
| 10:40 | VERA Solutions by UNIST MC Code MCS
Tung Dong Cao Nguyen, Hyunsuk Lee, and Deokjung Lee(UNIST) |
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- 11:00 Uncertainty Quantification of LWR by Random Sampling Method with STREAM/RAST-K
Yongmin Jo, Sooyoung Choi, Jiwon Choe, Yunki Jo, Yu Jiankai, and Deokjung Lee(UNIST)
- 11:20 On-The-Fly Interpolation for Thermal Scattering in MCS
Hyunsuk Lee and Deokjung Lee(UNIST)

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5. 17 (목)
- 18 (금)

원자로물리 및 계산과학 (Reactor Physics and Computational Science) – Poster

| 좌장 조진영(Jin Young Cho), 조창근(Chang Keun Jo)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P02E01 Effects of Pressure Tube Deformation on the Reactivity for CANDU6 Reactors
Eun Hyun Ryu and Jong Yub Jung(KAERI)
- P02E02 Preliminary Start-up the HANARO after the Long-term Shut-down
Won-Ho In, B.G. Park, H.J. An, and Y.J. Um(KAERI)
- P02E03 Corroboration of the Calculation/Experiment Errors for the BFS-84-1 Physics Experiments
Sunghwan Yun and Jae-Yong Lim(KAERI)
- P02E04 Benchmark Matrix for Verification and Validation of DeCART2D Code
Yonghee Choi, Sungmin Kim, Taewoo Tak, Hee Jeong Jeong, and Kyunghoon Lee(KAERI)
- P02E05 Improvement of the DeCART2D/CAPP Code System for Prismatic VHTR Cores
Seungsu Yuk, Tae Young Han, Jin Young Cho, and Chang Keun Jo(KAERI), Hyun Chul Lee(PNU)
- P02E06 Xenon Stability Analysis of SMART
Cheonbo Shim, Kyunghoon Lee, Chungchan Lee, and Bon Seung Koo(KAERI)
- P02E07 Generation of 3-D Power Distribution Synthesis Library for SMART Core Monitoring System
Abdullah Obaid Albugami(KACARE), DongYeong Kim and BonSeung Koo (KAERI)
- P02E08 Verification and Validation of MASTER Code for Steady-State and Transient Core Calculations
Hee Jeong Jeong, Jin Young Cho, and Kyunghoon Lee(KAERI)
- P02E09 Implementation of Pin-based Pointwise Energy Slowing-down Method into DeCART
Tae Young Han, Jin Young Cho, and Chang Keun Jo(KAERI)
- P02E10 Solution of the BEAVRS Benchmark using the DeCART2D/MASTER Code System
Taewoo Tak, Sungmin Kim, Cheonbo Shim, and Kyunghoon Lee(KAERI)
- P02E11 A Study on the Effect of 62 GWD/MTU Fuel Rod Burnup Extension for Core Reactivity
Jeong-pyo Jeon, Seung-beom Son and Sang-rin Shon(KEPCO NF), Sang-rae Moon and Ho-cheol Shin(KHNP CRI)
- P02E12 Sensitivity Analysis of Thorium-based Epithermal Reactor using Burnable Absorber
Boravy Muth, Hong Yeop Choi, and Chang Je Park(Sejong Univ.)
- P02E13 The Daily Load Follow Operation Capability of SMART
Sungmin Kim, Chungchan Lee, Sang Yoon Park, Kyunghoon Lee, and Bon Seung Koo(KAERI)
- P02E14 Neutronics Analysis for Thorium Epithermal Reactor with T/H Feedback Effect
Hong Yoep Choi, Jae-Ho Bae, and Chang Je Park(Sejong Univ.)
- P02E15 A Depletion Analysis of Thorium Epithermal Reactor with Carbide Fuel
Saed Alrawash, Muth Boravy, Hong Yeop Choi, and Chan Je Park(Sejong Univ.)
- P02E16 Validation of Ultra-Fine Group Library Generation of Lead-cooled Fast Reactor for STREAM Code
Kiho Kim, Sooyoung Choi, and Deokjung Lee(UNIST)
- P02E17 Design of High Density Spent Fuel Storage Rack Applying Burnup Credit
Sanggeol Jeong, Wonkyeong Kim, and Deokjung Lee(UNIST)

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- P02E18 Validation of UNIST MCS Monte Carlo Code System for OPR -1000
Vutheam Dos, Hyunsuk Lee, Jiwon Choe, and Deokjung Lee(UNIST), Ho Cheol Shin and Hwan Soo Lee(KHNP)
- P02E19 Application of MCS Code to Yonggwang Unit 3 Cycle 1 BOC Analysis
Quoc Tuan Tran, Hyunsuk Lee, Jiwon Choe, Yongmin Jo, Sooyoung Choi, Hwan Soo Lee, Ho Cheol Shin,
and Deokjung Lee(UNIST)
- P02E20 Sensitivity and Uncertainty Analysis on TMI-1 PWR Pin Cell with STREAM
Woonghee Lee, Sooyoung Choi, Jiankai Yu, and Deokjung Lee(UNIST)
- P02E21 Implicit Resonance Self-shielding Effect of Multi-group Covariance in RXSP Code
Jiankai YU, Sooyoung Choi, Yongmin Jo, Peng Zhang, and Deokjung Lee(UNIST), Wanlin Li and Kan Wang(THU)
- P02E22 Fuel Performance Analysis of BEAVRS Benchmark Cycle 1 Depletion using MCS
Jiankai YU, Hyunsuk Lee, Peng Zhang, and Deokjung Lee(UNIST)

원자력시설해체 및 방사성폐기물관리 (Nuclear Facility Decommissioning and Radioactive Waste Management)

3A 5. 17 (목)

원자력시설해체 및 방사성폐기물관리 I (Nuclear Facility Decommissioning and Radioactive Waste Management I)

I 좌장 임만성(Man Sung Yim), 최영구(Young-Ku Choi)

I 발표장소 401A

- 09:00 Removal of Radiocesium Using Polyacrylonitrile Nanofibers Incorporated with Prussian Blue
Hyuncheol Kim, Wanno Lee, and Jong-Myoung Lim(KAERI), Soonhyun Kim(DGIST)
- 09:20 Necessity of Adjusment of Reasonable Acceptance Criteria for Radioactive Waste Disposal
HyunTae Choi, ByeoungKug Lee, and HyunKeun Shin(KHNP)
- 09:40 Preliminary Source Term Assessment on Kori unit 1 Radioactive Bioshield for Decommissioning
Donghyun Lee and Hee Reyoung Kim(UNIST)
- 10:00 Characterization and Thermal Treatment Application for Radioactive Concrete Wastes from Nuclear Power Plant Decommissioning
Sangsoo Han, Seok-ju Hong, Seongsik Nam, Won-Seok Kim, and Wooyong Um(POSTECH)
- 10:20 Risk Assessment Framework for Decommissioning Workers in Radioactive Areas
HyungJun Kim and Seung Jun Lee(UNIST)
- 10:40 Coffee Break
- 11:00 The Radiation Exposure Assessment during Decommissioning
San Chae, Su-jung Min, Un-Jang Lee, Jeong-Yong Taek, and Kyung-Sub Yoon(ORIONEnC Co., Ltd.), Kook-Nam Park and Seung-Kook Park(KAERI)
- 11:20 Study on the Experiment of Melting Decontamination for Thermal Insulation Waste of Reactor Coolant System
Min-Hwan Mo, Yung-Ho Cho, Nak-Jeom Kim, and Sang-Hoon Choi(KEPCO KPS), Won-Seob Jeong(PNU)
- 11:40 Developing the Technology for Using the Microwave to Remove C-14 from the Spent Resin from HWR Nuclear Power Plants
Hyeon-Oh Park, Kyu-Tae Park, Jung-Min Yoo, and Young-Ku Choi(Sunkwang T&S Co.,Ltd)
- 12:00 Magnesium Phosphate Cements to Solidify the Concrete Wastes from Decommissioning of the Nuclear Power Plants
Jae-Young Pyo, Zhiyong Zhao, Cheong Won Lee, and Jong Heo(POSTECH)

3B 5. 18 (금)

원자력시설해체 및 방사성폐기물관리 II (Nuclear Facility Decommissioning and Radioactive Waste Management II)

I 좌장 임상호(Sang Ho Lim), 김경모(Kyung Mo Kim)

I 발표장소 401A

초청발표

- 09:00 The Status of Cask Manufacturing Technology and Performance Test in Korea
Yoseb Cha, Sangdong Lee, Dongjin Goo, Shihong Kim, and Minchul Seo(DOOSAN)
- 09:30 Vittrification of the Spent Nuclear Fuel Using Borosilicate and Iron Phosphate Glasses
Cheong Won Lee, Jae-Young Pyo, and Jong Heo(POSTECH)

- 09:50 Spent Fuel Characteristic Analysis with Realistic Irradiation History
GyeongMi Kim, GeonHee Jung, and Ser Gi Hong(KHU), Dae Sik Yook and Ara Go(KINS)
- 10:10 A Novel Scintillator-Photodiode Detector to Detect Partial Defects of PWR Spent Fuel Assemblies for Nuclear Safeguards
Haneol Lee and Man-Sung Yim(KAIST)
- 10:30 Coffee Break
- 10:50 Development Status of Hybrid Heat Pipe-Integrated Spent Fuel Dry Storage Cask-UCAN
Kyung Mo Kim, Yeong Shin Jeong, In Guk Kim, and In Cheol Bang(UNIST)
- 11:10 Tip-Over Analysis of Freestanding SF Storage Cask
Sang Soon Cho, Yun Young Yang, Woo-Seok Choi, and Ki-Seog Seo(KAERI), Daesik Yook and A Ra Go(KINS), David T. Tang(U.S. NRC), Jongmin Lim(KARI)
- 11:30 Analysis of Vacuum Drying for Canister with Spent Nuclear Fuel
Seung-hwan Yu, Ju-chan Lee, Kyung-sik Bang, and Woo-Seok Choi(KAERI)
- 11:50 Scoping Analysis of Spent Fuel Storage Cask for Monitoring Application
Hyong Chol Kim, Young Jin Lee, and Sam Hee Han(NSE)
- 12:10 Thermal Test Using a Half Scale Model of Shipping Package
K. S. Bang, S. H. Yu, J. C. Lee, and W. S. Choi(KAERI)

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5. 17 (목)
- 18 (금)

원자력시설해체 및 방사성폐기물관리

(Nuclear Facility Decommissioning and Radioactive Waste Management) – Poster

| 좌장 윤영상(Young-Sang Youn), 서기석(Kiseog Seo)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P03C01 Performance Evaluation of Slant and Horizontal Slitter
Young-Hwan Kim, Yung-Zun Cho, and Young-Soon Lee(KAERI)
- P03C02 Safety Assessment Tools for Disposal Facilities of Decommissioning Waste
Jongtae Jeong, Min Hoon Baik, and Jae Kwang Lee(KAERI)
- P03C03 Decontamination Performance of Foam Decontaminating Agent
Chong Hun Jung, In Ho Yoon, Seung Eun Kim, Seon Byeong Kim, Wang Kyu Choi, Jei Kwon Moon, and Bum Kyung Seo(KAERI)
- P03C04 Sensing Methodology of Heat Flux for Detecting Structural Defects in Spent Fuel Dry Storage Cask
Donggyu Kim, Misuk Jang, and Seoung Rae Kim(NESS)
- P03C05 Economic Feasibility Analysis and Potential Design Suggestion of Novel Cesium Adsorbents
Jung Hwan Kim, Man-Sung Yim, Carol Ann Hornibrook, Yun Kon Kim, Yong Hwan Kim, and Jae Woo Lee(KAIST)
- P03C06 Further Analysis by Changing Flow Rate for Efficient Inerting Operation of Argon Cell
JaeHoon Lim and SeungNam Yu(KAERI)
- P03C07 Evaluation Based on Virtual Networked Environment for the Hazards Resulting from Human Errors during Decommissioning of a Nuclear Facility
KwanSeong Jeong, Dongjun Hyun, SungMoon Joo, IkJune Kim, ShinYoung Kang, JongHwan Lee, and BumKyung Seo(KAERI)
- P03C08 Implementation of Main Process Function on Nuclear Facilities Decommissioning Project Information
Yunjeong Hong, Heeseoung Park, Jonjin Kim, and Jeong-guk Kim(KAERI)

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- P03C09 Integrity of Polypropylene Filter Fabric Against the Gamma-ray Irradiation
H. J. Won, N. O. Chang, S. Y. Park, S. B. Kim, and B. K. Seo(KAERI)
- P03C10 Thermal Analysis of Simulated Fuel Assembly for the Design of Drying Test Equipment
Ju-Chan Lee, K.S. Bang, S.H. Yu, K.S. Seo, S.S. Cho, and W.S. Choi(KAERI)
- P03C11 Implementation of Connectivity Between Facility Characterization and Decommissioning Activity for Dismantling of Nuclear Facilities
Hee Seoung Park, Yunjeong Hong, Jeong Guk Kim, and Jong Won Choi(KAERI)
- P03C12 A Study on Puncture Simulation of Transportation Cask
Woo-seok Choi, Sang soon Cho, Ki-seog Seo, Yun young Yang, and Seunghwan Yu(KAERI)
- P03C13 Effects of Geochemical Conditions on the Sorption of Radionuclides onto Granitic Rock
Jae-Kwang Lee, Min-Hoon Baik, and Jongtae Jeong(KAERI)
- P03C14 Performance Verification of Semi-Plant Scale Facility for TEDA Impregnated Activated Carbon Aging Test
Hyun-Chul Lee, Gyu-Tae Kim, and Doo-Yong Lee(FNC Tech.), Hak-Soo Kim and Cho-Rong Kim(KHNP CRI)
- P03C15 The Cost Evaluation Framework on a CAD-based Dismantling Process Simulation System
Jonghwan Lee and Dongjun Hyun(KAERI)
- P03C16 Structural Analysis of High Capacity CANDU Spent Fuel Cask Under Normal Conditions
Kiseong Seo, Sang Soon Cho, and Woo-Seok Choi(KAERI)
- P03C17 Safety Analysis of Radwaste Storage Buildings at KAERI : Fire Case
Jongjin Kim, Hong Rae Jeon, Dong Ju Lee, Jeong-guk Kim, and Dae-Seok Hong(KAERI)
- P03C18 A Study on the Regulation Improvement Through the Analysis of Domestic and Foreign Categorization for Radioactive Waste and Decommissioning Cost
Da-Yeong Gwon, Ji-young Han, and Yong-min Kim(DCU)
- P03C19 A Study on Assessment of Fulfill the Site Release Criteria based on Site Survey Data and DCGLs
Yeoryeong Jeon and Yongmin Kim(DCU)
- P03C20 Preliminary Test of the Sodium Treatment Process
Byungho Kim, Jong Man Kim, Chungho Cho, Sang Min Park, and Ji Young Jeong(KAERI)
- P03C21 The Study on Evaluation Method of Physical Inventory of Nuclear Fuel Cycle Facility
Sujung Min, San Chae, Seunghyun Ha, Teayoung Kim, and Dohyung Kim(ORIONEnC Co., Ltd.), Kooknam Park and Seungkook Park (KAERI)
- P03C22 Radioactivity Measurement of Medical Radioactive Waste for Self-disposal
Ho Sun Lee, Ki Sub Kim, Moon Sik Choi, Bu Hyung Lee, and Hai Jo Jung(KIRAMS), Chang Bum Kim(GNGRADCON)
- P03C23 Evaluation Study on the Advanced Creep and Hydride Reorientation Model for Spent Nuclear Fuel during Dry Storage
Yongdeog Kim, Jinho Jeong, Taehyeon Kim, and Seonghwan Chung(KHNP CRI)
- P03C24 Design and Characterization of Dual Neutron Absorber Reinforced Aluminum Composites for Dry Storage Basket Materials
Taegyu Lee and Ho Jin Ryu(KAIST)
- P03C25 Removal and Speciation Behavior of Cations in the Waste Solution of SP-HyBRID Process
S.Y. Park, J.Y. Jung, H.J. Won, W.K. Choi, H.C. Eun, S.B. Kim, and B.K. Seo(KAERI), S.J. Park(JNU)
- P03C26 A Comparison Test on Isotopic Scaling Factors with Measured Scaling Factors of Dry Active Waste Forms
Chang Je Park, Seunguk Yoo, Hyuk Han, and Jongmin Lee(Sejong Univ.), Hong Ju Ahn(KAERI)
- P03C27 Development of Hand-Held Equipment for Safeguards Applications On-Site
In-Jung Chang, Jung Youn Choi, and Heejun Chung(KINAC)
- P03C28 Development of Simplified Beam Model of a Spent Nuclear Fuel Rod
Sanghoon Lee(KMU), Belal Almomani and Dongchan Jang(KAIST)
- P03C29 Radiological Assessments Suggestion for Improvement on Regulatory Radioactive Waste Clearance Level of the Scrap Metal and Concrete Shell at Radioactive Waste Management in Indonesia
Adi Wijayanto(KAIST/KINS), Kun-Woo Cho(KINS)
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- P03C30 Task Analysis for the Human Reliability in Decommissioning Activities
Byung Sik Lee and Hyun Jae Yoo(DKU)
- P03C31 Electrochemical Behavior on Lu and Bi Ion in LiCl-KCl Eutectic Salt Using W Electrode
Beom Kyu Kim, Byung Gi Park, Hwa Jeong Han, Ji hye Park, and Won Ki Kim(SCHU)
- P03C32 Optimization of High Resolution Pinhole Collimator for Radioactive Waste Monitor Using Gamma Camera
Minju LEE, Hyunduk KIM, and Gyuseong CHO(KAIST)
- P03C33 Development of Reactive Transport Model for Analyzing General Corrosion of Spent Nuclear Fuel Disposal Canister under Oxidizing Condition
In-Young Kim, Heui-Joo Choi, and Dong-Keun Cho(KAERI)

핵연료 및 원자력재료 (Nuclear Fuel and Materials)

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5. 17 (목)

