

Fukushima as Opportunity: Recruiting Nuclear Engineers in Post-Fukushima Korea

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KAIST

(Korea Advanced Institute of Science and Technology)

International Symposium on Risk Governance of Science and Technology
Policy Alternatives Research Institute, Tokyo University
15 December 2013

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TOKYO (5 a.m.)

MARKETS 103.61 ¥/\$ (5 p.m.)

The Japan Times

NEWS

NEWS OPINION LIFE COMMUNITY

NATIONAL ASIA PACIFIC BUSINESS WORLD REFERENCE

NATIONAL
Future dim for tainted industry

Nuke majors in decline at universities

KYODO

The number of students enrolled as nuclear energy majors at seven universities has fallen by 16 percent this year, a Kyodo News survey said Monday.

Among universities offering undergraduate and graduate programs in the nuclear sciences, only 223 students had enrolled for the 2012 academic year, compared with 264 last year.

APR 17, 2012
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NATIONAL

Japan Times
Apr 17, 2012

a bad time to become a nuclear engineer?

how to make sense of Fukushima and its risk
in making career choices?

Korean nuclear eng. department's response to Fukushima

- How to recruit nuclear engineering students in post-Fukushima Korea?
- How to present Fukushima to prospective nuclear students?
- a case of a Nuclear and Quantum engineering department (NQe)
- “Fukushima is an opportunity for us.”

\$20 billion nuclear export deal with UAE (27 Dec 2009)

December 27 designated as “Nuclear Safety and Promotion Day”

47조원 UAE 원전 따냈다

기사입력 2009-12-28 03:00:00 | 기사수정 2009-12-28 14:32:56

Like 0 Tweet 0 기사보내기

한전 컨소시엄, 한국형 원전 4기 첫 수출... 역대 최대 해외수주

한국전력공사가 주도하는 컨소시엄이 아랍에미리트(UAE)가 발주한 400억 달러(약 47조 원) 규모의 초대형 원자력발전 사업 프로젝트를 따냈다. UAE 원자력공사 측은 27일 오후 2시 15분(현지 시간) 한전이 원전사업 프로젝트의 최

선정됐다고 공식 발표했다. 한전은 “한전 컨소시엄이 입증 수준의 안전성과 운영 능력에

를 받았다”고 선정 이유를 밝



원전계약서 서명 후 악수

이명박 대통령(왼쪽)과 할리파 빈 자이드 알 나하얀 아랍에미리트(UAE) 대통령이 27일 오후 아부다비 에미리트팰리스호텔에서 양국 간 원자력발전사업 주계약서 서명식을 마친 뒤 악수하고 있다. 아부다비=연합뉴스

사업은 현대건설, 삼성물산, 두 미국 웨스팅하우스, 일본 도시구성됐으며 프랑스의 아레바 미국 GE-일본 히타치 컨소시엄 경합을 벌여 왔다.

(경제) 한국형 원전, 이젠 세계로

게재 일자 : 2010년 08월 31일(화)

글로벌 원전 시장 폭발적 팽창... 인력 확보 '선점' 관건

장기적 전문가 육성엔 추가 수출 어려워

Like 0 Tweet 0

한국의 원자력 안전성에 대한 인식 변화 (단위: %)