핵연료 (Nuclear Materials)

| 좌장 김기환(Ki-Hwan Kim), 국승우(SeoungWoo Kuk)

| 발표장소 202A

- 09:00 Fabrication of U-10wt.%Zr and U-10wt.%Zr-RE Metallic Fuel Slugs by Recycling of Fuel Scraps
Ki-Hwan Kim, Seong-Jun Ha, Yoon-Myeng Woo, Seok-Jin Oh, Kyung-Chai Jeong, and Jeong-Yong Park(KAERI)
- 09:20 Preliminary Tests of Engineering-Scale Injection Casting for SFR
Hoon Song, Ki-Ho Kim, and Jeong-Yong Park(KAERI)
- 09:40 Analysis of Measured Thermophysical Properties of U-Mo/Al Dispersion Fuels
Tae Won Cho and Dong-Seong Sohn(UNIST), Yeon Soo Kim(ANL), Jong Man Park and Yong Jin Jeong(KAERI)
- 10:00 Thermal Conductivity of CeO₂-Ce₃Si₂ Hybrid Ceramic
Jungsu Ahn, Myongkyu Lee, and Sangjoon Ahn(UNIST)
- 10:20 Fabrication of Mo Microplate Dispersed UO₂ Nuclear Fuel Pellets
Dong Seok Kim, Dong-Joo Kim, Jang Soo Oh, Sang-Chae Jeon, Keon Sik Kim, Jong Hun Kim, and Jae Ho Yang(KAERI)
- 10:40 Coffee Break
- 11:00 Enhanced Casting Procedure to Improve Casting Yield and to Reduce Radioactive Wastes
SeoungWoo Kuk, SungChan Park, YoungMo Ko, and Jeong-Yong Park(KAERI)
- 11:20 The Researches of UO₂ Powder Oxidation in Air by TG/DSC
Hyounggyu Park, Geonyong Lee, Juhyeong Lee, and Kwangheon Park(KHU), Nobuaki Sato(IMRAM, Tohoku Univ.)
- 11:40 The Oxidation Behavior of UO₂ in Air at 573-723 K
Hyounggyu Park and Kwangheon Park(KHU)

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5. 17 (목)

재료열화 및 신소재 개발 (Materials Degradation & Development)

| 좌장 허도행(Do Haeng Hur), 장근옥(Kunok Chang)

| 발표장소 202B

초청발표

- 09:00 Current Status of Advanced Radiation Resistant ODS Steel Development
Tae Kyu Kim, Sanghoon Noh, Suk Hoon Kang, Seungmun Jung, Chang Hee Han, Ki Baik Kim, Choong Hwan Jung, and Jinsung Jang(KAERI)
- 09:40 A Review: Magnetite Accelerated Corrosion of Secondary Side Materials in a PWR
Do Haeng Hur, Geon Dong Song, and Soon-Hyeok Jeon(KAERI)
- 10:00 Stress Corrosion Cracking and Surface Oxidation Properties of Ni-base Welding Alloys Exposed to PWR Primary Water
Yun Soo Lim, Dong Jin Kim, Sung Woo Kim, Seong Sik Hwang, and Hong Pyo Kim(KAERI)
- 10:20 Behaviors of Selected 2p-valence Impurity Elements in Liquid Lead-Bismuth Eutectic
Junhyoung Gil and Takuji Oda(SNU)
- 10:40 Coffee Break
- 11:00 Electrochemical Behavior of Alloy 600 and Magnetite in Solutions of Sulfate and Thiosulfate
Je Oh Han, Geun Dong Song, Soon Hyeok Jeon, and Do Haeng Hur(KAERI), Jong Hyeon Lee(CNU)

- 11:20 Analysis of Microstructural Characteristics of Hydrogen Charged Zr-2.5wt%Nb Pressure Tube
Sangyeob Lim, Sung-Soo Kim, Dong-Hyun Ahn, and Gyoeng-Geun Lee(KAERI), Kunok Chang(KHU)
- 11:40 A Molecular Dynamics Study on the Early Stage Oxidation Behavior of Nickel Surface in Oxygen and Water Environments
Kwang Beom Ko and Ji Hyun Kim(UNIST)

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5. 18 (금)

핵연료 (Nuclear Materials)

| 좌장 김현길(Hyun Gil Kim), 이주석(Joosuk Lee)

| 발표장소 202A

- 09:00 Effects of Negative Bias Voltage on the Corrosion Properties of Cr-alloy Coatings by Cathodic Arc Ion Plating for Accident Tolerant Fuel Cladding
Jung-Hwan Park, Yang-Il Jung, Dong-Jun Park, Hyun-Gil Kim, Byoung-Kwon Choi, Young-Ho Lee, and Jae-Ho Yang(KAERI)
- 09:20 Development Status of Surface-Modified Fuel Cladding for ATF
Hyun-Gil Kim, Jae-Ho Yang, and Yang-Hyun Koo(KAERI), Jungon Kim(KHNP), Hocheol Shin(KHNP CRI), Jongsung Yoo and Yong-Kyoon Mok(KEPCO NF)
- 09:40 Effects of Preformed Oxide on Enhancing High-Temperature Oxidation Resistnace of a Zirconium Alloy Cladding Tube
Cheol Min Lee, Tae Won Cho, Gwan Yoon Jeong, Mi Jin Kim, Ji-Hyeon Kim, and Dong-Seong Sohn(UNIST), Yong-Kyoon Mok(KEPCO NF)
- 10:00 Role of Compression Metallization in UO₂ Fission-product Energy Cascade Track: Multiscale Electron-phonon Analyses
Woong-Kee Kim(SNU), Corey Melnick and Massoud Kaviani(U.Michigan), Ji Hoon Shim and Haejin Kim(POSTECH)
- 10:20 Development of Regulatory Audit Technology for Design Basis Accidents with Fuel Burnup Effects
Joosuk Lee, Ilsuk Lee, and Aēju Cheong(KINS)
- 10:40 Coffee Break
- 11:00 Establishing and Testing an Integrated LOCA Experiment Setup
Chan Lee, Ashwini Kumar Yadav, Chang Hwan Shin, and Kyung-Doo Kim(KAERI)
- 11:20 Role of Aluminum Oxide Thin Film on Crud Deposition of the Fuel Cladding in a Primary Water of PWRs
Hee-Sang Shim, Moon-Sic Park, Seung Heon Baek, and Do Haeng Hur(KAERI)

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5. 18 (금)

재료열화 및 신소재 개발 (Materials Degradation & Development)

| 좌장 김동진 (Dong-Jin Kim), 김원주 (Weon-Ju Kim)

| 발표장소 202B

- 09:00 Effect of Manufacturing Parameters on the Mechanical Properties of SA508 Gr.a1 LAS Piping Materials
Sang Eun Kim, Han Gyu Cho, and Jin Weon Kim(CSU), Maan Won Kim and Hong Deok Kim(KHNP CRI)
- 09:20 Radiation Resistance of FC-92
Myeongkyu Lee, Geon Kim, Jungsu Ahn, and Sangjoon Ahn(UNIST)
- 09:40 Effect of Nitrogen on the Breakaway Transition in the Zirconium Alloy Cladding
Sanggil Park(ACT Co., Ltd.), Gippeum Kim and Jaeyoung Lee(HGU)
- 10:00 Crud Analytical Technique by Abnormal High Beam Current using EPMA
Yang-Hong Jung, Seung-Je Baik, Hi-Moon Kim, and Sang-Bok Ahn(KAERI)
- 10:20 Molecular Dynamics Study for the Uniaxial Stress Effect on the Threshold Displacement Energy and Defect Formation Energies in Tungsten
Mosab Banisalman and Takuji Oda(SNU)

- 10:40 Coffee Break
- 11:00 Estimation of Tensile Properties of RPV Steels in KSNPP using Small Punch Test
Seokmin Hong, Ki-Deuk Min, Jongmin Kim, Min-Chul Kim, and Bong-Sang Lee(KAERI)
- 11:20 Development and Radiation Characteristic Evaluation of Advanced Radiation Resistant Austenitic Alloys (AR²A²) for Reactor Internals
Ji Ho Shin, Ho-Sub Kim, Byeong Seo Kong, Hyeon Bae Lee, and Changheui Jang(KAIST)
- 11:40 Characterization of Mechanical and Corrosion Properties of Mo-free Low Alloy Steels for Secondary Pipeline Application
Seunghyun Kim and Ji Hyun Kim(UNIST), Gidong Kim(KIMS)

4E

핵연료 (Nuclear Materials) – Poster

5. 17(목)
– 18(금)

| 좌장 이규홍(Kyu Hong Lee), 이강문(Kang Moon Lee)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P04E01 Characteristics of Coating Slurry Solution for Inner Surface Coating Layer of Quartz Mold Using Metal Fuel Rod Fabrication Process
Kyungchai Jeong, Seokjin Oh, Seoungwoo Kook, Kihwan Kim, and Jeongyong Park(KAERI)
- P04E02 Scratch Hardness Evaluation of CrAl-Coated Cladding for Accident-Tolerant Fuel
Young-Ho Lee, Jung-Hwan Park, Il-Hyun Kim, Dong-Jun Park, Yang-Il Jung, Byoung-Kwon Choi, and Hyun-Gil Kim(KAERI)
- P04E03 Formation of an Oxide-Dispersion-Strengthened Layer on Zirconium-based Fuel Cladding Tubes Manufactured by KEPCO NF
Yang-Il Jung and Hyun-Gil Kim(KAERI), Hun Jang and Seung-Jae Lee(KEPCO NF)
- P04E04 The Current Status of HANARO Driver Fuel Fabrication in KAERI
KyuHong Lee, Ki Nam Kim, Wonjae So, Jonghwan Kim, and Yoon-Sang Lee(KAERI)
- P04E05 A Stress Analysis using ABAQUS on a TRISO with Its Inner Pyrocarbon Cracked
Young Min Kim, Tae Hoon Lee, and Chang Keun Jo(KAERI)
- P04E06 Thermal Conductivity Modeling of the Interaction Layer of the Irradiated U-Mo Dispersion Fuel
Qusai Mistarihi and Hojin Ryu(KAIST), Junteak Hwang(SNU)
- P04E07 Calculations of Fission Gas Release Based on Uncertainty Analysis for CANDU Fuel
Namho Lee and Kang Moon Lee(KEPCO NF)
- P04E08 KNF Techniques for Establishing and Confirming Uncertainties for CANDU Fuel Performance Analyses
Kang-Moon Lee(KEPCO NF)
- P04E09 Thermo-Mechanical Analysis for LBLOCA of OPR-1000 with SCDAP/RELAP5
Tae-Hyun Chun, Chang-Hwan Shin, Yong-Sik Yang, and Wang-Ki In(KAERI)
- P04E10 Performance Evaluation of the Metallic Fuel for the 2nd Irradiation Test in the HANARO
Bong Goo Kim, Junehyung Kim, Seong Woo Yang, Jeong-Yong Park, ByoungOon Lee, and Jin-Sik Cheon(KAERI)
- P04E11 High Temperature Oxidation Behavior of ZrSi₂ and Its Coating on the Surface of Zircaloy-4 Tube by 3D Laser Coating Method
JaeJoon Kim and Ho Jin Ryu(KAIST), Hyun Gil Kim(KAERI)
- P04E12 Axial Tensile Test for Evaluation of Mechanical Properties of Ballooned and Ruptured Nuclear Fuel Cladding
Dong Jun Park, Hyun Gil Kim, Yang Il Jung, Jung Hwan Park, Byoung Kwon Choi, Young Ho Lee, and Jae Ho Yang(KAERI)
- P04E13 In-Reactor Testing of Target for Fission ⁹⁹Mo Production at HANARO Irradiation Facility
Seongwoo Yang, Seungjae Park, Mansoon Cho, Yoontaeg Shin, Hoonjo Cho, and Keenam Choo(KAERI)

- P04E14 A Study on the Kinetic Energy of Pendulum Impact Test Considering the Weight of Arms
Sung-Uk Lee, Jae-Yong Kim, Hong-Ryoul Oh, Kyung-Ho Yoon, Hyo-Chan Kim, and Dong-Hak Kook(KAERI)
- P04E15 A Study on the Grid Cell Size Measurement in Nuclear Fuel
Young Ki Jang, Yong Hwan Kim, and Jung Tack Kwon(KEPCO NF)
- P04E16 Comparison of Strains Measured on Spacer Grid and Fuel Rod Caused by External Load
HongRyoul Oh, SungUk Lee, JaeYong Kim, KyungHo Yoon, and DongHak Kook(KAERI)
- P04E17 PIRT Analysis for Spent Fuel Rod Integrity Assessment under Transportation
Kang-Hee Lee, Heung-Seok Kang, Jae-Yong Kim, Chang-Hwan Shin, and Young-sik Yang(KAERI)
- P04E18 A Full-field Strain Measurement of Deformation for Clad Tube at High Temperature using Digital Image Correlation
Dong-Hyun Kim, Hyo chan Kim, and Sung uk Lee(KAERI), Hak-Sung Kim(HYU)
- P04E19 Oxidation Resistance Evaluation of FeCrSi Alloy in High Temperature Steam Environment
Joonho Moon, Sungyu Kim, and Chi Bum Bahn(PNU), Ji Hyun Kim(UNIST), Michael P. Short(MIT)
- P04E20 UO_2 - ZrO_2 Interaction in Oxidation and Reduction Condition
Geonyong Lee, Kwangheon Park, Juhyeong Lee, and Hyounggyu Park(KHU)
- P04E21 Development of Basic Technology for FeCrAl-based LWR Cladding
Sungyu Kim, Joonho Moon, and Chi Bum Bahn(PNU)
- P04E22 Microstructural Characterization of Atomized UAl_x Powder for High-Density LEU Dispersion Target Fabrication
Sungchan Park, Ki Nam Kim, Jong Hwan Kim, Sunghwan Kim, Kyu Hong Lee, Yong Jin Jeong, and Jong Man Park(KAERI)
- P04E23 Study on the FGM Models for Estimating the Elastic Properties of ATF Claddings
Hyung-Kyu Kim, Hyun-Gil Kim, Yang-Il Jung, Hyo-Chan Kim, and Chang-Hwan Shin(KAERI)
- P04E24 Review on Definition of Damaged Spent Nuclear Fuel for Dry Storage
You-Jin Kang, Ho-a Kim, and Yong-Soo Kim(HYU), Jeongmin Choi and Taewan Kim(UJU Enertech.)
- P04E25 Oxidation Kinetics of Zirconium Alloy with Nanoporous Oxide Layer at Temperatures of 800-1100°C Air
Yang Jeong Park, Jung Woo Kim, and Sung Oh Cho(KAIST)
- P04E26 Preliminary Simulation of the KAERI Rods Irradiated in IFA-790 using FRAPCON4.0P1
JangSoo Oh, Hyochan Kim, Dong-Joo Kim, Yongsik Yang, and Jae Ho Yang(KAERI)

4F

원자력재료 I (Nuclear Materials I) – Poster

5. 17(목)
- 18(금)

| 좌장 임연수(Yun-soo Lim), 장근욱 (Kunok Chang)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P04F01 Electro-deposited Cr Coating Layer to Hinder Fuel Cladding Chemical Interaction in a Sodium Fast Reactor (SFR)
Sunghwan Yeo, Hye Yeon Koo, and Junhwan Kim(KAERI)
- P04F02 A Study on the Engineering Estimation for Obtaining Circumferential Tensile Property of Alloy 690 Steam Generator Tube Using Optimization and Finite Element Method
JongMin Kim and MinChul Kim(KAERI)
- P04F03 Development of Laser Marking System in Hot Cell
Y. G. Jin, G. S. Heo, G. S. Kim, Y. M. Jung, and H. M. Kim(KAERI)
- P04F04 The Characteristics of Hydride Precipitation with Hydrogen Concentration and Homogenization Temperature in Zr-2.5%Nb Pressure Tube Material
Sang Yup Lim, SungSoo Kim, and Gyeong-Geun Lee(KAERI)
- P04F05 Application of High Temperature Ultrasonic Waveguide System for an On-line Monitoring of Pipe Thinning
Se-beom Oh, Yong-moo Cheong, Dong-jin Kim, and Kyung-mo Kim(KAERI)
- P04F06 Simulation of Eddy Current Signal from Lift-off and Tilt of a Bobbin Coil Probe in Steam Generator Tubes
Ga-Hyun Choi, Deok-Hyun Lee, Myung-Sik Choi, and Kyung-Mo Kim(KAERI)

- P04F07 Effect of Local Strain on SCC Initiation of Ni Alloys
Danbi Song, Sung Woo Kim, Dong Jin Kim, and Seong sik Hwang(KAERI), Chang Hee Lee(HYU)
- P04F08 System Development of Pure Nickel Plating Process for RPV Cladding Repair
Minsu Kim, Seongsik Hwang, Eunhee Lee, and Dongjin Kim(KAERI), Dongbok Lee(SKKU)
- P04F09 Irradiation-induced Hardening and Swelling of a Twinning-induced Plasticity (TWIP) Steel
Sangeun Kim and Chansun Shin(Myongji Univ.), Hyung-Ha Jin and Young-Bum Chun(KAERI)
- P04F10 Interaction of Rare Earth Elements and Graphite Coated with Yttrium Oxide
HyunWoo Seong and Ho Jin Ryu(KAIST), Seoung Woo Kuk and SangHun Lee(KAERI)
- P04F11 Variation of Microstructure and Transition Behavior along Thickness Direction in SA533 B1 Reactor Pressure Vessel Steel
Min-Chul Kim, Seokmin Hong, Ki-Deuk Min, and Kwon-Jae Choi(KAERI)
- P04F12 Magnetite Accelerated Stress Corrosion Cracking of Ni-based Alloys in PbO-Containing Water
Won-Ik Choi, Geun Dong Song, Soon-Hyeok Jeon, and Do Haeng Hur(KAERI), Sun Jin Kim(HYU)
- P04F13 Integrity Assessment of Fusion Reactor Structures Using Arc-dpa Cross Section
MyeongHyeon Woo, JaeHyun Kim, ChangHo Shin, and JongKyung Kim(HYU), CheolWoo Lee(KAERI)

4G

원자력재료 II (Nuclear Materials II) – Poster

5. 17(목)
– 18(금)

| 좌장 김태규(Tae Kyu Kim), 이경근(Gyeong-Geun Lee)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P04G01 Effects of Laser Welding Conditions on Microstructure of Weld & HAZ in HT9 Steel for Fuel Rod End-cap Welding
Sang-Gyu Park, Kiho Kim, and Jeong-Yong Park(KAERI)
- P04G02 Thermophysical Property Measurement of ZrSi₂ at High Temperature using Electrostatic Levitation
Hojin Ryu and Hakjun Lee(KAIST), Geun Woo Lee and Changhwan Yu(KRISS)
- P04G03 Compressive Creep Deformation Test Using a Spark Plasma Sintering (SPS) Apparatus
Faris B. Sweidan and Hojin Ryu(KAIST)
- P04G04 Irradiation Resistance of Proton, Helium Ions and Electron Beam Irradiated W_xTaTiVCr
Owais ahmed waseem and Hojin Ryu(KAIST)
- P04G05 Effect of Strain Induced Martensite on Low Cycle Fatigue Properties of Austenitic Stainless Steel
Dae Whan Kim and Ji Hyun Yoon(KAERI)
- P04G06 Effects of Heat Treatment on Microstructure and Tensile Strength of 10Cr-ODS Steels
Seungmun Jung, Tae Kyu Kim, Chang Hee Han, Suk Hoon Kang, Sanghoon Noh, Ki Baik Kim, Choong Hwan Jung, and Jinsung Jang(KAERI)
- P04G07 Cryomilling Process of Oxide Dispersion Strengthened CoCrFeMnNi High-Entropy Alloy
SeungHyeok Chung and Ho Jin Ryu(KAIST)
- P04G08 Experimental Investigation of Surface Roughness and Oxidation on Clad Quenching
Kwan Geun Lee(UST), Wang Kee In, Chang Hwan Shin, and Hyun Gil Kim(KAERI)
- P04G09 Investigation of Nano-sized Oxide Particles in ODS Steels
Jinsung Jang, Man Wang, Chang Hee Han, and Tae Kyu Kim(KAERI), Xiaodong Mao(INEST), Heung Nam Han(SNU)
- P04G10 Hoop Strength Evaluation of Triplex SiC Composite Tube using by Oil Compression Pressure
Hyeon-Geun Lee, Daejong Kim, and Weon-Ju Kim(KAERI)
- P04G11 Effect of Electrochemical Property on Corrosion of CVD-SiC Ceramics in PWR Coolant Environments
Jung Ho Shin, Daejong Kim, Hyeon-Geun Lee, and Weon-Ju Kim(KAERI)

원자력 열수력 (Nuclear Thermal Hydraulics)

5A

5. 17 (목)

원자력 열수력 실험 A (Thermal Hydraulics Basics, Boiling and Condensation)

| 좌장 배병언(Byoung-Uhn Bae), 김형대(Hyung Dae Kim)

| 발표장소 201A

- 09:00 Measurement of Multi-Dimensional Distribution of Local Bubble Parameters in a Vertical Annulus under Subcooled Boiling Conditions
Yeon-Gun Lee and Ji-Woong Yoo(JNU), Sin Kim(CAU)
- 09:20 The Influence of Transverse Heat Flux Distribution on the Flow Instability for Subcooled Boiling Through a Narrow Rectangular Channel
Omar S. Al-Yahia, Taewoo Kim, and Daeseong Jo(KNU)
- 09:40 Study on Flow Field in the Core Inlet of PGSFR
Soon-Joon HONG, Ji-Seok KIM, and Jin-Seok HWANG(FNC Tech.), Dong-Jin EUH and Seok-Gyu CHANG(KAERI)
- 10:00 Benchmarking of the Four-sensor Optical Fiber Probe Method for the Measurement of Local Bubble Parameters under the Slug Flow
Jeongmin Moon, Byongjo Yun, Jaejun Jeong, and Taeho Kim(PNU)
- 10:20 Two-Phase Air-Water Flow Regime and Transition Criteria For Vertical Upward and Vertical Downward Flow Direction in a Narrow Rectangular Channel
Vikrant Chalgeri and Ji Hwan Jeong(PNU), Tae Hyeon Kim(KHNP CRI)
- 10:40 Coffee Break
- 11:00 Experimental Study of Dropwise Condensation Heat Transfer with Visualization of Droplet Distribution
Jae Young Choi and Yong Hoon Jeong(KAIST)
- 11:20 Experimental Study for Condensation Heat Transfer Enhancement by Using Robust Hydrophobic Coating
Junho Hong and Hyungdae Kim(KHU)
- 11:40 An Experimental Investigation on the External Condensation for a Vertical Tube under Forced Convection
Jiwoong Yoo, Un-Ki Kim, Yeong-Jun Jang, and Yeon-Gun Lee(JNU)

5B

5. 17 (목)

열수력해석 I (Thermal Hydraulics Analysis I)

| 좌장 정해웅(Hae Yong Jeong), 최재돈(Jae Don Choi)

| 발표장소 203

- 09:00 MARS-KS Code Modification for Re-evaluation of Post-LOCA Long Term Cooling Behavior with In-vessel Downstream Effect of Debris in APR1400
Andong SHIN, Yong Seok Bang, and Min Ki CHO(KINS)
- 09:20 Impact of K-factor at the Entrance from Downcomer to Broken Cold Leg on ECC Bypass
Young Seok Bang, Dong H. Yoon, Deog Y. Oh, and Il S. Lee(KINS)
- 09:40 Evaluation for Application of TRACE Code to LBLOCA Analysis of APR1400 Using Best Estimate Plus Uncertainties
Byung Gil Huh, Deog-Yeon Oh, Young Seok Bang, and Chae-Yong Yang(KINS)
- 10:00 Report on Participation in IAEA CRP: Application of Computational Fluid Dynamics (CFD) Codes for Nuclear Power Plant Design
Yun-Je Cho, Jae-Ryong Lee, and Han-Young Yoon(KAERI)
- 10:20 Development and Validation of CUPID Reactor Vessel Module
Ik Kyu Park, Han Young Yoon, Seung Jun Lee, Yun Je Cho, and Jae Ryong Lee(KAERI)

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| 10:40 | Coffee Break |
| 11:00 | The Implementation of Mixing Vane Directed Cross Flow Model in CUPID for Subchannel Scale T/H Analysis
Seul-Been Kim, Jae-Ho Lee, Goon-Cherl Park, and Hyoung-Kyu Cho(SNU) |
| 11:20 | On the Form of Momentum Convection Term in the SPACE Multi-Dimensional Thermal-Hydraulic Module
Dongha Lee, Byongjo Yun, and Jae Jun Jeong(PNU), Seungwook Lee(KAERI) |
| 11:40 | Using Machine Learning to Estimate Bubble Size in Turbulent Bubbly Flows
Jungwoo Kim(SEOULTECH), Seongwon Kang and Serin Yoon(Sogang Univ.), Dongjoo Kim(Kumoh Natl. Instl. Tech.) |
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5C

5. 18 (금)

원자력 열수력 실험 B (CHF and Application)

| 좌장 황대현(Dae Hyun Hwang), 어동진(Dongjin Euh)

| 발표장소 201A

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| 09:00 | Effect of Inclination Angle and Pressure for the CHF under the IVR-ERVC Condition
Jun Yeong Jung, Dong Hoon Kam, and Yong Hoon Jeong(KAIST), Hae Min Park(KAERI) |
| 09:20 | Flow Boiling Heat Transfer on Downward-facing Coated Large Surface of Inclined Channel Wall
Kivon Song, Moo Hwan Kim, and Shripad T. Revankar(POSTECH),
Seongchul Jun and Seung Moon You(UT Dallas), Hwan Yeol Kim(KAERI) |
| 09:40 | Critical Heat Flux Enhancement of Nuclear Fuel Cladding with a Nano-porous Oxide Film by Anodization
Hyoung Suk Yu and Yong Hoon Jeong(KAIST) |
| 10:00 | Pool Boiling Experiments for Critical Heat Flux using Fe ₃ O ₄ , SiO ₂ Nanoparticles on Flat-type Upward Surface
Min Suk Lee, Dong Hoon Kam, and Yong Hoon Jeong(KAIST) |
| 10:20 | An Experimental Study on Flow Boiling Critical Heat Flux on Axisymmetric Sudden Expansion Channel
Yong Jin Kim, Sub Lee Song, Soon Heung Chang, and Yong Hoon Jeong(KAIST), Sang-Ki Moon(KAERI) |
| 10:40 | A Condensation Model for the PAFS Heat Exchanger Tube under the Pure Steam Conditions
Taehwan Ahn, Jinhoon Kang, Jaejun Jeong, and Byongjo Yun(PNU) |
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5D

5. 18 (금)

열수력해석 II (Thermal Hydraulics Analysis II)

| 좌장 홍순준(Soon Joon Hong), 조형규(Hyoung Kyu Cho)

| 발표장소 203

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| 09:00 | Preliminary CFD Aanalysis on Operating a Containment Spray System
Taehyub Hong, Yujung Choi, and Jong Wook Go(KHNP CRI) |
| 09:20 | PIRTs for SPACE Code Extension to Application into Research Reactors
Hyeonil Kim, Byeonghee Lee, Su-Ki Park, Youn-Gyu Jung, Jong Pil Park, Donghyun Kim, Dong-Wook Jang,
Cheol Park, and Seung-Wook Lee(KAERI) |
| 09:40 | Film Boiling Heat Transfer on an Oscillating Surface
Young Seock An and Byoung Jae Kim(CNU) |
| 10:00 | Assessment Calculation of PKL H1.1 by using SPACE Code
Sung Won Bae and Kyung Doo Kim(KAERI) |
| 10:20 | Modification of the Dynamic Motion Model in MARS for Marine Reactor Thermal-hydraulic Analysis
Hee-Kwan Beom, Geon-Woo Kim, Goon-Cherl Park, and Hyoung Kyu Cho(SNU) |
| 10:40 | Coffee Break |
| 11:00 | Simulation of Station Black Out Accident Scenario(PKL H2.2) in PKL Test Facility
Jong Hyuk Lee, Kyung Doo Kim, and Seung Wook Lee(KAERI) |
| 11:20 | A Preliminary CHF Model Development and Data Comparison with Vertical Heaters under Pool Boiling Conditions
Dong Hoon Kam and Yong Hoon Jeong(KAIST) |
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5E

5. 18 (금)

원자력 열수력 실험 C (Reactor Safety Experiment and Analysis)

| 좌장 조대성(Daeseong Jo), 이연건(Yeon Gun Lee)

| 발표장소 201A

- 13:30 Efficiency Assessment of Air-Cooling System as a Final Heat Sink of the ATOM System
Doyoung Shin, Min Wook Na, Gwang Hyeok Seo, and Sung Joong Kim(HYU),
Yonghee Kim and Jeong Ik Lee(KAIST)
- 13:50 Preliminary Test of Transient Pool Boiling with Fast Pulse Power
Jun-young Kang, Seunghyun Hong, Yong-Seok Choi, Byong-Guk Jeon, Seok Cho, Jong-Kuk Park, Hae-Seob Choi,
and Sang-Ki Moon(KAERI)
- 14:10 Analysis on the System Performance Test of Passive Residual Heat Removal System (SP-PRHRS) with
SMART-ITL
Sharaf Alsharif and Eslam Bali(KACARE), Hyun-Sik Park and Jin-Hwa Yang(KAERI)
- 14:30 A Discussion of Similar Tests for a CLOF Scenario using VISTA-ITL and SMART-ITL
Hyun-Sik Park, Jin-Hwa Yang, Hwang Bae, Sung-Uk Ryu, Byong-Guk Jeon, Eunkoo Yun, Yoon-Gon Bang,
and Sung-Jae Yi(KAERI)
- 14:50 Characteristics of Natural Circulation in Reactor Coolant System of Integral Type Small Modular Reactor, SMART
Jin-Hwa Yang, Hwang Bae, Sung-Uk Ryu, Byong Guk Jeon, Eunkoo Yun, Sung-Jae Yi,
and Hyun-Sik Park(KAERI)
- 15:10 Coffee Break
- 15:30 Comparison of CMT Injection Characteristics during Different Test Scenarios using SMART-ITL
Hwang Bae, Sung Uk Ryu, Byong-Guk Jeon, Jin-Hwa Yang, Eunkoo Yun, Yong-Cheol Shin, Kyoung-Ho Min,
Jong-Kuk Park, Nam-Hyun Choi, Yun-Gon Bang, Chan-Jong Seo, Sung-Jae Yi, and Hyun-Sik Park(KAERI)
- 15:50 Code Validation for the Behavior of Floating Absorber for Safety at Transient (FAST) under the Constant
Density Condition
Seongmin Lee and Yong Hoon Jeong(KAIST)

5F

5. 17 (목)
- 18 (금)

원자력 열수력 실험 D (Thermal Hydraulics and Safety Experiment) – Poster

| 좌장 김태완(Taewan Kim), 김석(Seok Kim)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P05F01 Effects of Inclination Angle on Pool Boiling Heat Transfer of Near Horizontal Tubes
Myeong-Gie Kang(ANU)
- P05F02 Pool Boiling Heat Transfer of V-Shape Tubes Having Horizontal Upper Tube
Myeong-Gie Kang(ANU)
- P05F03 Development of Thermal-hydraulic Scaled-down Model of the Combined Heat Exchanger for Water
Mock-up Hydraulic Performance Test
Hyunggyun Noh and Moo Hwan Kim(POSTECH), Jaehyuk Eoh(KAERI), Dongeok Kim(KNU)
- P05F04 Safety Limit Estimation of Natural Circulation Loop in EU-APR1400 Ex-vessel Core Catcher system
Uiju Jeong and Sung Joong Kim(HYU)
- P05F05 Experimental Study of Degradation Effect of Non-condensable Gas on the Super-hydrophobic Aluminum Tube
Dae-Yun Ji, Daeho Kim, and Kwon-Yeong Lee(HGU)
- P05F06 Measurement of the Axial Heat Flux Profile of an Electric Heater for Moderator Circulation Test Facility at KAERI
Bo Wook Rhee, K.S. Choi, H.T. Kim, J.H. Bae, and H-L Choi(KAERI)

- P05F07 Experimental Study on the Safety Injection Pump(SIP) Failure Accompanied by the Steam Line Break(SLB)
Yusun Park, Byoung Uhn Bae, Jong Rok Kim, Jae Bong Lee, Hae Min Park, Yong Chul Shin, Kyung Ho Min, Nam Hyun Choi, and Kyoung Ho Kang(KAERI)
- P05F08 Realization of Boiling Heat Transfer Flow Regimes Around a Cylinder by a Non-heating Method
Won-Ku KIM and Bum-Jin Chung(KHU)
- P05F09 Experimental Visualization of Flow Structure inside Subchannels of Rod Bundle
Seok Kim, Hae-Seob Choi, Byong Gook Jeon, Young-Joong Youn, Dong-Jin Euh, and Sang-Ki Moon(KAERI)
- P05F10 Cooling Characteristics with Partial Core Blockage during Long Term Cooling Period of Hot-Leg LBLOCA
Nam-Hyun Choi, Jongrok Kim, Jae Bong Lee, Yusun Park, Byoung-Uhn Bae, and Kyoung-Ho Kang(KAERI)
- P05F11 Development of Measurement System of an Experimental Facility for Thermo-Mechanical and Hydraulic Behavior during LOCA
Jongrok Kim, Jae Bong Lee, Kihwan Kim, Seunghyun Hong, Jong-Kuk Park, and Sang-Ki Moon(KAERI)
- P05F12 Flow Measurement and Simulation of K-DEMO Blanket Manifold using PIV Method
Geon-Woo Kim, Hee Su Choe, Goon-Cherl Park, and Hyoung Kyu Cho(SNU), Kihak Im(NFRI)
- P05F13 Natural Convective Heat Transfer of Air to Steam Counter Flow Heat Exchanger for Long-term Passive Cooling System
Seon Jeong Huh and Hee Joon Lee(KMU), Joo Hyung Moon, Youngmin Bae, and Young In Kim(KAERI)
- P05F14 Investigation of Natural Circulation Characteristics in PCCS (Passive Containment Cooling System)
Byoung-Uhn Bae, Seok Kim, Yu-Sun Park, Hyung-Gil Jun, and Kyoung-Ho Kang(KAERI)
- P05F15 Experimental Study of Length Effect on Thermosyphon Thermal Performance
Gippeum Kim and Jae Young Lee(HGU)
- P05F16 Experimental Setup of Steam to PCM Heat Transfer Experiment
Jai Oan Cho, Hwa-Young Jung, A-Reum Ko, and Jeong Ik Lee(KAIST)
- P05F17 Analysis of Single-Phase Circulation in FINCLS using the MARS-KS Code
Ji Hwan Park(UST), Byong-Guk Jeon, Eunkoo Yun and Hyun-Sik Park(KAERI)
- P05F18 Commissioning Test for the FINCLS Facility
Eunkoo Yun, Byong-Guk Jeon, Jin-Hwa Yang, Yoon Gon Bang, Chan Jong Seo, and Hyun-Sik Park(KAERI), Ji Hwan Park and Ki Suk Han(UST)
- P05F19 Introduction of Transient Heat Transfer Experiment on Tube Flow for RIA Applications
Yong-Seok Choi, Byong-Guk Jeon, Jun-Young Kang, Jong-Kuk Park, and Sang-Ki Moon(KAERI)
- P05F20 Experimental Research of Gas Accumulation according to Variation of Temperature
Hongrae Jo and Daeseong Jo(KNU), Yong Jae Song(FNC Tech.)
- P05F21 Experimental Approach of the Inner Flow in Decay Tank of Research Reactor
Hyun Ku Kim, Sang Hyun Seo, Won-Ki Hwang, Dae-Yun Ji, and Kwon-Yeong Lee(HGU)

5G

5. 17 (목)
- 18 (금)

열수력 해석 (TH Analysis) – Poster

| 좌장 이승준(Seung-Jun Lee), 김병재(Byoung Jae Kim)

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P05G01 Characteristics of a Frictional Pressure Drop for a Cross-flow Over the Horizontal Tube Banks in a Sodium-to-sodium Heat Exchanger with a Helical Tube Arrangement
Hyunggyun Noh and Moo Hwan Kim(POSTECH), Jaehyuk Eoh(KAERI), Dongeok Kim(KNU)
- P05G02 A MARS Modeling for Reactor Multi-Dimensional Flow Mixing Problem
Dong-Jin Euh and Tae-Soon Kwon(KAERI)