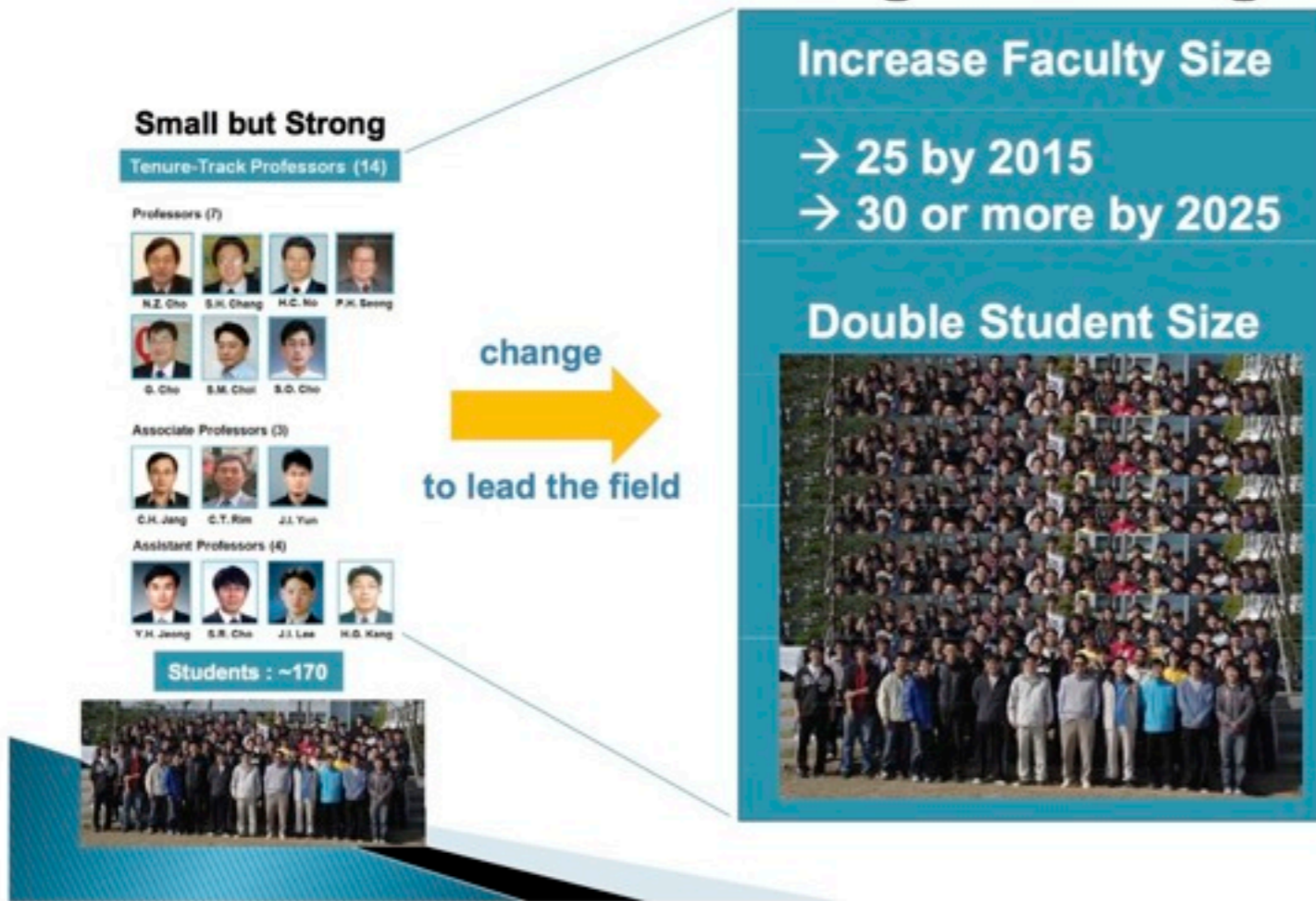


한국 원자력발전 로드맵 (단위: 개)



“manpower needed for global nuclear market” (Aug 2010)

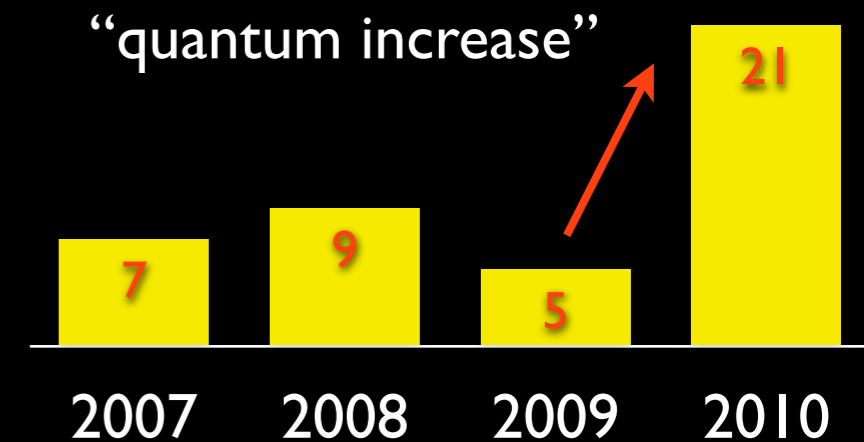
Plan for Faculty & Students



Rosy Future for NQe

of sophomore enrollment

as envisioned by NQe dept. at the end of 2010



후쿠시마 원전사고의 교훈과 원자력 산업 전망

Lessons Learned from Fukushima Accident and the Future of Nuclear Energy



연사 : 장순홍 교수

- 前 국제원자력기구 안전자문단(INSAG) 위원 (1992~1999)
- 前 KAIST 교학부총장 (2006. 8~2010. 7)
- 한국원자력안전위원회 위원 (2009. 9~현재)
- 한국원자력학회 회장 (2011. 9~현재)

Speaker : Dr. Yoon Hee Yoo

- Professor of Nuclear and Quantum Engineering, KAIST (1982 - present)
- President, Korean Nuclear Society (2011. 9. - present)
- Commissioner, Korea Nuclear Safety Commission (2009. 9 - present)
- Vice President of Operations, KAIST (2006. 8 - 2010. 7)
- Member, International Nuclear Safety Advisory Group, IAEA (1992 - 1999)

일시 2011년 9월 8일 (목) 오후 5시

장소 두산강의실 (N7-4401호)

기타 샌드위치와 음료 제공하여, 관심있는 원내 구성원 환영
(대학과 교수님 및 학생은 참여비용 없음) 오전까지 예약료 확인하여 주십시오.)