P05G03	RCS Response Analysis Depending on RCP Seal Leakage for ELAP Event Bongsik Chu, Seyun Kim, Junkyu Song, and Chang Hyun Kim(KHNP CRI)
P05G04	Simulation Study of Total Loss of Feedwater in OPR1000 using SPACE MinJeong Kim and Minhee Kim(KHNP CRI), Hyunjin Lee and Hyeongyeong Choi(SenTech)
P05G05	Liquid Level Estimation of Cold Neutron Source Loop Hyung Min Son and Jonghark Park(KAERI)
P05G06	Evaluation of the Heat Removal Performance of the Passive Containment Cooling System using MARS-KS with an Empirical Condensation Correlation Yeon-Jun Jang, Yeon-Ha Park, and Yeon-Gun Lee(JNU), Sin Kim(CAU), Seong-Su Jeon(FNC Tech.), Sang-Gyu Kim(KHNP)
P05G07	Optimizing Control Strategy of S-CO ₂ Cycle for SFR Application by using Genetic Algorithm and Artificial Neural Network Seung Hwan Oh, Seong Min Son, and Jeong Ik Lee(KAIST)
P05G08	Preliminary Study of Accident Initiator Tracking Algorithm under Loss of Coolant Accident Doh hyeon Kim, Min-Gil Kim, and Jeong Ik Lee(KAIST)
P05G09	Loss of Coolant Accident Classification in Real Time using Dynamic Bayesian Network Cho Hwan Oh and Jeong Ik Lee(KAIST)
P05G10	Studies on the Extended Loss of AC Power Event Concurrent with Loss of Ultimate Heat Sink Seyun Kim, Bongsik Chu, Junkyu Song, and Chang Hyun Kim(KHNP CRI)
P05G11	A Numerical Study for the Effect of the Accuracy Order of the Discretization Scheme on the Prediction Performance for the Flow Distribution inside a Fuel Assembly with Twist-Split Type Mixing Vane Gong Hee Lee, Jin Sung Park, and Ae Ju Cheong(KINS)
P05G12	Flow Distributions of Printed Circuit Heat Exchanger for Supercritical CO ₂ Precooler Han Seo, Byung Ha Park, Yong-Wan Kim, Yoonhan Ahn, Heungjun Chung, and Jae Eun Cha(KAERI)
P05G13	CUPID-MARS Coupled Simulation for APR+ Passive Auxiliary Feedwater System Jae Soon Kim, Goon-Cherl Park, and Hyoung Kyu Cho(SNU)
P05G14	Computational Study for the Diameter Effect on Condensation Heat Transfer on Outer Surface of a Heat Exchanger Tube Chang-Won Lee, Hyoung-Kyu Cho, and Goon-Cherl Park(SNU)
P05G15	Coupled Calculation of SPACE and FRAPTRAN Seung Wook LEE, Hyo Chan KIM, and Kyung Doo KIM(KAERI)
P05G16	Design Optimization of a Heat Exchanger in PCCS using LMTD Method Yeo-UI Song(KHNP CRI)
P05G17	Implementation of the Subchannel Flow Mixing Model into the SPACE v3.0 Code Dongwi Kim, Jaejun Jeong, and Byongjo Yun(PNU)
P05G18	Assessment of Wall Condensation Models Using CUPID Code Jihyun Sohn(UST), Han Young Yoon(KAERI)
P05G19	Enhancement of Fluid-to-Fluid Scaling Criteria for Modeling Condensation in Horizontal Tubes Under Stratified Flow Conditions Khalid Khasawneh and Yong Hoon Jeong(KAIST)
P05G20	Comparison between CUPID and CTF for Subchannel Scale Thermal-Hydraulic Analysis of Single Fuel Assembly Problem Jae-Ho Lee, Seul-Been Kim, Goon-Cherl Park, and Hyoung-Kyu Cho(SNU)
P05G21	Investigation of ECC Delivery in UPTF Test Using CUPID-RV Code Seung Jun Lee, Yun Je Cho, Ik Kyu Park, Han Young Yoon, and Jae Ryong Lee(KAERI)
P05G22	Analysis of Boiling Instability in Natural Circulation Conditions in Multiple Tube using the TRACE Code Hyun Jae Kim Jung Jin Bang, and Dong-Wook Jeong(CAU)

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5. 17 (목)

원자력 안전현안과 화재방호 (Safety Issue and Fire Protection)

| 좌장 서영하(Young H. Seo), 박종석(Jong Seuk Park)

| 발표장소 삼다홀A

- 09:00 A Study of the Failure Criterion for the Steel Pipe Components Under Seismic Loading Condition
Sung-Jin Chang, Sung-Wan Kim, and Bub-Gyu Jeon(PNU), Dae-Gi Hahm(KAERI)
- 09:20 Rocking Stiffness of Electrical Cabinet Considering the Localized Deformation at the Base
Minsoo Han and Sung-Gook Cho(INNOSE TECH), Kee-Jeung Hong(KMU), Abhinav Gupta(NCSU)
- 09:40 A Brief Comparative Study on Stress Tests Specifications of the EU and Korea
Cheol-Seung Cheon and Sung-Tae Yang(KHNP)
- 10:00 Preliminary Study on the Cooling Performance of the Passive Emergency Core Cooling System
Sung Uk Ryu, Sun-Il Lee, Yu-Na Kim, Seok Cho, Kyoung-Ho Kang, and Sung-Jae Yi(KAERI)
- 10:20 Considerations of HRA for Domestic Fire PSA
Sun Yeong Choi and Dae Il Kang(KAERI)
- 10:40 Coffee Break
- 11:00 A Study on the Fire Retardant Performance Depending on Accelerated Degradation of Non-Class 1E Cable
Jueun Lee and Jihyun Kwark(FILK), Young Seob Moon and Sang Kyu Lee(KINS)
- 11:20 Preliminary Analysis of Interfacing Systems LOCA from a Fire Event PSA Perspective
Dae Il Kang, Yong Hun Jung, Sun Yeong Choi, and Mee-Jeong Hwang(KAERI)
- 11:40 Sensitivity Study on Fire Modeling for HVAC Equipment Room
Yong Hun Jung and Dae Il Kang(KAERI), Kiyoon Han(KINS)

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5. 17 (목)

중대사고 I (Severe Accident I)

| 좌장 조용진(Yong Jin Cho), 하광순(Kwang Soon Ha)

| 발표장소 삼다홀B

초청발표

- 09:00 Evaluation of Impaction Characteristic of Particle Leaked by Steam Generator Tube Rupture using Lab-scale Experimental System
Jungho Hwang(Yonsei Univ.)
- 09:30 Exploration of Consequence Mitigation Strategies for Steam Generator Tube Rupture Accident at a NPP
Sana Ullah, Seong-Woo Kang, Wung-Jae Wang, Hyeon-Ho Byun, and Man-Sung Yim(KAIST)
- 09:50 Investigation on Fission Products Release Mitigated by In-containment Relief Valve under SGTR Accident
Taeseok Kim, Wonjun Choi, Joongoo Jeon, Nam Kyung Kim, and Sung Joong Kim(HYU)
- 10:10 Preliminary Code Development of Pool Scrubbing Phenomenon in Two Regions
Yo Han Kim, Dong Hoon Kam, and Yong Hoon Jeong(KAIST)
- 10:30 Coffee Break
- 10:50 Identification of Major Phenomena on Aerosol Retention in Pool with High Speed Jet
Hyun Joung Jo(KAERI, Yonsei Univ.), Kwan Soon Ha and Sung Il Kim(KAERI), Jung Ho Hwang(Yonsei Univ.)

- 11:10 The Improvement of the Prediction of Solid Particle Sedimentation Characteristic in Liquid Pool using the CFD-DEM Algorithm
Byoungcheol Hwang, Hyun Sun Park, and Moo Hwan Kim(POSTECH)
- 11:30 The Effect of Iodate Ion on the Iodine Retention in Pool under Irradiation
Thi Thanh Thuy Nguyen(UST), Kwang Soon Ha, Jin Ho Song, and Sung Il Kim(KAERI)
- 11:50 Investigation of Fluoroelastomer Degradation in Simulated Severe Accident Environment of Nuclear Power Plants
Inyoung Song and Ji Hyun Kim(UNIST), Taehyun Lee, Kyungha Ryu, Sangkyo Kim, and Youngjoong Kim(KIMM)

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5. 18 (금)

PSA 최근현안 (PSA Issue)

| 좌장 정우식(Woo Sik Jung), 김동산(Dong-San Kim)

| 발표장소 삼다홀A

초청발표

- 09:00 About the Use of Scoping Estimation for Conservative Multi-Unit Risk Quantification - Problems and Restrictions
Ho-Gon Lim(KAERI)
- 09:30 An Application of the Cascading Assessment Methodology for Evaluating Multi-Unit Risk
Wonjong Song, Sunghyun Park, and Moosung Jae(HYU)
- 09:50 A Simple Case Study of Multi-unit Seismic PSA for Seismic Dependency
Hak Kyu Lim(KINGS)
- 10:10 An Approach of Evaluation Method for Seismic Correlation based on Earthquake Data
Jae Young Yoon, Dong-San Kim, Jin-Hee Park, and Ho-Gon Lim(KAERI)
- 10:30 Coffee Break
- 10:50 A Study on Beyond Design Basis Earthquake Evaluation Methodology of the U.S and Japan
Jeongguk Song, Youngsun Lee, and Younho Nam(KEPCO E&C), Kevin Hwang(SGH), Jungmook Lim(KHNP)
- 11:10 FTREX Features for a Multi-unit PSA
Woo Sik Jung(Sejong Univ.)
- 11:30 Enhancement of the FTeMC Software for Fault Tree Top Event Probability Evaluation using Monte Carlo Approach
Sang Hoon HAN(KAERI)
- 11:50 Development of the MSPAR-SITE Code for Assessing Multi-Unit Risk
Byeongmun Ahn, Yein Seo, Hyunae Park, and Moosung Jae(HYU)

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5. 18 (금)

중대사고 II (Severe Accident II)

| 좌장 박현선 (Hyun Sun Park), 배준호(Jun Ho Bae)

| 발표장소 삼다홀B

- 09:00 Core Degradation Modelling of CANDU Severe Accident Code, CAISER
Jun Ho Bae, D. Son, E.H. Ryu, Y.M. Song, B.W. Rhee, J.Y. Jung, and D.H.Kim(KAERI)
- 09:20 The Influence of Multi-cellular Natural Convection Heat Transfer in the Oxide Pool of the Three-layer Configuration
Ji-Won Bae and Bum-Jin Chung(KHU)

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| 09:40 | Preliminary Evaluation for External Reactor Vessel Cooling in the SMART
Hyung Seok Kang, Hyung Tae Kim, and Rae-Joon Park(KAERI) |
| 10:00 | Jet Breakup of a Simulant Melt in Water With and Without Free Fall in Air
Kwang-Hyun Bang, Hyoung-Tak Kim, and Vo Duy Tan(KMOU) |
| 10:20 | Importance of the Entrance Jet Shape at the Water Surface in the Fuel-Coolant Interaction
Woo Hyun Jung, Hyun Sun Park, Kiyofumi Moriyama, and Moo Hwan Kim(POSTECH) |
| 10:40 | Coffee Break |
| 11:00 | Experiments for Two-phase Pressure Drop in Flooded Packed Bed at High Air Velocity
Mooneon Lee, Hyun Sun Park, Jin Ho Park, Kiyofumi Moriyama, and Moo Hwan Kim(POSTECH) |
| 11:20 | Test on Dissolution of a Stratified Light Gas Layer for Hydrogen Risk Assessment
Young Su Na and Jongtae Kim(KAERI), Woo Young Lee(HYU) |
| 11:40 | Thermal Stratification during Atmospheric Stabilization in a Containment Leakage Rate Test
Han-Chul Kim, Su-Kyoung Pak, Jun-Soo Lee, Ku-Young Chung, and Seon-Oh Yu(KINS) |
| 12:00 | Development Status and Simulation Results for ROSHNI-A New Integrated Severe Accident Simulations
Code for PHWR Severe Accident Simulator Development
Sunil Nijhawan(PROLET), YongMann Song(KAERI) |
| 12:20 | PHTS Overpressure Protection Capability Weakness under Severe Accident in Wolsong
Y.M. Song, D.H. Kim, and J.H. Bae(KAERI), S. Nijhawan(Prolet Inc.) |

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5. 18 (금)

PSA 적용 (PSA Application)

| 좌장 김만철(Man Cheol Kim), 장동주(Dong-ju Jang)

| 발표장소 삼다홀A

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|-------|---|
| 13:30 | An Analytical SOKC Solver for Log-normal Distribution
Jongsoo Choi(KINS) |
| 13:50 | Safety Case of Digital Protection Systems Focusing on Safety-critical Software Failure in NPPs
Hee Eun Kim(KAIST), Han Seong Son(Joongbu Univ.), Hyun Gook Kang(RPI) |
| 14:10 | Preliminary Probabilistic Safety Assessmnt for SMART
Jin Hee Park and Yong Hun Jung(KAERI), Jin Kyu Han(RETECH) |
| 14:30 | Performance Analysis of Passive Safety System of the SMART in SBLOCA Situation using MARS-KS Code
Gyu Tae Kim, Keon Yeop Kim, Young Suk Bang, and Hee Dong Kim(FNC Tech.), Jin Hee Park(KAERI) |
| 14:50 | Performance Analysis of Passive Residual Heat Removal System
Keon-Yeop Kim, Gyu-Tae Kim, and Young-Suk Bang(FNC Tech.), Jin-Hee Park(KAERI) |
| 15:10 | Coffee Break |
| 15:30 | Review on Emergency Operating Procedures for APR1400: Feed-and-Bleed and RCS Rapid Cooldown in SLOCA
Jaehyun Cho and Jaewhan Kim(KAERI), Jaehyun Ham(KAIST) |
| 15:50 | Simulation Analysis on Steam Generator Tube Rupture with Total Failure of High Pressure Safety Injection
Ji Suk KIM, Eun Jin JEONG, and Man Cheol KIM(CAU) |
| 16:10 | A Source Terms Evaluation for A SGTR Accident Using the MELCOR Code
Hoyoung Shin, Seunghyun Jang, Youngho Jin, and Moosung Jae(HYU) |
| 16:30 | An Evaluation of Long-term Protective Actions using the MACCS Code
Yein Seo, Dohyun Lim, and Moosung Jae(HYU) |

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5. 17 (목)
- 18 (금)

확률론적 안전성 평가 (Probabilistic Safety Assessment) – Poster

| 좌장 정건호(Gunhyo Jung), 전호준(Hojun Jeon)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P06F01 A Study on Multi-unit Initiating Events
Seungwoo Lee, Ar Ryum Kim, Namchul Cho, Hyowon Kim, Sokchul Kim, and Dohyuong Kim(KINS)
- P06F02 Data Analysis for a Global Common Cause Failure Event
Jintae Choi, Kisu Kim, and Myungro Kim(KEPCO E&C)
- P06F03 A Methodology for Reliability Assurance Program in Low Power Shutdown Probabilistic Safety Assessment
Jaegab Kim and Myungro Kim(KEPCO E&C), Horim Moon(KHNP CRI)
- P06F04 Development of an Identification Method for Vital Digital Assets Selection on Nuclear Cyber Security
Meejeong Hwang(KAERI), Kookheui Kwon(KINAC)
- P06F05 Understanding of the Conservatism Implicated in the Regulatory Defaults in Terms of Risk
Seung-Cheol Jang(KAERI)
- P06F06 On the Decision-Making Model for Regulatory Defaults Considering Their Conservatism
Seung-Cheol Jang(KAERI)

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5. 17 (목)
- 18 (금)

중대사고 (Severe Accident) – Poster

| 좌장 홍성완 (Seong Wan Hong), 황도현(Do Hyun Hwang)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P06G01 Simulation and Modelling of Cladding Thermo-mechanical Behavior under LOCA
Ashwini Kumar Yadav, Chan Lee, Sung-Uk Lee, Chang-Hwan Shin, and Hyo-Chan Kim(KAERI)
- P06G02 Assessment of Recent Research on Ex-vessel Debris Bed Formation and Coolability
Sang Mo An, Jaehoon Jung, and Hwan Yeol Kim(KAERI)
- P06G03 Wolsong Auxiliary Building Modeling for KHNP-SOARCA Project
Bong-Jin Ko and Sook-Kwan Kim(ACT Co., Ltd.), Dong-Ha Kim and Kqang-Il Ahn(KAERI),
Hyun-Gyo Lee and Seok-Won Hwang(KHNP CRI)
- P06G04 Enhancement of Pool Boiling Heat Transfer with an Optimum Sintered Copper Microporous Coating on Copper Surface
Hwan Yeol Kim(KAERI), Seongchul Jun and Seung M. You(UT Dallas)
- P06G05 Preliminary SBO Results from SMART-ppe with the Change of ADS Discharge Location and the Venting Loop from SIT Building to IRWST-2 using MELCOR1.8.6
Jong Hwa Park, Sang Ho Kim, Sung Il Kim, and Rae Joon Park(KAERI)
- P06G06 Preliminary Analysis of Steam Generator Tube Rupture Accident Induced by Severe Accident for OPR1000 Plant
Sung Il Kim, Eun Hyun Ryu, Byeong Hee Lee, and Kwang Soon Ha(KAERI)

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- P06G07 3-Dimensional Analysis of Hydrogen Behaviors in a Containment with PARs
Jongtae Kim, Jong-Hwa Park, and Rae-Joon Park(KAERI), Gun-Hong Kim(OpenCAE)
- P06G08 Methodology for Evaluation of Hydrogen Safety in a NPP Containment
Jongtae Kim and Rae-Joon Park(KAERI), Gun-Hong Kim(OpenCAE)
- P06G09 Sensitivity Analysis of Improved Reactor Building Parameters Using MAAP-ISAAC 4.03 Code
Chul-Kyu Lim and Dong-Sik Jin(ACT Co., Ltd.), Dong-Ha Kim and Kwang-Il Ahn(KAERI),
Hyun-Gyo Lee and Seok-Won Hwang(KHNP CRI)
- P06G10 TEXAS-V Simulation for In-Vessel Steam Explosion Analysis in SMART
Luai Badghaish(KACARE), Sang Ho Kim and Rae-Joon Park(KAERI)
- P06G11 Analysis for Coolability Models of Molten Corium Concrete Interaction
Sang Ho Kim, Jong Hwa Park, Hwan Yeol Kim, and Rae-Joon Park(KAERI)
- P06G12 Experimental Study of the Coolability of Debris Beds using a Non-heating Methodology
Je-young Moon and Bum-Jin Chung(KHU)
- P06G13 Feasibility Study of Gaseous Material Collection using CFD in the Post-MSSV
Wung Jae Wang and Man Sung Yim(KAIST)
- P06G14 Proton Irradiation Induced Mechanical Damage to Nano-Porous Oxide Layer Fabricated by Anodization
Technique
Jung Woo Kim, Yang Jeong Park, and Sung Oh Cho(KAIST)
- P06G15 Investigation of Downward Flow Gas Mixture in a PAR during SBO using the MELCOR Code
Yeon Soo Kim, Nam Kyung Kim, Joongoo Jeon, Wonjun Choi, and Sung Joong Kim(HYU)
- P06G16 Current Status of Development of Simplified Ex-vessel Debris Bed Coolability Model
Jaehoon Jung, Sang Mo An, and Hwan Yeol Kim(KAERI)
- P06G17 Parametric Analysis for Core Degradation in COMPASS Simulation
Omar Natto(KACARE), Jun Ho Bae, Donggun Son, and Rae-Jun Park(KAERI)
- P06G18 Calandria Tube Sagging Model of CAISER Based on Elastic-plastic Beam Theory
Donggun Son, Jun-Ho Bae, Eunhyun Ryu, and Jong-Yeob Jung(KAERI)
- P06G19 Adsorption Behaviors of Organic Iodide in the Silver Ion Exchanged Zeolite
Sanggil Park(ACT Co., Ltd.), Gippeum Kim and Jaeyoung Lee(HGU)
- P06G20 Sensitivity Analysis of Heat Load on Passive Molten Core Cooling System in iPOWER
Do Hyun Hwang and Keun Sung Lee(KHNP CRI), Chang Hwan Park(FNC Tech.)
- P06G21 Developing the Stress Test Gap Analysis Methodology for Nuclear Power Plants
Hun Jeong and Bong-Yo Yun(KHNP CRI)
- P06G22 Various Particle Filters' Efficiency Calculation under Steam Generator Tube Rupture Accident
Hyeon Ho Byun and Man Sung Yim(KAIST)
- P06G23 Reconsideration of Hydrogen Source Term in CANDUs to Include Oxidation of Steel
Y.M. Song, B.W. Rhee, and J.H. Bae(KAERI), S. Nijhawan(Prolet Inc.)
- P06G24 Degradation of Natural Circulation by Lower Discharge of the Molten Fuel in Severe Accident of SFR
Minho Lee and In Choel Bang(UNIST), Dong Wook Jerng(CAU)
- P06G25 Pressure Gradients of Air and Water/Air Two-Phase Flow in a Stratified Bed
Jin Ho Park, Hyun Sun Park, Junghyeon Oh, Mooneon Lee, and Moo Hwan Kim(POSTECH)
- P06G26 Containment PT Analysis According to the Several PCCS Design using MARS-KS 1.4 Code
Hae-Yong Jeong and Jae-Ho Bae(Sejong Univ.)
- P06G27 Sensitivity Analysis for Emergency Cooling Water External Injection Strategy during SBO
Myungjoon Kim(KHNP CRI)
- P06G28 Development of the Equilibrium Thermochemistry Module for SGTR Iodine Analysis
Churl Yoon, Sung Il Kim, and Kwang Soon Ha(KAERI)
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5. 17 (목)
- 18 (금)