문의 원자력 및 양자공학과 사무실
(유남희 Yoo, Nam Hee, 전화 3804 yoonh@kaist.ac.kr)

Date 17:00, Thursday, September 8, 2011

Venue #4401 (Doosan Classroom), Nuclear and Quantum Engineering Bldg. (N7-4401), KAIST

- Anyone interested can attend.
- Please inform us of your attendance by Monday, September 5. Sandwiches will be provided before the seminar starts.
- For inquiries, please contact Ms Nam Hee Yoo at 350-3804 or email to yoonh@kaist.ac.kr.



special seminar on campus
(Sep 2011)

“essential points”

“institutional lessons”

“We need to do just 1% more.”

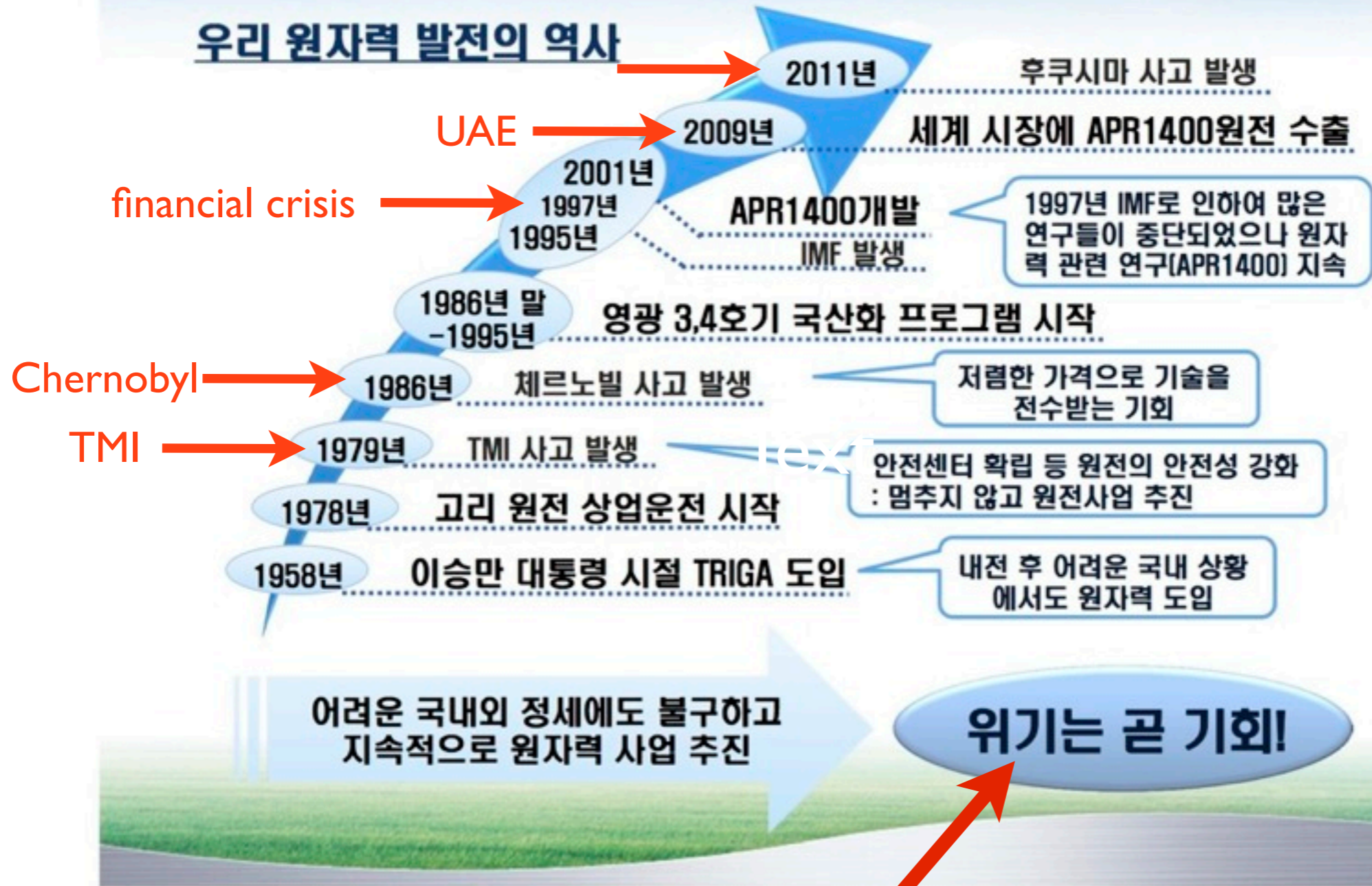
Need for talented students

“Even if terrorists should
attack ...”