원자력 안전현안과 화재방호 (Safety Issue and Fire Protection) – Poster

| 좌장 박종석(Jong Seuk Park), 노경완(Kyungwan Roh)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

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|--------|---|
| P06H01 | Reassessment to Prevent Flooding Hazard in the CPB
Keun-Pack Chang, Jin-Chul Kang, and Ji-Won Whang(KEPCO E&C) |
| P06H02 | The Effect of Fission Gas Release on Reactivity Initiated Accident
GuenTae Park, Sung-Ju Cho, Kil-Sup Um, and Jae-Il Lee (KEPCO NF) |
| P06H03 | A Failure Estimation Considering the Thickness of Steel Pipe Elbows under In-plane Cyclic Loading
Sung-Jin Chang, Sung-Wan Kim, and Bub-Gyu Jeon(PNU), Dae-Gi Hahm(KAERI) |
| P06H04 | Consideration for Decision of Decay Heat Calculation Methodology on Spent Fuel during Loss of Spent Fuel Pool Cooling (LOSFPC)
Kyungho Nam, Myeongsoo Lee, and Doyeon Kim(KHNP CRI) |
| P06H05 | Critical Assessment of Transuranic Element Storage Facility with Wet Conditions: Monte Carlo Study
KILYOUNG KO, JINWHAN KIM, WOOSEUB KIM, and GYUSUNG CHO(KAIST),
SEONGKYU AHN and SEHWAN PARK(KAERI) |
| P06H06 | Comparison of Three Commercial Software for Investigating Seismic Safety of the Spent Fuel Pool
Wonman Park, Sehong Oh, Dae Kyung Choi, and Choengryul Choi(ELSOLTEC),
Heung Seok Kang, Dong Seok Oh, and Kang Hee Lee(KAERI) |
| P06H07 | Verification of Computational Fluid Dynamics Analysis of Sloshing for Investigating Seismic Safety of the Spent Fuel Pool
Wonman Park, Sehong Oh, Dae Kyung Choi, and Choengryul Choi(ELSOLTEC),
Heung Seok Kang, Dong Seok Oh, and Kang Hee Lee(KAERI) |
| P06H08 | Onsite Atmospheric Dispersion Factor in OPR 1000 NPP in KOREA
Seung Chan Lee and Duk Joo Yoon(KHNP CRI) |
| P06H09 | The Study of Methodology for SGTR Dose Estimation based on New Idea
Seung Chan Lee, Min Jeong Kim, and Sun Min Kim(KHNP CRI) |
| P06H10 | Sensitivity of Safety Analysis for ASI Operating Range Change
Il Tak Woo, Chang Hyun Jee, Yoon Sik Kwon, Young Han Song, Kyung Sik Choi, and Jae Yong Chang(KEPCO NF) |
| P06H11 | Development of EQ Profile for Hydrogen Monitors with Consideration of Operator Actions
Woo Jae Jeon, Keon Yeop Kim, and Jae Won Park(FNC Tech.) |
| P06H12 | Preliminary Assessment of Coping Capacity of HANUL Unit 3 under ELAP and LUHS
Junkyu Song, Seyun Kim, Jongheon Kim, Bongsik Chu, and Chang Hyun Kim(KHNP CRI) |
| P06H13 | Status of International Activities on Site Risk Assessment
Bo Gyung Kim, Dohyoung Kim, Namchul Cho, and Suk chul Kim(KINS) |
| P06H14 | Structure Integrity Assessment of Spent Nuclear Fuel of WH Type for Transportation Cask Side Drop on the Normal Transport Condition
Young-Oh Lee, Sung-Hoon Jung, and In-Su Jung(KONES), Seong-Ki Lee, Young-Ik Yoo, and Jae-Jun Lee(KEPCO NF) |
| P06H15 | Fire Hazard Evaluation of a Simplified Cable in Research Reactor Control Room
Jae-Min Jyung, Yoon-Suk Chang, and Tae-Jin Kim(KHU) |
| P06H16 | Sensitivity Analysis in Fire PSA on PGSFR
Kilyoo Kim, Sanghoon Han, and KwiLim Lee(KAERI) |
| P06H17 | Analysis of PHT Pump Seal Leakage in CANDU Reactors Due to Fire-induced Multiple Spurious Operation
Youngseung Lee, Heoksoon Lim, and Inhwan Kim(KHNP CRI) |

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5. 17(목)

방사선 방호 (Radiation Protection)

| 좌장 이희석 (Hee-Seock Lee), 김재성 (Jae-Sung Kim)

| 발표장소 303B

초청발표

- 09:00 Establishment of Technical Standards for Personal Dosimetry Performance Test by New ANSI Criteria in Korea
Jang Lyul Kim, In Su Chang, Seung Kyu Lee, Jung Il Lee, Hyung Taek Kim, and Jong Il Lee(KAERI)
- 09:30 Intestinal Organoids as Ex Vivo Model for Radiation-induced Gastrointestinal Syndrome
Seung Bum Lee, Young-heon Kim, Sehwan Shim, Min-Jung Kim, Hyosun Jang, Areumnuri Kim, Won-Suk Jang, Sun-Joo Lee, Jae kyung Myung, and Sunhoo Park(KIRAMS)
- 10:00 Evaluation of Radon Separation and Measurement by using Membrane Air-water Separator for Radon in Water
ChoonogWie Lee, Hee Reyoung Kim, and Jun Woo Bae(UNIST), Peal Woo Heo(KIMM), Hyun Sik Chae(SFT)
- 10:20 Estimation of Shutdown Dose Rate in Fusion Research Systems
SeongHee Park and MyungHyun Kim(KHU)
- 10:40 Coffee Break
- 11:00 Computational Performance Evaluation of Monte Carlo Particle Transport Codes for Mesh-type ICRP Reference Computational Phantoms
Chansoo Choi, Thang Tat Nguyen, Hanjin Lee, Haegin Han, Bangho Shin, Xujia Zhang, and Chan Hyeong Kim(HYU), Yeon Soo Yeom(NCI), Min Cheol Han(INFN)
- 11:20 Noise and Patient Dose Analysis of Intensity-modulated Dental CBCT
Jinwoo Kim, Jonghee Yun, Seungwoo Ha, and Ho Kyung Kim(PNU)
- 11:40 A Methodology for Assessment of Averaged Deposition Velocity According to Urban Residential Area Types
Joeun Lee, Wontae Hwang, Moonhee Han, and Eunhan Kim(KAERI)
- 12:00 Source Term Estimation for Fukushima Unit 1 With and Without Water Injection Scenarios
Tae Woon Kim(KAERI)

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5. 17(목)

- 18(금)

방사선 방호 (Radiation Protection) – Poster

| 좌장 이현우(Hyunwoo Lee), 이정일 (Jungil Lee)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P07B01 Calculation of Most Efficient Volume of Detection by Using the Differential Volume Method in the EXVol Code
M. Y. Kang, Euntaek Yoon, and H. D. Choi(SNU), G. M. Sun(KAERI)
- P07B02 Development of Data Acquisition Software for KAERI's Radiation Monitoring System
So Ji-Yong, Hong Kwan Pyo, and Lee Sung Ho(KAERI)
- P07B03 Radiological Assessment from Radioiodine Analysis Around Nuclear Facilities and Sewage Treatment
Min Ji Kim, Uk Jae Lee, and Hee Reyoung Kim(UNIST)

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- P07B04 Lessons Learned from 10 Years' Experience of the Centralized Calibration Laboratory for the Management of Portable Radiation Instrument
Kidoo Kang, Yuho Weon, Moonhyung Cho, and Jaeeun Lee(KHNP CRI)
- P07B05 Radiation Shielding of KSTAR Device in 2017 Campaign and Future Plan
Hee-soo Kim, Jong-gu Kwak, Sang-tae Kim, Kap-rae Park, and Young-kuk Oh(NFRI)
- P07B06 The Introduction of the Methodology to Calculate the Air Concentration in KOMAC
Yi-Sub Min, Jeong-min Park, and Sung-kyun Park(KAERI)
- P07B07 Analysis of Environmental Radioactivity Level in Suwon and Southern Gyeonggi Province after North Korea's 6th Nuclear Test
So Yoon Lee, Jin O Lee, and Kwang Pyo Kim(KHU)
- P07B08 Monitoring of Kr-85 by using BFS-IAR System
Young Gun Ko, Hyuncheol Kim, Ji Young Park, Sang-Do Choi, Jong-Myoung Lim, Geun-Sik Choi, and Wanno Lee(KAERI)
- P07B09 Measurement and Analysis of Air Sample for Radioactivity in Airborne Dusts
Jeong-min Park, Sung-kyun Park, and Yi-sub Min(KAERI)
- P07B10 Dose Coefficients for Industrial Radiography Sources Calculated with Mesh-type Computational Phantoms in Different Body Sizes
Haegin Han, Thang Tat Nguyen, Chansoo Choi, Hanjin Lee, Bangho Shin, Xujia Zhang, and Chan Hyeong Kim(HYU), Yeon Soo Yeom(NCI)
- P07B11 Sensitivity Analysis for Containment Leakage Estimation under Severe Accident Conditions
Yongsuk Bang and Juyub Kim(FNC Tech.), Seungwon Seo, Kuyoung Chung, and Kyuntae Kim(KINS)
- P07B12 The Detector Response and Its Angular Correction of a Large-volume NaI(Tl) Detector According to the Position Above the Ground
Young-Yong Ji, Wanno Lee, Mee Jang, Kun Ho Chung, Won Young Kim, Mun Ja Kang, and Young Hyun Cho(KAERI)
- P07B13 RIP1 Controls IR-induced Invasion of Non-small Cell Lung Cancer Cells
Jeong Hyun Cho, Ju Yeon Kim, Jie-Young Song, Sang-Gu Hwang, Hong-Duck Um, and Jong Kuk Park (KIRAMS), EunAh Lee(KHU)
- P07B14 Antibiotic Reduces Irradiation-induced Intestinal Injury
Wonwoo Kim(HYU), Mi-Sook Kim and Hyun-Kyung Kim(KIRAMS)
- P07B15 Comparative Study of the Determination of Natural Radionuclides(^{238}U , ^{232}Th) in Living Processed Products Using ED-XRF and ICP-MS
Hyeon-Woo Lee, Ji-Young Park, Jong-Myoung Lim, and Mee Jang(KAERI), Hoon Lee(KOFONS), Jin-Hong Lee(CNU)
- P07B16 Investigation of Spectral Interference between Uranium and Iron in the Optical Emission Spectrometric Technique
Jiyoung Park, Hyeon-Woo Lee, Huyncheol Kim, Sun-Ha Kim, Wanno Lee, and Jong-Myeong Lim(KAERI)
- P07B17 Long-term Trend Assessment in Environmental Radioactivity around Nuclear Facilities in Daedeok Site
Won Young Kim, M. Jang, Y. G. Ko, J. M. Lim, and W. R. Lee(KAERI)
- P07B18 A Study on the Contaminated Food Interdiction for the Public Following a Severe Accident of Nuclear Power Plants
Dahye Kwon(KAERI), Moosung Jae(HYU)
- P07B19 The Introduction of the Periodic Measurement Activity to Monitor the Air Contamination in KOMAC
Sung-Kyun Park, Yi-Sub Min, and Jeong-Min Park(KAERI)
- P07B20 Korea Radioecological Data Management System: K-REDMAS
So Hyeon LEE(UST, KAERI), Dong Kwon KEUM, In JUN, Kwang Muk LIM, Yong Ho CHOI, and Hyo Jun JEONG(KAERI)
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방사선 이용 및 기기 (Radiation Utilization and Instrumentation)

8A

5. 17 (목)

방사선 이용 및 기기 I (Radiation Utilization and Instrumentation I)

| 좌장 권인용(Inyong Kwon), 정희준(Heejun Chung)

| 발표장소 400

- 09:00 Scintillation Light Output of 3D Printed Plastic Scintillators
Dong-geon Kim, Sangmin Lee, Yong Hyun Kim, Seung Jin Seon, Sejin Ji, Jae Young Jeong, and Yong Kyun Kim(HYU)
- 09:20 Feasibility Study on Pinhole K-shell X-ray Fluorescence Imaging of Gold Nanoparticles
Seongmoon Jung and Sung-Joon Ye(SNU)
- 09:40 Characterization of a CLYC Detector for Gamma-ray and Neutron Detection
Hyun Suk Kim and Sung-Joon Ye(SNU), Heejun Chung(KINAC), Geehyun Kim(Sejong Univ.)
- 10:00 Feasibility Study of Multi-gamma Industrial SPECT for Multiphase Flow Measurement
Jang-Guen Park, Jinho Moon, and Sung-Hee Jung(KAERI)
- 10:20 Multi-element Solution L-XRF Analysis using the Hybrid L-edge/L-XRF Densitometer
Sungyeop Joung and Seunghoon Park(KINAC)
- 10:40 Coffee Break
- 11:00 Feasibility Simulation of Neutrino Tomography for Heavenly Body
Gwang Min SUN and Boyoung HAN(KAERI)
- 11:20 Development of Industrial Gamma CT System for a Ring Scan
Jinho Moon, Sung-Hee Jung, and Jang Guen Park(KAERI), Miran Park and Seungryong Cho(KAIST)
- 11:40 Feasibility of Basis Material Decomposition with Multilayer Detectors
Dong Woon Kim and Ho Kyung Kim(PNU)
- 12:00 Development of an Applicator for Endometrial Cancer Treatment using a Miniature X-ray Tube
Juhuk Lee, Hyun Nam Kim, and Sung Oh Cho(KAIST)
- 12:20 Sensitivity Analysis of SPNDs by Neutron Spectrum Using Monte Carlo Method
Junkyoung Jang, Seung gu Kang, and Hyun Chul Lee(PNU), Chidong Kong(UNIST), Ho Cheol Shin(KHNP CRI)

8B

5. 18 (금)

방사선 이용 및 기기 II (Radiation Utilization and Instrumentation II)

| 좌장 정성희(Sung-Hee Jung), 박승훈(Seunghoon Park)

| 발표장소 400

- 09:00 Measurement of RFT-30 Cyclotron Proton Beam Energy
Eun Je Lee, Chirag K. Vyas, Young Bae Kong, Ho Seung Song, and Min Goo Hur(KAERI)
- 09:20 Fabrication of Chitosan Microspheres Absorbed with ^{166}Dy for an in Vivo Generator System
Bo-Bae Cho, Ul-Jae Park, Sung Soo Nam, Kyung Duk Jang, Kwon Mo Yoo, and Kanghyuk Choi(KAERI)
- 09:40 Current Status of Kijang Research Reactor Project
Kye Hong Lee, Young-Wook Tahk, Jeong-Sik Yim, Seung-Kon Lee, and Jun Sig Lee(KAERI)
- 10:00 A Study on CASK Design for HANARO Transportation Suitable for Material Capsule through Shielding Calculation
Hoonjo Cho, Seongwoo Yang, Mansoon Cho, Seungjae Park, Yoontaeg Shin, and Keenam Choo(KAERI)

- 10:20 Imaging of Pleural Metastatic Lung Cancer using a ^{177}Lu -labeled Anti-CD55 Antibody
Jaecheong Lim(KAERI)
- 10:40 Coffee Break
- 11:00 Design, Fabrication, and Commissioning of Pneumatic Transfer System
Jinbok Choi, Youngsam Chung, Jonghwa Moon, and Sunha Kim(KAERI)
- 11:20 Verification of Simulation for Neutron-Induced Prompt Gamma Emission Using PHITS
Ki-Man Lee and Gwang-Min Sun(KAERI)
- 11:40 Experimental Study of Gamma Irradiation on Bipolar Junction Transistor
Sung Ho Ahn, Gwang Min Sun, and Hani Baek(KAERI)
- 12:00 Feasibility of Single-Scan Material Decomposition for Dedicated Breast CT: A Phantom Study
Bitbyeol Kim, Ho Kyung Kim, and Hosang Jeon(PNU)

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방사선 이용 및 기기 (Radiation Utilization and Instrumentation) – Poster

5. 17 (목)
– 18 (금)

| 좌장 최강혁(Kanghyuk Choi), 박병건(Byung-Gun Park)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P08C01 Design of Beta Coincidence Spectroscopy
Bo-Young Han, Han Rim Lee, and Gwang-Min Sun(KAERI)
- P08C02 Optical Characteristics of 3D Printed Novel Light Guide
Yonghyun Kim, Jaebum Son, Junesic Park, Sangmin Lee, Dong-geon Kim, and Yong Kyun Kim(HYU)
- P08C03 Irradiation Uniformity Measurement at the New Beam Line of 1.7-MV Tandem Accelerator
Kye-Ryung Kim, Jae-Kwon Suk, Min-Young Kim, and Yong-Sub Cho(KAERI)
- P08C04 Performance Evaluation of Phantom Dosimeter with Organic Scintillator Array for Measuring the Penumbra of Co-60 Tele-therapy Unit using a CMOS Camera
Hyun Young Shin, Sang Hun Shin, Jae Hyung Park, Hyungi Byun, Si Won Song, Ji Ye Kim, Young Beom Song, and Bongsoo Lee(CAU)
- P08C05 Improved Signal Processing Algorithm for the ^3He Proportional Chamber in High Gamma-Ray Fields
Joonbum Choi, Junesic Park, Jaebum Son, and Yong Kyun Kim(HYU), Seunghyun Park(Orbitech Co., Ltd)
- P08C06 Development of On-site Safeguard Equipment Based on Quad-CZT Array for Verification of Uranium Enrichment
Jinha Choi, Ju Young Jeon, and Heejun Chung(KINAC)
- P08C07 Optimization of Energy-separation Filter in Multilayer Detectors for Single-shot Dual-energy X-ray Imaging
Junwoo Kim, Dong Woon Kim, and Ho Kyung Kim(PNU)
- P08C08 Linear Analysis of Sandwich Detector-based Cone-beam Computed Tomography
Seungwoo Ha, Dong Woon Kim, Junwoo Kim, and Ho Kyung Kim(PNU)
- P08C09 Therapeutic Response Monitoring of Anti-HER1 Therapy with PET Imaging Biomarkers in Esophageal Squamous Cell Carcinoma Model
Yong Hwa Hwang, In Ho Jeong, Joo Hyun Kang, Yong Jin Lee, Kwang Il Kim, and Tae Sup Lee(KIRAMS)
- P08C10 Development of a 32-Channel Readout Circuit for X-ray Cargo Inspection
Young Soo Kim, Hyojeong Choi, Seung-Jae Lee, and Han Soo Kim(KAERI)
- P08C11 Development of Radiation Monitoring Sensor using a Digitizer in Mixed Radiation Fields
Sang Hun Shin, Si Won Song, Hyun Young Shin, Young Beom Song, and Bongsoo Lee(CAU)