“history of our nuclear development”

4. 우리 나라의 원자력 현안

우리 원자력 발전의 역사



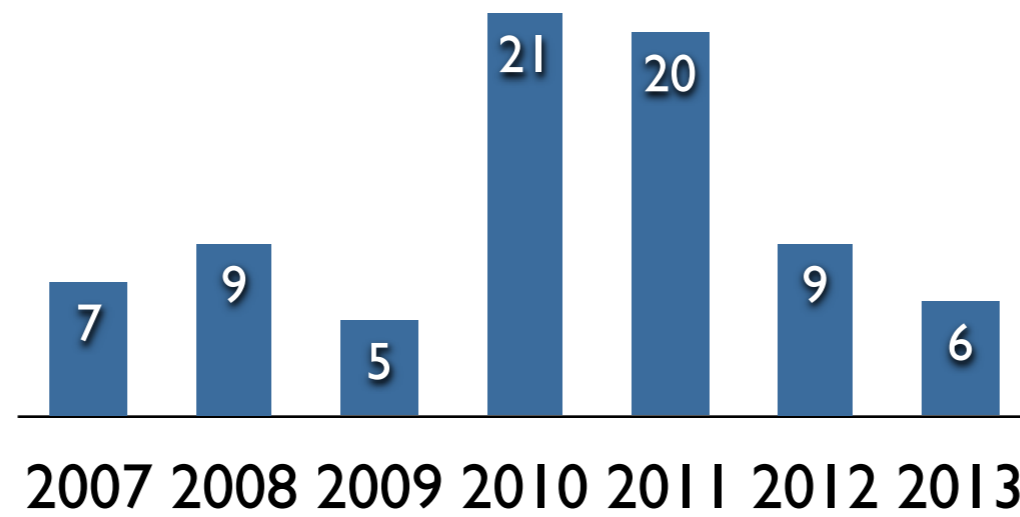
“A Crisis is an Opportunity!”

slide from NQe presentation



NQe info session (Nov 2010)

of sophomore enrollment





NQe info session (Nov 2012)



“1 pellet (too small to be visible)”

ad for NQe department info session (Nov 2012)



“Fukushima Accident, No More, Naver[sic]...”

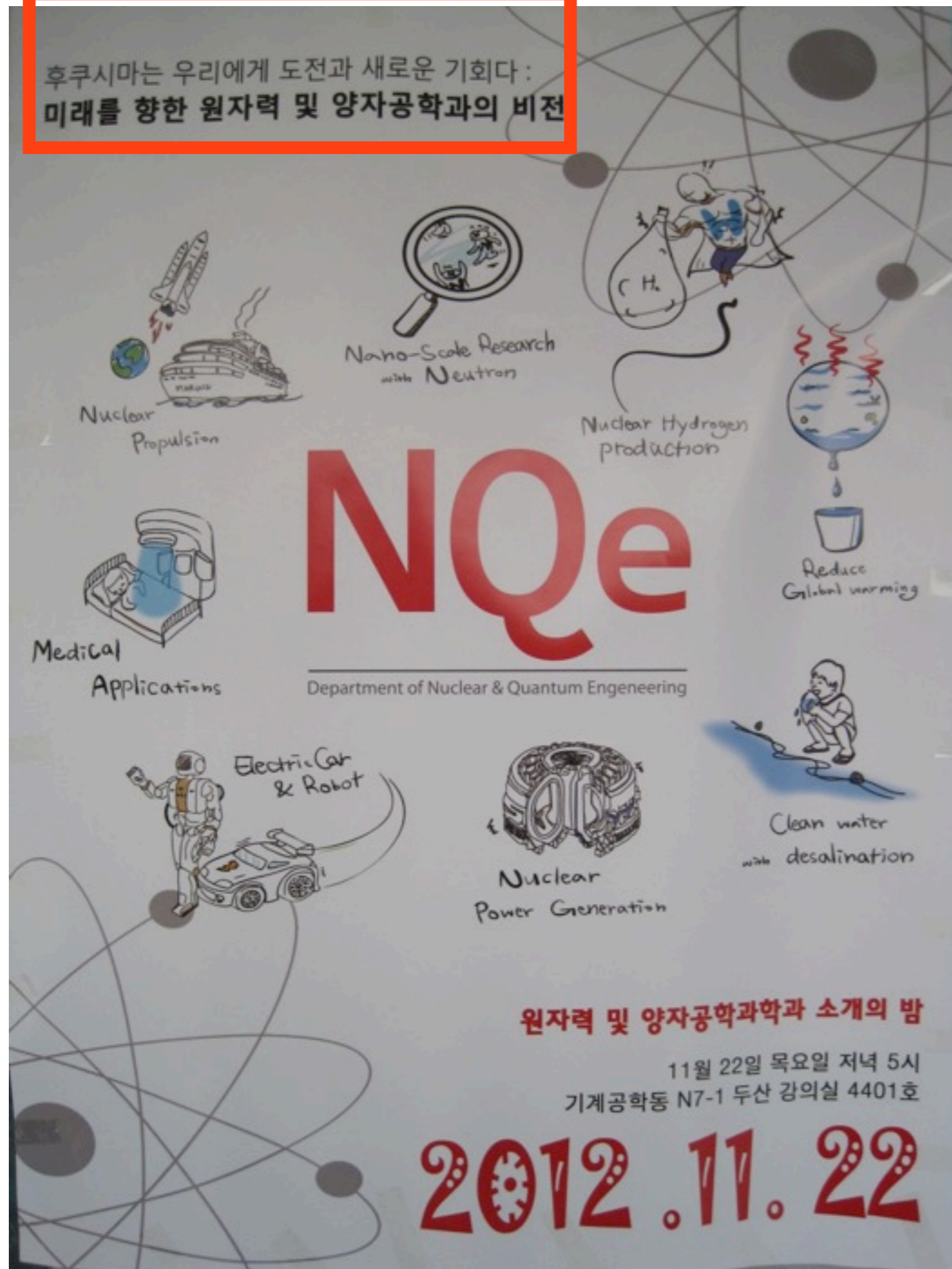
ad for NQe department info session (Nov 2012)

후쿠시마는 우리에게 도전과 새로운 기회다 :
미래를 향한 원자력 및 양자공학과와의 비전

“Fukushima, for us, is a challenge and a new opportunity.”

But Fukushima was not a main agenda in the session.

poster for NQe info session (Nov 2012)



“18,000 needed for the next decade”

NQe

원전수출 우수인력양성이 관건

KAIST

글로벌 원전 시장 폭발적 팽창... 인력 확보 '선점' 관건

글로벌 원전 시장이 폭발적으로 팽창하고 있다. 원전 수출을 앞세우는 한국 기업이 해외 시장에 진출하기 위해서는 인력 확보가 관건이다. KAIST는 원전 수출을 위한 인력 양성을 위한 연구 사업을 추진하고 있다.



평택시 원전기 속성발전 증가 수순 거러다



이명박 대통령이 14일 오전 경기도 부천시 원자력 연구개발센터에서 열린 '원전수출 확대를 위한 인력 확보'를 주제로 한 세미나에 참석하고 있다. 왼쪽부터 이명박 대통령, KAIST 원전수출사업단장 김기현, KAIST 원전수출사업단장 김기현, KAIST 원전수출사업단장 김기현, KAIST 원전수출사업단장 김기현

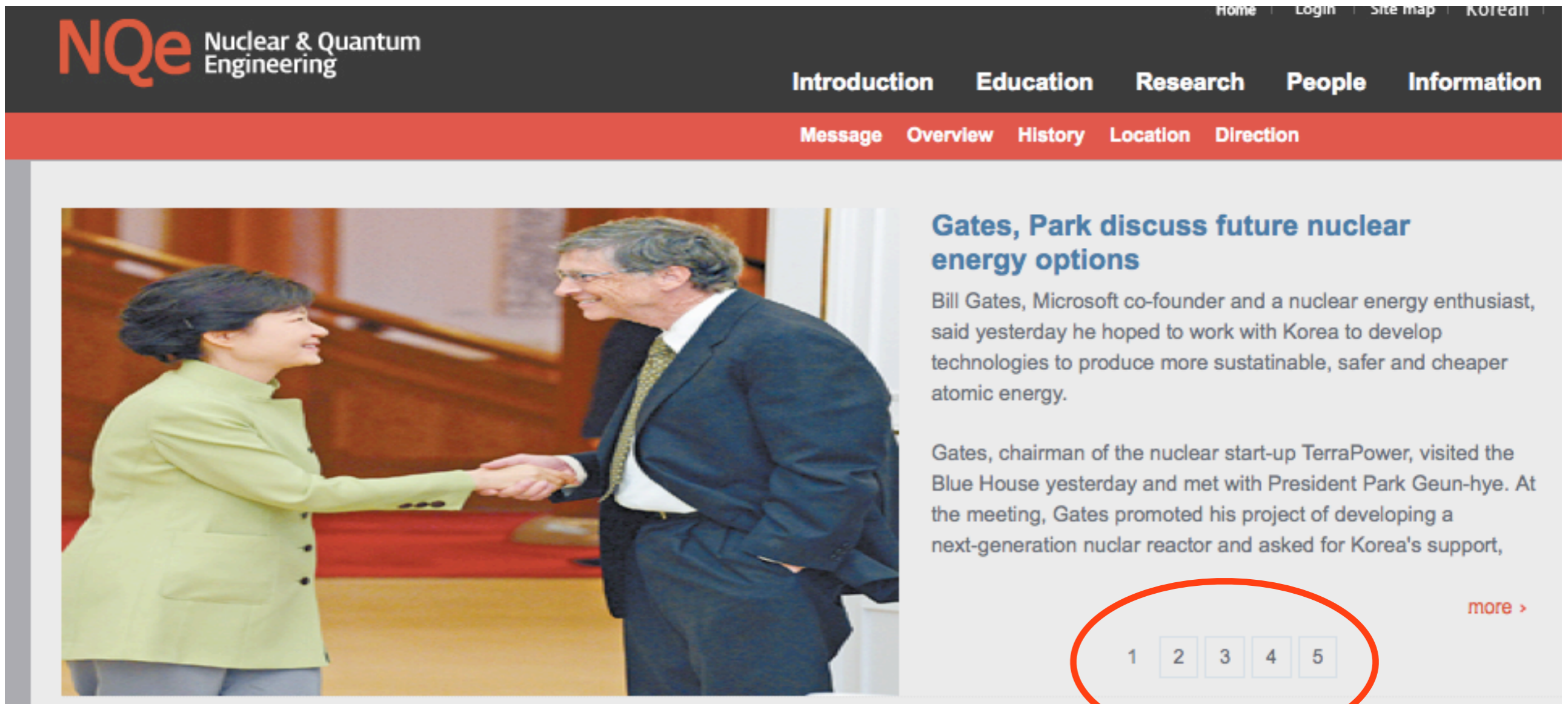
原電시장 확대 대비 미래인력 수급

고용전략회의 내용은... 2012년부터 원전수출이 본격화될 것으로 예상되며, 원전수출을 위한 인력 확보가 관건이다. KAIST는 원전수출을 위한 인력 양성을 위한 연구 사업을 추진하고 있다.

10년간 1만8,000명 필요... 원자력 관련학과 증원·지원 늘려야

아시아경제 10.10.14

Using Bill Gates as nuclear promoter



The screenshot shows the NQe website header with the logo "NQe Nuclear & Quantum Engineering" and navigation menus. The main content area features a photograph of Bill Gates shaking hands with President Park Geun-hye. To the right of the photo is a news article titled "Gates, Park discuss future nuclear energy options". The article text describes Gates' visit to the Blue House and his promotion of a next-generation nuclear reactor project. A red circle highlights a pagination control with buttons for pages 1, 2, 3, 4, and 5. A "more >" link is visible to the right of the pagination.

Home | Login | Site Map | KOREAN

NQe Nuclear & Quantum Engineering

Introduction Education Research People Information

Message Overview History Location Direction

Gates, Park discuss future nuclear energy options

Bill Gates, Microsoft co-founder and a nuclear energy enthusiast, said yesterday he hoped to work with Korea to develop technologies to produce more sustainable, safer and cheaper atomic energy.

Gates, chairman of the nuclear start-up TerraPower, visited the Blue House yesterday and met with President Park Geun-hye. At the meeting, Gates promoted his project of developing a next-generation nuclear reactor and asked for Korea's support,