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- P08C12 Development of Miniature X-ray Nondestructive System for Next Generation 3-dimensional Stacked Semi-conductor Packaging Defect Inspection
Hyunnam Kim, Juhuk Lee, and Sungoh Cho(KAIST)
- P08C13 Performance Study of Si PIN Photodiode for Radiation Detector
Ah Hyun Park, Chang Goo Kang, Jang Ho Ha, Young Soo Kim, Jeong Min Park, Seung-Jae Lee, Hyojeong Choi, and Han Soo Kim(KAERI)
- P08C14 Development of Data Acquisition System for 64-channel X-ray Detectors
Hyojeong Choi, Young Soo Kim, Seung-Jae Lee, and Han Soo Kim(KAERI)
- P08C15 Fabrication of Array Type Si PIN Detector for Combined Radiation Imaging System
Chang Goo Kang, Ah Hyun Park, Jang Ho Ha, Jeong Min Park, Young Soo Kim, Seung-Jae Lee, Hyojeong Choi, Min Woong Lee, Nam-Ho Lee, and Han Soo Kim(KAERI)
- P08C16 Pulse Shape Discrimination for γ and α Detection using Cerium Doped YAG Crystal
MinJeong Kim(KHNP CRI), HongJoo Kim and J. Y. Cho(KNU)
- P08C17 Compensation for Extremely Low Count Rate of PCS Neutron Monitoring System
Sanghoon Bae and Changhwoi Kim(KAERI)
- P08C18 Simulation Study of Radioactive Source Localizing Radiation Portal Monitor using Support Vector Machine
Byoungil Jeon, Jongyul Kim, and Myungkook Moon(KAERI)
- P08C19 Development of a 64 Channels DAQ System for X-ray Imaging
J.M. Park, H.S. Kim, Y.S. Kim, C.G. Kang, J.H. Ha, A.H. Park, S.J. Lee, and H.J. Choi(KAERI)
- P08C20 Experimental Evaluation of Potential Boron Contamination in Pb Shield of ASNC
Seonkwang Yoon, Hee Seo, Jong-Myeong Oh, Chaehun Lee, Seong-Kyu Ahn, and Ho-Dong Kim(KAERI)
- P08C21 A Method of Beta-ray and Gamma-ray Separation Using Plastic Scintillators with Different Size
Jun Woo Bae, Ukjae Lee, and Hee Reyoung Kim(UNIST)
- P08C22 Design and Fabrication of the Capsule for Irradiation of RPV Material (16M-01K) in HANARO
Man Soon Cho, Seong Woo Yang, Hoon Jo Cho, Kee Nam Choo, and Byung Hyuk Jun(KAERI)
- P08C23 A Feasibility Study of Fast-Neutron Transmission and Tomography for a Thick Steel Box at the NECTAR Facility
Youngseok Lee, Jong-Gu Kwak, and Hee-Soo Kim(NFRI), Malgorzata Makowska and Thomas Bucherl(TUM)
- P08C24 Calculation of Gaseous Activation Products by Neutron Reactions in Horizontal Beam Tubes and Cold Neutron Guides of HANARO
Byung-Gun Park, Gi-Doo Kang, and Myong-Seop Kim(KAERI)
- P08C25 Neutron Diffraction Measurement of Residual Stress in High Melting Point Metal 3D Printing
Dong-Kyu Kim and Wanchuck Woo(KAERI)
- P08C26 Synthesis of Graphene Nanosheets from Indium-catalyzed Graphite using Electron Beam Irradiation
Na Eun Lee, Sangyoon Lee, Hyung San Lim, Yangeong Park, Jungwoo Kim, Juhyeok Lee, Hyunnam Kim, and Sung Oh Cho(KAIST)
- P08C27 Fabrication of Non-toxic and UV Absorbing PMMA Particles by Irradiation of 50keV Electron Beam
Sangyoon Lee, Hyung San Lim, Na Eun Lee, and Sung Oh Cho(KAIST)
- P08C28 Alternative Irradiation Methods during HANARO Safety Reinforcement Project
Kee-Nam Choo, Man-Soon Cho, Seong-Woo Yang, Yoon-Taek Shin, Seng-Jae Park, Byung-Hyuk Jun, Myong-Seop Kim(KAERI)
- P08C29 Effect of Electron Beam Irradiation on Electrochemical Properties of CNT
Shin Ae Kim, Jeun Pyo Jeon, and Phil Hyun Kang(KAERI), Yoonsun Chung(HYU)
- P08C30 Wrinkling of Polymeric Surface by Electron Irradiation
HyungSan Lim, SangYoon Lee, NaEun Lee, and SungOh Cho(KAIST)
-

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5. 17 (목)

핵융합 및 가속기 (Nuclear Fusion and Accelerator)

| 좌장 오병훈(Byung-Hoon Oh), 홍봉근(Bong Guen Hong)

| 발표장소 303A

초청발표

- 09:30 Effect of Blanket Configuration on Transmutation Performance of a Fusion-Driven System
Bong Guen Hong(CBNU)
- 10:05 Design and R&D Progress of ITER HCCR TBM Development for Fusion Breeding Blanket
Dong Won Lee(KAERI)
- 10:40 Coffee Break
- 11:00 New Ideas for Compact Electron Storage Rings
Tae-Yeon Lee(PAL)
- 11:20 Development of a Facility Simulating Fusion Divertor Plasmas at KAERI
Kil-Byoung Chai, Duck-Hee Kwon, and Min Park(KAERI)

9B

5. 17 (목)

- 18 (금)

핵융합 및 가속기 (Nuclear Fusion and Accelerator) – Poster

| 좌장 오병훈(Byung-Hoon Oh), 허성렬(Sung-Ryul Huh)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P09B01 Measurement of Ion Species Fraction of Hydrogen Plasma in Cold Cathode Penning Ionization Gauge Ion Source in Pulsed Operation
Kyumin Choe, Kyoung-Jae Chung, and Y. S. Hwang(SNU)
- P09B02 Design and Scaled Testing of Solid-State Marx Modulator for High Energy Proton Beam Extraction
Kihyun Lee, Soonghyeong Lee, Kern Lee, Kyoung-Jae Chung, and Y.S. Hwang(SNU)
- P09B03 Design and Construction of External PIXE Beamline of the 1.7 MV Tandem Accelerator for Restoration and Preservation of Cultural Properties
Jun Mok Ha, Kye-Ryung Kim, Jae Kwon Suk, Min Young Kim, Hye Ran Jeon, Sang Min Ha, and Yong Sub Cho(KAERI), Seoung Ho Lee(ANAS)
- P09B04 Preliminary Operation of the HLS for Measuring Vertical Movement of the Accelerator Building at KOMAC
Dae-Il Kim, Jae-Ha Kim, Young-Gi Song, and Hyeok-Jung Kwon(KAERI)
- P09B05 Conceptual Design of Alkali Metal Ion Implanter
Yong-Sub Cho, Jun-Mok Ha, and Kye-Ryung Kim(KAERI)
- P09B06 Collisional Radiative Modeling on Optical Emission Spectroscopy for Ar Plasma
Duck-Hee Kwon and Kil-Byoung Chai(KAERI)
- P09B07 Analysis of Technical Issues for Development of Fusion-Fission Hybrid Reactor (FFHR)
Doo-Hee Chang(KAERI)

-
- P09B08 **Mechanical Properties of TIG Welding of ARAA Material**
Jae Sung Yoon, Suk-Kwon Kim, Eo Hwak Lee, Hyung Gon Jin, Dong Won Lee, and Seong Dae Park(KAERI),
Dong Jun Kim(KU), Seungyon Cho(NFRI)
- P09B09 **Numerical Investigation of Helium Cooled Channel for First Wall Application**
Seong Dae Park, Dong Won Lee, Eo Hwak Lee, Jae-Sung Yoon, Suk-Kwon Kim, Hyung Gon Jin,
and Sunghwan Yun(KAERI), Dong Jun Kim(KU), Seungyon Cho(NFRI)
- P09B10 **Tritium Measurement Techniques for a Metal Tritide Bed in Hydrogen Isotope Storage and Delivery System**
Kwangjin Jung, Sangwon Park, Jisoo Kim, Ji Hwan Park, and Hongsuk Chung(KAERI,UST), Sei-Hun Yun(NFRI),
Hee-Seok Kang(KAERI)
- P09B11 **Planning and Progress on the Fusion Neutron Sources Development at KAERI for Fusion and Fission Application**
Dong Won Lee, Sun-Ho Kim, Bongki Jung, and Doo-Hee Chang(KAERI)
- P09B12 **Characteristics of Uranium-Hydrogen System**
Jisoo Kim, Kwangjin Jung, and Hongsuk Chung(KAERI,UST), Hee-Seok Kang(KAERI), Sei-Hun Yun(NFRI)
- P09B13 **Snubber Circuit Optimization of the Central Solenoid Power Supply for Versatile Experiment Spherical Torus**
SeulChan Hong, JongYoon Park, Young-Gi Kim, Kyoung-Jae Chung, Y.S. Hwang, and Yong-Su Na(SNU)
- P09B14 **Manufacturing and High Heat Load Testing of 3D Printed Divertor Mockups for Nuclear Fusion Reactor**
Suk-Kwon Kim, Chang Wook Shin, Seong Dae Park, Hyung Gon Jin, Sunghwan Yun, Eo Hwak Lee, Jae-Sung Yoon,
and Dong Won Lee(KAERI)
- P09B15 **GAMMA-FR Validation Against Adiabatic Expansion of Hydrogen**
Hyung Gon Jin, Dong Won Lee, Suk Kwon Kim, Eo Hwak Lee, Seong Dae Park, Chang Wook Shin,
and Jae Sung Yoon(KAERI), Seungyon Cho(NFRI)
- P09B16 **Design of Single-body Multi-radiation Generator Based on Electron Accelerator**
Byeongno Lee, Moonsik Chae, Kyungmin Oh, and Jungho Mun(KAERI), Soomin Lee(HYU)
- P09B17 **Neutron Shielding Design for a Neutron Generator**
Jeong-Tae Jin, Byung-Hoon Oh, Seok-Kwan Lee, Dae-Sik Chang, Sung-Ryul Huh, and Bong-Ki Jung(KAERI),
Sang-Jin Lee(IFS)
- P09B18 **An Optimization of Shielding Design for Compact-Fusion Neutron Sources**
Sunghwan Yun, Cheol Woo Lee, Dong Won Lee, Sun-Ho Kim, Bongki Jung, Doo-Hee Chang, Hyung Gon Jin,
and Chang Wook Shin(KAERI)
- P09B19 **Status Report on the Development of a Compact Permanent Magnet Electron Cyclotron Resonance Ion
Source for a D-D Neutron Generator at KAERI**
Sung-Ryul Huh, Bong-Ki Jung, Tae-Seong Kim, Dae-Sik Chang, Seok-Kwan Lee, Jeong-Tae Jin,
and Byung-Hoon Oh(KAERI)

원전건설 및 운영기술 (Nuclear Power Plant Construction and Operation Technology)

10A

5. 18 (금)

운영/정비기술 (Operation/Maintenance)

I 좌장 김두기(Dookie Kim), 정대율(Dae-Yul Jung)

I 발표장소 300

초청발표

- 09:00 The Procurement Engineering Related to Alternative Items for NPP(CGID & Identification Evaluation)
Dae-Yul Jung(KHNP)
- 09:20 Discussion on Personnel Qualification System of Korea Electric Power Industry Code (KEPIC)
Su-yeon Park, Myoung-sung Sohn, and Hyun-jae Joo(KEA)
- 09:40 Introduction to the KEPIC Nuclear Quality Assurance Certification Program and Feasibility Study of
Certification Program for Repair & Replacement Organization
Jae-yun Choi, Myoung-sung Sohn, and Hyun-jae Joo(KEA)
- 10:00 Review of Methodology for Stack Design in Nuclear Power Plant
So Eun Shin, Young Suk Bang, Doo Yong Lee, Heung Gyu Park, and Hee Dong Kim(FNC Tech.)
- 10:20 Gas Void Monitoring and Control System (GVMCS) Development for Gas Intrusion and Accumulation in
Nuclear Power Plants
Yong Jae Song, Woo Young Jung, Hee Kwon Ku, Jong Chan Lee, and Hee Dong Kim (FNC Tech.), Daeseong Jo(KNU)
- 10:40 Coffee Break
- 11:00 A Proposed Numerical Model for Cabinets of Nuclear Power Plants
Tuan Thanh Tran, Dong Van Nguyen, Geon-Hwi Beak, Xuyen Thi Hong Nguyen, and Dookie Kim(KNU)
- 11:20 Progressive Calibration of the FE Model of an Electric Cabinet in Nuclear Power Plant
Xuyen Thi Hong Nguyen, Tuan Thanh Tran, and Dookie Kim(KNU), Gihwan So(Innose Tech Co. LTD.)
- 11:40 Challenges on Probabilistic Site Response Analysis for the Generation of GMRS in Korea
Seung Ryong Han(KEPCO E&C), Dookie Kim(KNU)
- 12:00 Practical Numerical Approach for Nonlinear Soil-Structure Interaction Analysis of a NPP Containment Building
Jin Ho Lee(PKNU)

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5. 18 (금)

운영/정비/수화학 (Operation/Maintenance/Plant Water Chemistry)

I 좌장 허도행(Do Haeng Hur), 양준석(Jun Seog Yang)

I 발표장소 303A

초청발표

- 09:00 Overview of Aging Management and Acceptance Criteria on Reactor Vessel Internals in Pressurized
Water Reactor
Jun Seog Yang, Kyung Soo Lee, and Young Sup Park(KHNP CRI)
- 09:20 Development of Standard Welding Procedure Specification for Nuclear Power Plant
Gidong Kim and Sangwoo Song(KIMS), Myoung Sung Sohn and Hyun Jae Joo(KEA),
Gi Ho Sung and Kyung Do Park(SUNG IL Co. LTD)

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- 09:40 Effect of Dissolved Hydrogen Concentration on Fuel Crud in a PWR Primary Environment
Seung Heon Baek, Hee-Sang Shim, and Do Haeng Hur(KAERI)
 - 10:00 Review of Errors of Containment Integrated Leak Rate Test for Nuclear Power Plants
Manwoong Kim, Ar Ryum Kim, Dong-Ju Jang, and Ku-Young Chung(KINS), Chang-Soo Kim(KHNP CRI)
 - 10:20 A Development Case of SysML Based Nuclear Power Plant Design Bases Model
Taekyong Lee, Jae-Min Cha, Joon-Young Kim, Shelly Salim, and Choongsub Yeom(IAE)
 - 10:40 Coffee Break
 - 11:00 Accelerated Corrosion of Alloy 600 by Magnetite Deposits in Simulated Secondary Water Containing PbO
Geun Dong Song, Won-Ik Choi, Soon-Hyeok Jeon, and Do Haeng Hur(KAERI)
 - 11:20 Introduction of Containment Liner Plate (CLP) Corrosion
Yonglak Paek, Sangyun Kim, Euisik Yoon, and Hun Cha(KINS)
 - 11:40 Application of Configuration Management Information System for Operation NPP
Hee-seung Chang, Hyun-Jin Kim, and Sang-Wook Shin(KHNP)
 - 12:00 Characterization of Steam Generator Tube Deposits and Its Utilization for Chemical Cleaning Process and Corrosion Problems
Soon-Hyeok Jeon and Do Haeng Hur(KAERI)

10C

5. 18 (금)

지진해석 (Seismic Analysis)

| 좌장 구경회(Gyeong-Hoi Koo), 서춘교(Choon-Gyo Seo)

| 발표장소 303B

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- 09:00 Intensity Measures Selection for Seismic Responses of NPP Components Considering High-Frequency Ground Motions
Tae-Hyung Lee, Duy-Duan Nguyen, Hyo-Sang Park, Shin-Wook Yang, Bidhek Thusa, and Yongmin Kim(KU)
 - 09:20 Evaluation of Seismic Hazard Curves at Soil Sites Considering Soil Amplification
Jin Ho Lee(PKNU)
 - 09:40 Seismic Analyses of a Nuclear Power Block Considering Structure-Soil-Structure Interaction
Choon-Gyo Seo, Du-Ri Jung, and Il-Hwan Moon(KEPCO E&C)
 - 10:00 Investigation on Shear Strength Prediction of Nuclear Power Plant RC Walls for Seismic Probabilistic Risk Assessment
Jang-Woon Baek, Hong-Gun Park, Ju-Hyung Kim, and Hyeon-Keun Yang(SNU)
 - 10:20 Effect of Moat Wall Impact on Seismic Analysis of Seismically Isolated NPPs
Daegi Hahm(KAERI), Gilberto Mosqueda(UCSD)
 - 10:40 Coffee Break
 - 11:00 Inelastic Seismic Response Assessment of Short Period Structures Subjected to High-Frequency Earthquakes
Ju-Hyung Kim, Jang-Woon Baek, and Hong-Gun Park(SNU)
 - 11:20 Design of Small Size Laminated Rubber Bearings Applicable for Seismic Isolation of Individual Nuclear Components
Gyeong-Hoi Koo(KAERI), Tae-Myung Shin(KUT)
 - 11:40 A Study on Application of Tuned Mass Damper to Piping System under Earthquake
Shinyoung Kwag, Jinsung Kwak, Hwanho Lee, Jinho Oh, and Gyeong-Hoi Koo(KAERI)
-

10D

5. 17 (목)
- 18 (금)