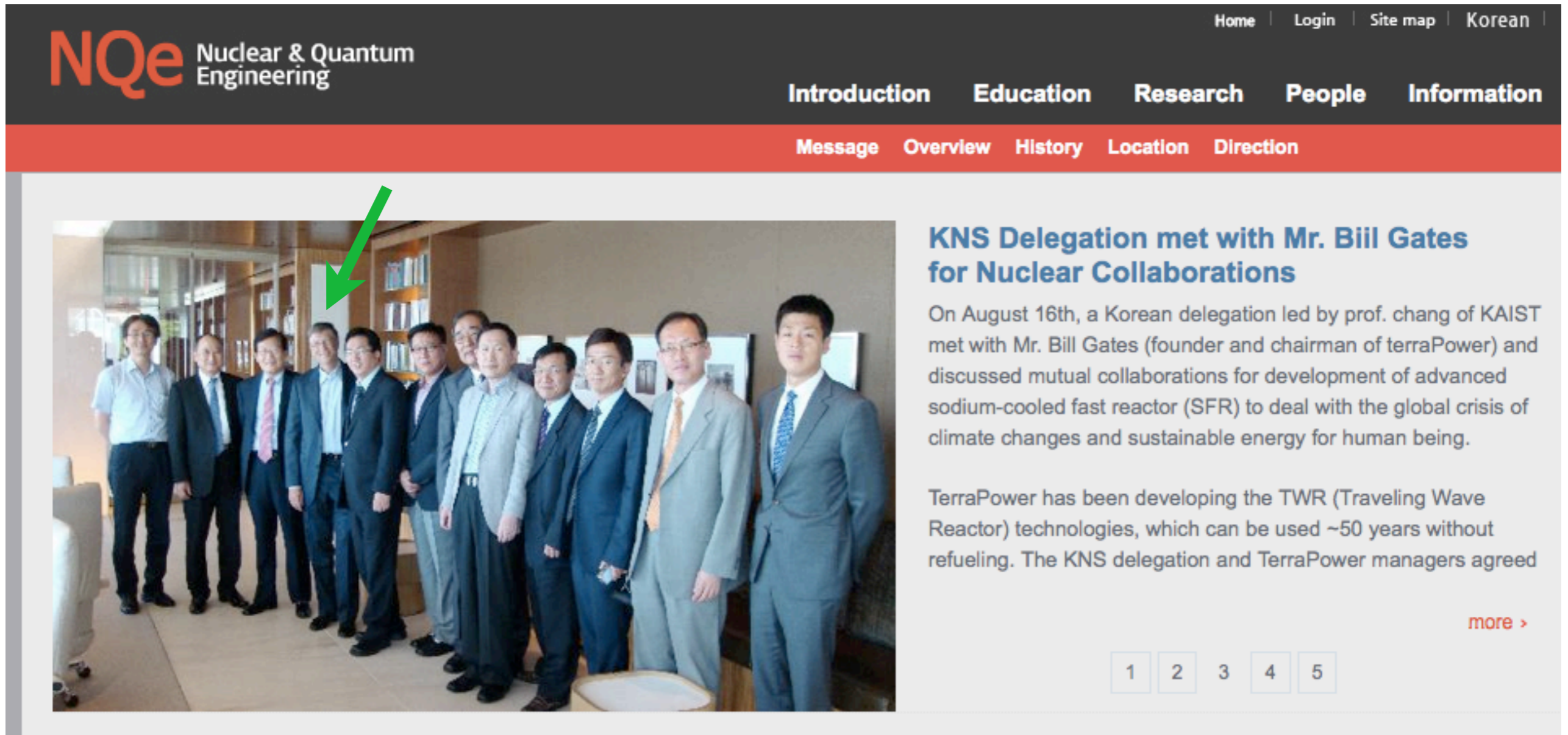
more >

1 2 3 4 5

Bill Gates discusses nuclear options
with President Park Geun-Hye of Korea

NQe website main

Bill Gates meets Korean nuclear delegation.