원전건설 및 운영기술

(Nuclear Power Plant Construction and Operation Technology) – Poster

| 좌장 박경흠(Kyung-Heum Park), 김기영(Kiyoung Kim)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- | | |
|---------|---|
| P010D01 | Improved Exhaust Damper Automation
Youngkuk Jang, Seonho Noh, Heeseok Kang, and Ilje Cho(KAERI) |
| P010D02 | Criticality Effect According to the Fuel Assembly Deformation
kiyoung kim and sunghwan chung(KHNP CRI), yunsik kim(KONES) |
| P010D03 | Prevention and Improvement of Negative Operational Margin for Motor-operated Flexible Wedge Gate Valves Evaluated Via Performance Prediction in Nuclear Power Plants
Tae Kyung Oh and Bong Hwan Kim(KEPCO E&C) |
| P010D04 | New Access Control System in PRIDE
Seonho Noh, Youngkuk Jang, Hui-seok Gang, and Il Je Cho(KAERI) |
| P010D05 | Reliability Improvement of Commercial Grade Item Dedication due to Reduction of Domestic NPP Market
Dong Suk Lee and Jin Weon Kim(CSU) |
| P010D06 | The Research of Environmental Qualification for Non-metallic Part in Safety-related Active Mechanical Equipment in NPP
Kyung-Heum Park, Young-Chul Shin, and Chul-Hwan Yun(KHNP CRI) |
| P010D07 | Effect of CO ₂ Purity on Performance and Optimum Point of Supercritical CO ₂ Cycle
Seongmin Son and Jeong Ik Lee(KAIST) |
| P010D08 | High Frequency Earthquake Ground Motion Research - Selection of Equipment for Seismic Fragility Test
In-Kil Choi and Seunghyun Eem(KAERI) |
| P010D09 | Seismic Test of Bottom-mounted Second Shutdown Drive Mechanism
Jong-Oh Sun, Jihoon Lee, Gyeongho Kim, Sanghaun Kim, Yeon-Sik Yoo, Yeon-Seok Choo, Hyung Huh, and Hyokwang Lee(KAERI), Dong-Uk Park(SESTEC) |
| P010D10 | Safety Ratio Degradation Due to Channel Misalignment in a PCHE
Armanto P Simanjuntak and Jaeyoung Lee(HGU) |
| P010D11 | The Study of Influence Factors on Flight Behavior of Wind-borne Debris
Junhee Park and Daegi Hahm(KAERI) |
| P010D12 | Ratcheting Strain Measurement of a Steel Pipe Elbow under In-plane Cyclic Loading
Sung-Wan Kim, Bub-Gyu Jeon, Sung-Jin Chang, and Da-Woon Yun(KOCED Seismic Simulation Test) |
| P010D13 | Deformation Angle Measurement of a Steel Pipe Tee Using Image Measurement System
Sung-Wan Kim, Bub-Gyu Jeon, Sung-Jin Chang, and Da-Woon Yun(KOCED Seismic Simulation Test) |

원자력정책, 인력 및 협력 (Nuclear Policy, Human Resources and Cooperation)

11A

5. 17 (목)

원자력정책, 인력 및 협력 1 (Nuclear Policy, Human Resources and Cooperation 1)

| 좌장 남영미(Youngmi Nam), 김창래(Chang Rae Kim)

| 발표장소 201B

초청발표

- 09:00 Curriculum Development of a Nuclear Engineering Course for Human Resources Enhancement in the Kenya Nuclear Energy Program
Elijah Mwangi and Michael Gatari(NBU)
- 09:30 National Nuclear Development Policy and Nuclear Engineering Education and R&D at University Teknologi Malaysia
Khaidzir Hamzah and Jasman Zainal(UTM), Jamal Khaer Ibrahim(MNPC)
- 10:00 Cooperation between Korea Nuclear Association with Universiti Kebangsaan Malaysia
Shahidan Radiman(UKM)
- 10:30 Coffee Break
- 10:40 An Approach of Financial Stability for Enhancement of Regulatory Independence
Byung Joo Min and Kyung Mo Kim(UNIST)
- 11:00 Perception of Nuclear Safety and Development of the Nuclear Safety Trust Indicator
Seong Kyung Cho(MJU), Yun Hyung Chung(KINS)
- 11:20 Nuclear Safety Information Portal Service Utilization Study and Program Implementation
Gyehwi Lee and Kiljoong Kim(KINS)
- 11:40 A Study on Nuclear Power Plant Export Competitiveness by AHP Analysis
Jae Young Choi and Yong Hoon Jeong(KAIST), Soon Heung Chang(HGU)
- 12:00 How Publics' Knowledge of Nuclear Energy Influences Their Emotions, Social Distance, and Risk Perceptions: Implications for Effective Nuclear Communication Programs
Hyo Jung Kim(KINGS)

11B

5. 18 (금)

원자력정책, 인력 및 협력 2 (Nuclear Policy, Human Resources and Cooperation 2)

| 좌장 최관규(Kwan Kyoo Choe), 정익(Ik Jeong)

| 발표장소 201B

- 09:20 A Study on the Implementation of ROK SP and Development of New SP-1 through the D&IS
Donghyuk Lim and Chul Heo(KINAC)
- 09:40 Experience on Security Regulation of International Nuclear Material Transportation
Jeong-ho Lee and Yeonuk Kang(KINAC)
- 10:00 Comparison Analysis of 2010 and 2018 NPR: Changes in Trend of Nuclear Nonproliferation and Its Implication
Chan Kim(KINAC)
- 10:20 Coffee Break
- 10:40 A Study on Prospect of Nuclear R&D Fund Under the New Energy Roadmap in Korea and Policy Recommendations
Dong Hoon Lee, Soeun Kim, Jieun Joo, Man-Ki Lee, Seung-Su Kim, Maeng-Ho Yang, and Chae Young Lim(KAERI)

- 11:00 A Comparative Analysis Between NSG Guidelines and Korean Export Control System: Retransfer
Jae Soo Ryu, Youngwoo Lee, and Keonhee Lee(KAERI)
- 11:20 Overview of the Application of Nuclear Technology to Propulsion and Space Nuclear Power Systems
Mirae Yun, Sooeun Kim, and Young Joon Lee(KAERI)
- 11:40 Analysis of National Comprehensive Plans of the Ministries for Radiation Technology Policy
Heejin Kim, Jung Young Kim, and Sung Chul Jung(KIRAMS)

11C

5. 17(목)
- 18(금)

원자력정책, 인력 및 협력 3

(Nuclear Policy, Human Resources and Cooperation 3) – Poster

| 좌장 이동훈(Dong Hoon Lee), 김효정(Hyo Jung Kim)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P011C01 Consideration of Nuclear QA Concept and Development Direction
Kwan Hyun Kim and Hye Jin Kim(KAERI)
- P011C02 The Analysis of Current Job for Nuclear Industries
Wonyoung Jung, Yong Geon Kim, and Tai-jin Park(KARA), Young June Kim(KONICOF)
- P011C03 Nuclear Safety Education for Public Communication
Eunkyung Kim, Miwha Lee, and Doohyun Cho(KINS)
- P011C04 Comparison of the 2010/2018 Nuclear Posture Reviews and Its Implications
Keonhee Lee, Byung-Wook Lee, Jae Soo Ryu, and Youngwoo Lee(KAERI)
- P011C05 Development of Technical Standard through Vehicle Barrier Test
Moonsung Koh and Yeonuk Kang(KINAC)
- P011C06 A Study on the Implementation of Safeguards System at PIEF
Inchul Kim, Sungho Lee, Byungdoo Lee, Hyunjo Kim, Hyunsook Kim, and Juang Jung(KAERI)
- P011C07 A Study in US-Russian Cooperation in Nuclear Arms Control
Hojung Do and Sunyoung Chang(KINAC)
- P011C08 Implementation of the Enhanced Cooperation between the ROK and the IAEA
Seung Ho Ahn and Chul Heo(KINAC)
- P011C09 The Development of National Nuclear Forensic Library System
YuJeong Choi, SeungHo Jung, and Hana Seo(KINAC), GaYeon Ha and GyunYoung Heo(KHU), NamHwan Sung and SeungJun Lee(ECMiner)
- P011C10 The Establishment of a Web-Based Safeguards Information Treatment System at KAERI
Byungdoo Lee, Inchul Kim, and Seungho Lee(KAERI)
- P011C11 Suggestion on State Control of Non-Nuclear Purpose Nuclear Material
Seong Youn Jo and Chul Heo(KINAC)
- P011C12 The Analysis of the 2018 New Year's Address of DPRK
Byungmarn KOH, Minsoo Kim, and Sunyoung Chang(KINAC)
- P011C13 Application of National Safeguards Instruments for Spent Fuel Verifications to the IAEA Inspections
Seung Sik Park(KINAC)
- P011C14 Case Study for Energy Transition Policy in ROK - Using Energy Planning Model 'MESSAGE'
Ji Eun Joo, Jong Hee Lee, Seung Su Kim, and Man Ki Lee(KAERI)
- P011C15 Nuclear Energy Policy Study in the Aspect of Legislation and Political Party's Declaration
Daesung Lee and Jaeyoung Bang(KAERI)

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- PO11C16 Review of Regulatory Standards and Guidelines for Light Water Reactors in Terms of Passive Residual Heat Removal System
Joo Hyung Moon and Young In Kim(KAERI), Ibrahim AlAmeer(KACARE)
- PO11C17 Comparison on the IAEA Safety Requirements for Nuclear Fuel Fabrication Facility and the Requirements for Fuel Cycle Research and Development Facility
Ki Yeon Kwon, Sang Kyu Ahn, and Seung Hoon Ahn(KINS)
- PO11C18 Development of a Framework for Assessing Safety Contribution of Nuclear Safety Research
Phil Seo Kim and Man-Sung Yim(KAIST)
- PO11C19 Study of Nuclear Public Acceptance based on the BIG Data Analysis
seungkook roh(KAERI)
- PO11C20 Development of Evaluation Methodology for Nuclear R&D Contribution
HaeOk Gu, HeeJin Do, JongKyou Youn, and HongJune Park(NRF), JaeKyou Kwack(MSIT)
- PO11C21 Which One is Better to the Economic Welfare: Life Extension or Decommissioning
Hyejin Jung, Jaeyong Oh, and Taesik Yun(KHNP CRI)
- PO11C22 Resilience Modeling of Nuclear Industry for Nuclear Power Phase-out in South Korea: Spirit from the Center for Technology and Systems Management at the University of Maryland
TAE HO WOO(Yonsei Univ.)
- PO11C23 Restarting and Strengthening Safety of Nuclear Power Plants in Japan
Sung Won Yun, Jae Soo Ryu, and Yeun Jong Kim(KAERI)
- PO11C24 Introduction and Looking Forward of IAEA Safeguards Technical Guide for Nuclear Material Bulk-handling Facilities
Woojin Kim and Sunyoung Chang(KINAC)
- PO11C25 Comparative Study on Nuclear Perception of Local Residents based on Distance
Hyunjin Kim(KINAC), Seungkook Roh(KAERI)
- PO11C26 Compensation to Local Residents: Unexpected Survey Results from the Public Deliberation on Shin-Gori Nuclear Reactors No. 5 & 6
Chul Min Kim and Man-Sung Yim(KAIST)
- PO11C27 Construction of Nuclear Power Plants in UK and Its Implications
Mijin Kim, Keonhee Lee, and Jae Soo Ryu(KAERI)

원자력계측제어, 인간공학 및 자동원격 (Nuclear I&C, Human Factors and Automatic Remote Systems)

12A

5. 17 (목)

원자력계측제어, 인간공학 및 자동원격 A

(Nuclear I&C, Human Factors and Automatic Remote Systems A)

| 좌장 허섭(Seop Hur), 정유희(Yun Hyung Chung)

| 발표장소 402A

초청발표

- 09:00 Conceptual MMIS for Diversity and Defense in Depth
Yeonsub Jung(KHNP CRI)
- 09:30 Just Culture, Is It Needed to the Nuclear Industry?
Yun Hyung Chung, Su Jin Jung, and Young Sung Choi(KINS)
- 10:00 Probabilistic Reasoning with Multilevel Flow Modeling based on Time-related Concepts
Seung Geun Kim and Poong Hyun Seong(KAIST)
- 10:20 Analysis of Golden Time for Recovering the Safety Injection System in BDBA
Kwae Hwan Yoo, Ju Hyun Back, So Hun Yun, and Man Gyun Na(CSU)
- 10:40 Coffee Break
- 11:00 An Estimation of Operator Action Time during SAMGs Execution
Young Gyu No and Poong Hyun Seong(KAIST)
- 11:20 Development of Domestic Fresh Fuel Identification Algorithm through Comparative Analysis of Nuclear Fuel Signatures
Gayeon Ha and Gyunyoung Heo(KHU), Hana Seo and Yujeong Choi(KINAC)
- 11:40 Improvements of the Main Feed Water Pump Speed Control Methods in Hanbit Nuclear Power Plant Units 3 and 4
Kyungsun Yoon and Man Gyun Na(CSU)
- 12:00 A Study on CEDMCS Stabilization in Hanbit Nuclear Power Plant Units 3 and 4
Daegun Lim and Man Gyun Na(CSU)
- 12:20 A Study on Ground-Fault Protection of Major On-Site Electric Facilities at NPPs
Jihun Kim and Man Gyun Na(CSU)

12B

5. 17 (목)

원자력계측제어, 인간공학 및 자동원격 B

(Nuclear I&C, Human Factors and Automatic Remote Systems B)

| 좌장 박기용(Gee Yong Park), 장인석(Inseok Jang)

| 발표장소 402B

초청발표

- 09:00 Design of the Satellite Communication System for Data Transmission of the Nuclear Black Box
Seok Boong Hong, Duck Hyun Kim, and Chang Hwoi Kim(KAERI)
- 09:30 Requirements for Development of a Prototype of Mobile Remote Monitoring and Control Facility
Inseok Jang and Chang Hwoi Kim(KAERI)
- 10:00 Self-heating and Wire Resistance Effects in Temperature Measurement using RTD Sensors
Inkoo Hwang, Jungtaek Kim, Sanghoon Bae, Wonman Park, and GeeYong Park(KAERI)

- 10:20 Accident Diagnosis Algorithm during the Startup Operation using LSTM
Jaemin Yang and Jonghyun Kim(CSU)
- 10:40 Coffee Break
- 11:00 Methodology for Evaluating the Software Reliability of Digital Instrumentation and Control Systems
Jeongil Seo and Seung Jun Lee(UNIST)
- 11:20 Preliminary Analysis of the Uncertainty Effect on Seismic Parameters and Frequency Spectrum for Nuclear Power Plants
Byeong Hyeok Ha, Tongkyu Park, and Jeong Hun Lee(FNC Tech.)
- 11:40 Improvement on Procedure Directory of APR1400 Computerized Procedure System
Nokyu Seong and Yeonsub Jung(KHNP CRI)
- 12:00 A Worker's Fitness-For-Duty Classification and Prediction using Bio-signals
Young A Suh and Man-Sung Yim(KAIST)
- 12:20 Development Status of Safety Console for APR+
Yongsoo Kim and Yeonsub Jung(KHNP CRI)

12C
5. 18 (금)

원자력계측제어, 인간공학 및 자동원격 C

(Nuclear I&C, Human Factors and Automatic Remote Systems C)

| 좌장 이창재(Chang Jae Lee), 김윤구(Yun Goo Kim)

| 발표장소 402A

초청발표

- 09:00 Considerations on Data Mapping of Convolutional Neural Networks to Diagnose Abnormal Status in Nuclear Power Plant Operation
Yun Goo Kim, Sun Mi Choi, Tae Joon Kim, Jong Seol Moon, and Do Hwan Lee(KHNP CRI)
- 09:30 A Comparison of Human Reliability Analysis Methods for Post-Initiators
Jooyoung Park, Awwal Mohammed Arigi, and Jonghyun Kim(CSU)
- 09:50 Thermal Image Measurement Analysis of Human Response According to Operating Variables of Seismic Simulator
Joo-Hyun Sim and Hyun-Chul Lee(KAERI)
- 10:10 A Process for Analyzing Category-B Actions for Multi-unit LOOP
Awwal Arigi and Jonghyun Kim(CSU)
- 10:30 Coffee Break
- 10:50 A Frame of Reliability Model for the Safety-critical Digital I&C System in NPP
Sung Min Shin(KAERI)
- 11:10 A Brief Review of a Machine Learning Programming of Simple Linear Regression
Yong Suk Suh, Seung Ki Shin, Dane Baang, and Sang Mun Seo(KAERI)
- 11:30 Autonomous Algorithm for Start-up Operation of Nuclear Power Plants based on Operating Procedure
Daeil Lee and Jonghyun Kim(CSU)
- 11:50 Unmanned Surface Vehicle for Nuclear Spent Fuel Inspection
Jongwon Park and Young Soo Choi(KAERI)
- 12:10 Performance Monitoring Function for Autonomous Operation Algorithm in Normal Operation of Nuclear Power Plant
Su Bong Lee and Jong Hyun Kim(CSU)
- 12:30 Kinematic Calibration of Robot Arm Testbed for Decommissioning Applications
Sungmoon Joo, Shinyoung Kang, Dongjun Hyun, Ikjune Kim, Kwanseong Jeong, Jonghwan Lee, and Sang Min Lee(KAERI)

12D
5. 18 (금)

원자력계측제어, 인간공학 및 자동원격 D
(Nuclear I&C, Human Factors and Automatic Remote Systems D)

| 좌장 최종균(Jong Gyun Choi), 권국희(Kookheui Kwon)

| 발표장소 402B

초청발표

- 09:00 Development of Cyber Security Test Technology for Nuclear I&C System
Jong Gyun Choi, Jae Gu Song, Jun Young Son, Dong Young Lee, Jung Woon Lee, and Cheol Kwon Lee(KAERI)
- 09:30 Cyber Security for Direct Critical Digital Assets Life-cycle
Kookheui Kwon, Siwon Kim, and Inkyung Kim(KINAC)
- 10:00 Estimation of RV Water Level Using Deep Neural Networks under Severe Accident Circumstances in NPPs
Young Do Koo, Ye Ji An, and Man Gyun Na(CSU)
- 10:20 Comparison of Model-based and Data-driven Prognostics : Case Study for Steam Generator Tube Rupture
Gibeom Kim and Gyunyoung Heo(KHU)
- 10:40 Coffee Break
- 11:00 On-line Condition Monitoring in Transient Operation of NPP Using Auto Associative Bilateral Kernel Regression
Ibrahim Ahmed and Gyunyoung Heo(KHU)
- 11:20 Study on the Improvement in Assessment Index of Cyber Security Exercise for the Nuclear Facilities
Hyundoo Kim and Siwon Kim(KINAC)
- 11:40 Application of Blockchain Technology for Nuclear Industry Cyber Security: A Conceptual Suggestion
Taehoon Kim, Moonkyoung Choi, and Poong Hyun Seong(KAIST)
- 12:00 Development of a Quantitative Method for Effort Evaluating the Effect of Cyber Security Control Applications on SDLC in NPPs
Chanyoung Lee and Poong Hyun Seong(KAIST)
- 12:20 Identification of Risk Significant CDA for Cyber Security Using PSA
Jong Woo Park and Seung Jun Lee(UNIST)

12E
5. 17 (목)
- 18 (금)