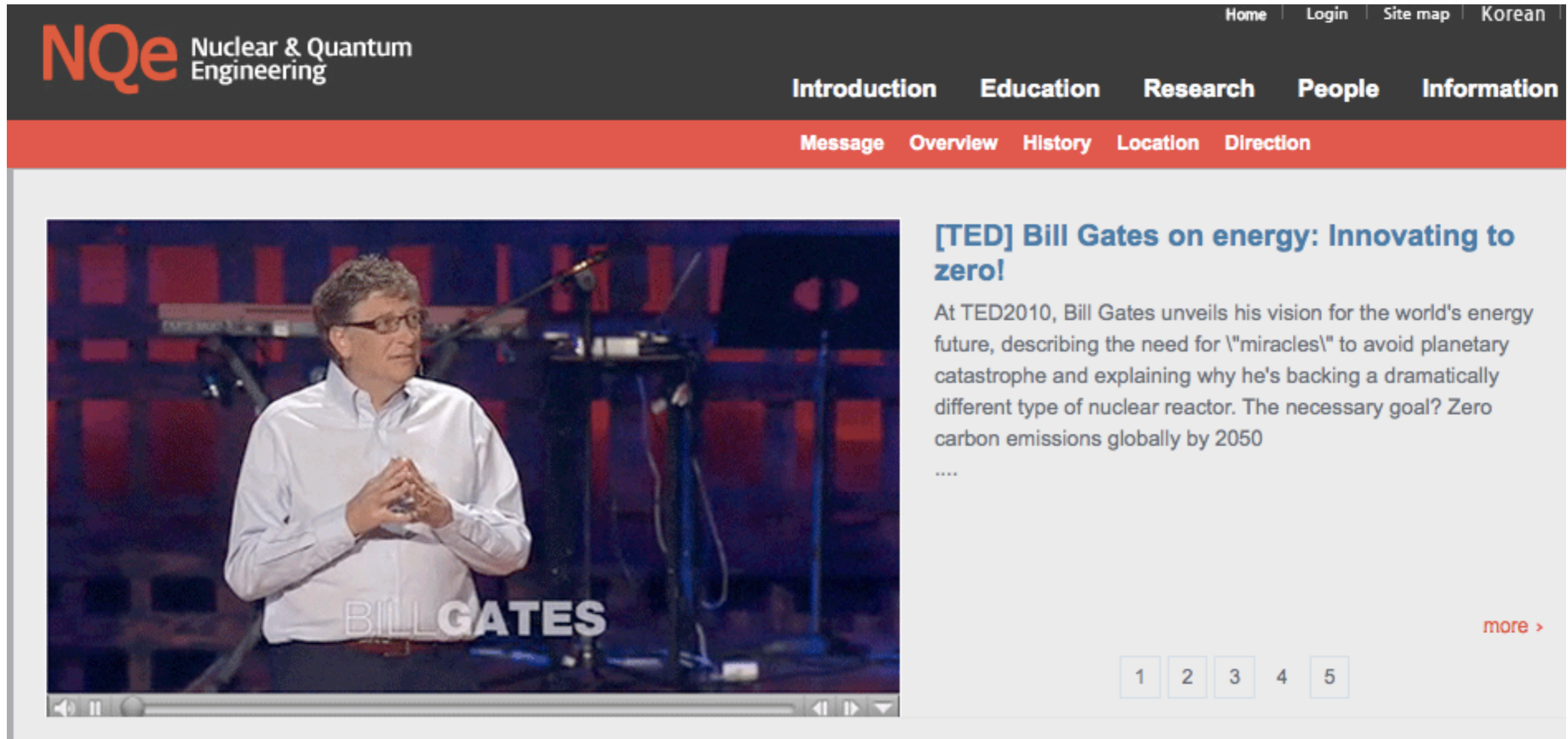


The screenshot shows the NQe website main page. The header includes the NQe logo (Nuclear & Quantum Engineering) and navigation links: Home, Login, Site map, Korean, Introduction, Education, Research, People, Information, Message, Overview, History, Location, and Direction. The main content area features a photograph of a group of men in suits, with a green arrow pointing to a man in a light blue suit. To the right of the photo is a news article titled "KNS Delegation met with Mr. Bill Gates for Nuclear Collaborations". The article text reads: "On August 16th, a Korean delegation led by prof. chang of KAIST met with Mr. Bill Gates (founder and chairman of terraPower) and discussed mutual collaborations for development of advanced sodium-cooled fast reactor (SFR) to deal with the global crisis of climate changes and sustainable energy for human being. TerraPower has been developing the TWR (Traveling Wave Reactor) technologies, which can be used ~50 years without refueling. The KNS delegation and TerraPower managers agreed". Below the article is a "more >" link and a pagination control with buttons for 1, 2, 3, 4, and 5.

Mr. Gates was “amazed” at Korea’s success in nuclear.

NQe website main

Bill Gates speaks at TED on nuclear.



The screenshot shows the main page of the NQe (Nuclear & Quantum Engineering) website. The header includes the NQe logo and navigation links for Home, Login, Site map, and Korean. Below the header is a red navigation bar with links for Introduction, Education, Research, People, and Information. A secondary red bar contains links for Message, Overview, History, Location, and Direction. The main content area features a video player on the left showing Bill Gates speaking at a TED event, with the text "BILL GATES" overlaid at the bottom. To the right of the video is a text block with the title "[TED] Bill Gates on energy: Innovating to zero!" and a summary of his speech. The video player has a progress bar and a "more >" link.