원자력계측제어, 인간공학 및 자동원격
(Nuclear I&C, Human Factors and Automatic Remote Systems) – Poster

| 좌장 김종현(Jonghyun Kim), 이정훈(Jeong Hun Lee)

| 발표장소 3층 로비

| 게시시간 5월 17일(목) 13:00 ~ 18:00 / 5월 18일(금) 09:00 ~ 17:00

| 저자 발표시간 5월 17일(목) 13:00 ~ 15:00

- P012E01 Lessons Learned from Wolsong#1 Simulator Upgrade Development to Integrate MAAP4 Module into an Existing Simulator Software
Sungjin Lee and Jongbeom Lee(KHNP CRI)
- P012E02 Development Strategies of an Information Minimalism Prototype for a Monitoring System of Korean NPPs
Gwi-sook Jang, Jae-hwan Kim, and Gee-yong Park(KAERI)
- P012E03 A Detector Capacitance Compensation Technique for SiPMs
Duckhyun Kim, Inyong Kwon, and Chang-Hwoi Kim(KAERI)
- P012E04 Development of Portable Monitoring System for I&C System
Kwang Il Lee and DongHwa Yoon(SOOSAN ENS)

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- PO12E05 Review on Considerations for Designing the I&C System of Nuclear Power System for Maritime Applications
Jae Hwan Kim and Gee Yong Park(KAERI)
- PO12E06 Design Features of Reactor Protection System for SMART
Seo-Ryong Koo, Seop Hur, and Chang-Hwoi Kim(KAERI)
- PO12E07 Spurious Trip Reduction Methodology for the Plant Protection System Using a Variable Trip Approach
Chang Jae Lee and Jae Hee Yun(KEPCO E&C)
- PO12E08 Prospects on Future Instrumentation and Control (I&C) System based on Technologies of the Fourth Industrial Revolution
Jun Su Ha(Khalifa), Moon Kyoung Choi and Poong Hyun Seong(KAIST)
- PO12E09 A Comparison of ESF Actuation Signals in Passive System Design
Kwang-Il Jeong and Chang-Hwoi Kim(KAERI)
- PO12E10 FANR TSO (Technical Support Organization)'s Electric and Electronic Site Inspection for Barakah Nuclear Power Plant Unit 1, 2 & 3
kwangyoung Sohn and Changhwan Cho(MIRAEEN)
- PO12E11 Function and Performance Test of Hardware based Display Sharing System Using APR1400 MMI Validation Facility
Sung Kon Kang and Ki Hwan Kim(KHNP CRI), Jeong Hun Lee and Kwang Yeong Shin(FNC Tech.)
- PO12E12 Development of Operational Task to Measure Working Memory as a Human Factor
Dong-Yeon Lee and Hyun-Chul Lee(KAERI)
- PO12E13 Shielding Effectiveness of Concrete Against HEMP in NPPs
Hyunki Kim and Chulwoong Son(KHNP CRI)
- PO12E14 A Study on Effective Implementation of Security Controls to Critical Digital Assets in NPPs
Ki-Jong Cha, Jae-Hee Roh, Ki-Hwang Kim, Seok-Ki Lee, and Choul-Woong Son(NSE)
- PO12E15 Typical Characteristics of Vulnerability for the Safety Controller used in NPP
In Kyung Kim, Kook Heui Kwon, and Si Won Kim(KINAC)
- PO12E16 A Study on the Effectiveness of Technical Security Controls for Nuclear Facilities Using STRIDE Threat Model
Chae-Chang Lee and Sang-Woo Kim(KINAC)
- PO12E17 Radiation Effects on ITER Electronics
S. P. Hong and B. S. Kang(KYU), C.-S. Kim(NFRI)

A

5. 18 (금)

학생/청년 Competition Session

| 좌장 박호진(Ho Jin Park), 정건호 (Gunhyo Jung)

| 발표장소 303A

- | | |
|-------|---|
| 13:30 | Implementation of Iterative Resonance Integral Table and Subgroup Methods in STREAM for High Temperature Reactor Analysis
Chidong Kong and Deokjung Lee(UNIST), Chang Keun Jo(KAERI) |
| 13:50 | New Strategy to Determine Batch Size of the Batch Method for Real Variance Estimation in the Monte Carlo Eigenvalue Calculations
Jae Yong LEE, Chang Ho SHIN, and Jong Kyung KIM(HYU) |
| 14:10 | Optimization of STREAM Burnup Chain using Depletion Perturbation Theory
Khang Nguyen Hoang Nhat, Sooyoung Choi, and Deokjung Lee(UNIST) |
| 14:30 | Simulation of a Sodium-deuterium Photoneutron Source in a Sodium-cooled Fast Reactor
Jihye Jeon and Geehyun Kim(Sejong Univ.), Douglas Fynan(KAERI) |
| 14:50 | Characterization of Surface Reaction Layer for U-Zr-RE Metallic Fuel Slugs.
Seung-Uk Mun and Sun-Ig Hong(CNU), Ki-Hwan Kim(KAERI) |
| 15:10 | Coffee Break |
| 15:30 | Oxidation Behavior of Alumina-forming Duplex Stainless Steels in High Temperature Steam Environment
Chaewon Kim, Hyunmyung Kim, and Changheui Jang(KAIST) |
| 15:50 | Understanding Role of Flow Obstacle on Bubble Behavior and CHF in Two-Phase Boundary Layer Flow
Uiju Jeong and Sung Joong Kim(HYU) |
| 16:10 | Development of Calculated Non-Adiabatic Flame Temperature Model to Predict Flammability Limits of H ₂ -Air-Diluent Mixtures based on Heat Transfer Mechanism
Joongoo Jeon, Wonjun Choi, and Sung Joong Kim(HYU) |

B

5. 18 (금)

학생/청년 Competition Session

| 좌장 선평민(Gwangmin Sun), 원세열(Se Youl Won)

| 발표장소 303B

- | | |
|-------|--|
| 13:30 | Neutron Beam Characterization and Dose Calculation of Accelerator-based Boron Neutron Capture Therapy with Monte Carlo Simulations
Sangmin Lee, Hyegang Chang, and Sung-Joon Ye(SNU) |
| 13:50 | Development of Multi-Radioisotope Identification Algorithm Using an Artificial Neural Network for Plastic Gamma Spectra
Jinhwan Kim, Woooseub Kim, and Gyuseong Cho(KAIST) |
| 14:10 | Monte Carlo Simulation of a Tissue Equivalent Proportional Counter for the Low-Earth Orbit
Dongmin Ryu, Justin Malimban, and Sung-Joon Ye(SNU) |
| 14:30 | A Comparative Study of Various CBCT Reconstruction Methods For Sparsely Sampled Projection Data
Jonghee Yun, Seungwoo Ha, and Ho Kyung Kim(PNU) |
| 14:50 | The Development and Establishment of In-vivo Electron Paramagnetic Resonance Tooth Dosimetry System for Triage After Radiation Emergency
Jong In Park, Kwon Choi, and Sung-Joon Ye(SNU) |

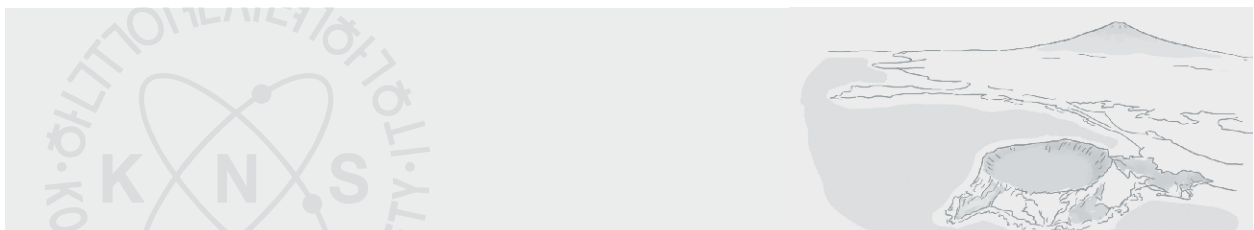
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- 15:10 Coffee Break
- 15:30 A Coupled Method to Analyze Influence of Blast Wave
Tae-Jin Kim and Yoon-Suk Chang(KHU)
- 15:50 Cyclic Test for Effects of Loading Rate on Flexural Yielding Capacity of Wall
Hyeon-Keun Yang, Hong-Gun Park, and Jang-Woon Baek(SNU)

연구부회/지부 활동 및 계획 발표회

| 시상식 2018년 5월 18일(금) 13:30~15:30

| 장 소 300호

시간계획	구분	발표자
13:30 ~ 13:35(05')	인사말	김용균 부회장
13:35 ~ 13:45(10')	원자로물리 및 계산과학 연구부회	김용희 연구부회장
13:45 ~ 13:55(10')	원자력시설해체 및 방사성폐기물관리 연구부회	연제원 연구부회장
13:55 ~ 14:05(10')	원자력 열수력 연구부회	김경두 연구부회장
14:05 ~ 14:15(10')	방사선 이용 및 기기 연구부회	이창희 연구부회장
14:15 ~ 14:25(10')	양자공학 및 핵융합기술 연구부회	오병훈 연구부회장
14:25 ~ 14:35(10')	원전건설 및 운영기술 연구부회	박영섭 연구부회장
14:35 ~ 14:45(10')	원자력정책, 인력 및 협력 연구부회	김현준 연구부회장
14:45 ~ 14:55(10')	부산/울산/경남 지부	김창락 지부장
14:55 ~ 15:05(10')	학생지부	김종현 지도교수
15:05 ~ 15:15(10')	여성지부	강문자 지부장
15:15 ~ 15:30(15')	마무리	



교통편

| 제주 국제컨벤션센터 | 서귀포시 중문관광로 224 Tel. 064-735-1000



🚌 공항리무진 버스 (600번 제주공항 ↔ 중문관광단지)

운행표	공항 → 제주더호텔 → 여미지식물원입구 → 하얏트호텔 → 신라호텔 → 롯데호텔 → 한국콘도 → ICC JEJU
제주국제공항 출발 (06:20 ~ 22:00)	1층 5번 게이트 왼쪽 리무진 버스 승차장 (삼영교통 600번)
ICC JEJU	정문 국기계양대 20m지나 로터리 정류장에 정차 (600번 제주공항 ↔ 서귀포)
이용요금	공항에서 ICC JEJU까지 편도(성인) 4,500원 매 18~20분 간격 ICC JEJU까지 소요시간 50분

🚖 택시안내 (제주공항 ↔ 중문)

승차지점	이용요금	소요시간
장거리 택시 승차장에서 출발	약 3만원 (거리 약 40km)	약 40~45분

🚗 렌터카 이용시 (제주공항 → ICC JEJU)

경로	소요시간	이용노선
1코스 (1135번 도로 평화로)	차량 50분 소요 리무진 60분 소요	공항 → 신제주 → 제주경마장 → 평화로 → 중문관광단지 → ICC JEJU
2코스 (1139번 도로 1100도로)	차량 45분 소요 (초행길, 눈길, 안개조심)	공항 → 신제주 → 한라수목원 → 신비의 도로 → 어리목 → 탐라대학교 → ICC JEJU
3코스 (1131번 도로 516도로)	차량 1시간 10분 소요 (초행길, 눈길, 안개조심)	공항 → 삼성혈 → 제주대학교 → 성판악 → 돈내코유원지 → 16번도로 → 중문관광단지 → ICC JEJU

MEMO

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

MEMO

Handwriting practice lines consisting of 20 horizontal dotted lines.

MEMO

[illegible]

MEMO

This image shows a blank sheet of white paper with horizontal dashed lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting practice. There are no other markings or text on the page.

안전하고 깨끗한 에너지로 가는 길

최고의 안전으로 신뢰받는 한국원자력환경공단
고준위 방사성폐기물의 안전관리를 약속합니다.

■ 한국원자력환경공단

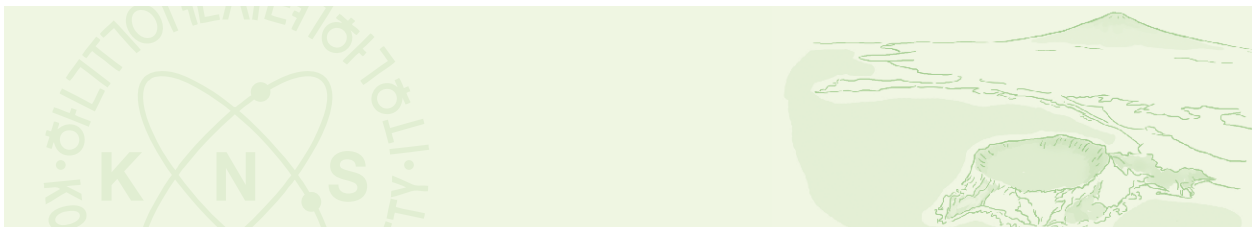
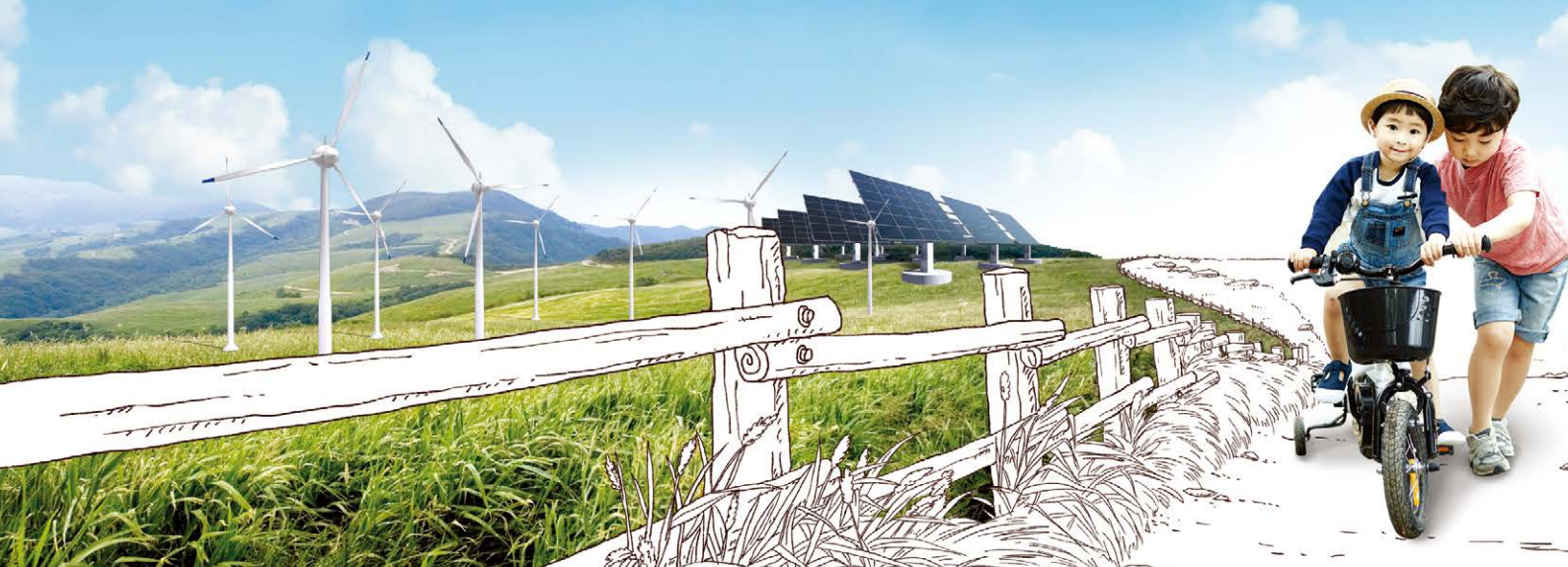
Knowledge 최고의 기술과 운영 전문성을 추구합니다.

Openness 투명하게 공개하고 적극적으로 소통합니다.

Reliability 국민의 믿음과 협력을 기반으로 합니다.

Advancement 혁신과 도전으로 최고의 성과를 창출합니다.

Duty(사명) 방폐물관리사업은 국가적 책무입니다.



2018년 춘계학술발표회 전체행사 일정표

5월 16일(수)										5월 17일(목)										5월 18일(금)									
등록 (12:30 ~ 17:30)										등록 (08:00 ~ 17:30)										등록 (08:00 ~ 16:30)									
09:00 - 10:00	10:00 - 11:00	11:00 - 12:00	12:00 - 13:00	13:00 - 14:00	14:00 - 15:00	15:00 - 16:00	16:00 - 17:00	17:00 - 18:00	18:00 - 19:00	09:00 - 10:00	10:00 - 11:00	11:00 - 12:00	12:00 - 13:00	13:00 - 14:00	14:00 - 15:00	15:00 - 16:00	16:00 - 17:00	17:00 - 18:00		09:00 - 10:00	10:00 - 11:00	11:00 - 12:00	12:00 - 13:00	13:00 - 14:00	14:00 - 15:00	15:00 - 16:00	16:00 - 17:00	17:00 - 18:00	
[D] 가상원자로 (Virtual Nuclear Reactor) 개발 전략 수립										[5A] 원자력 영수력 공동발표										[5C] 원자력 영수력 공동발표									
201A 2F																													201A 2F
201B 2F																													201B 2F
202A 2F																													202A 2F
202B 2F																													202B 2F
203 2F																													203 2F
삼다물A 3F																													삼다물A 3F
삼다물B 3F																													삼다물B 3F
한라물A 3F																													한라물A 3F
한라물B 3F																													한라물B 3F
3층 로비																													3층 로비
300 3F																													300 3F
301 3F																													301 3F
302 3F																													302 3F
303A 3F																													303A 3F
303B 3F																													303B 3F
304 3F																													304 3F
400 4F																													400 4F
401A 4F																													401A 4F
401B 4F																													401B 4F
402A 4F																													402A 4F
402B 4F																													402B 4F
팀라물B+C 5F																													팀라물B+C 5F
오산부 5F																													오산부 5F

※ 장년자부 총회 : 5월 16일(수) 13:00 ~ 20:00

세계 원자력 안전을 떠받치는 아틀라스(ATLAS)

상상할 수 있는 모든 원전 사고를 대비하다

100만 년에 한번 일어날 수 있는 사고까지 시험하는 ATLAS.
한국원자력연구원은 ATLAS를 이용해 세계 주요 원자력 국가가
참여하는 국제공동연구를 주도하며, 원자력 안전 연구의 혁신을
이뤄가고 있습니다.

ATLAS, 우리 곁의 원자력을 보다 더 안전하게 만들어갑니다.



한국원자력연구원이 자체 기술로 개발한 가압경수로 열수력 종합효과실험장치 아틀라스(ATLAS)는 방사성 물질이 아닌 전기 가열봉을 사용해 실제 원전과 똑같은 온도와 압력 조건에서 다양한 사고를 안전하게 모의 실험할 수 있습니다. 연구원은 지난 2014년부터 3년 간 원전 안전성 향상을 위한 국제공동연구 'OECD-ATLAS'를 성공적으로 수행한 데 이어, 2017년부터 OECD-ATLAS 2차 프로젝트를 새롭게 추진하고 있습니다.

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KNS 2018 Spring 춘계학술발표회

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KOREAN NUCLEAR SOCIETY

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