NQe Nuclear & Quantum Engineering

Home | Login | Site map | Korean

Introduction Education Research People Information

Message Overview History Location Direction

[TED] Bill Gates on energy: Innovating to zero!

At TED2010, Bill Gates unveils his vision for the world's energy future, describing the need for "miracles" to avoid planetary catastrophe and explaining why he's backing a dramatically different type of nuclear reactor. The necessary goal? Zero carbon emissions globally by 2050

....

[more >](#)

1 2 3 4 5

NQe website main

Nuclear Vision and Career Expo (Apr 2013)

2013 KAIST 원자력 비전 및 진로 엑스포



“미래에너지부터 첨단의료까지”

일시 : 2013년 4월 5일 금요일 9:30 ~ 16:30

장소 : KAIST K빌딩 1층 퓨전홀, 강의실(B401, B501)

“미래에너지부터 첨단의료까지”

4월 5일 KAIST K빌딩에서 '2013 KAIST 원자력 비전 및 진로 엑스포'가 개최됩니다.

21명의 원자력 에너지 및 방사선 의료 분야 전문가가 함께 합니다.

원자력의 무궁무진한 세계, 직접 와서 확인하세요!

온라인 사전등록 KAIST 원자력 및 양자공학과 홈페이지 접수 (3월 29일 마감)

<http://nuclear.kaist.ac.kr>

참가비 무료, 점심 제공, 경품 추첨

행사 참여 확인서 발급 가능

문의

JS77@kaist.ac.kr



스마트폰 사전등록

“from Future Energy to
High-Tech Medicine”

“Come and see the
boundless world of
nuclear”

for students in nuclear-
related fields from all
around the country



containing and appropriating Fukushima

- Korea's nuclear history = its political and economic history = a story of miraculous perseverance and achievement
- Fukushima incorporated into this narrative as the most recent happening
- Would Fukushima offer Korea a chance for another big leap?
- Yes, as long as we don't follow Germany's nuclear phase-out.

NQe info session (Nov 2013)



“Power arises from nuclear energy”



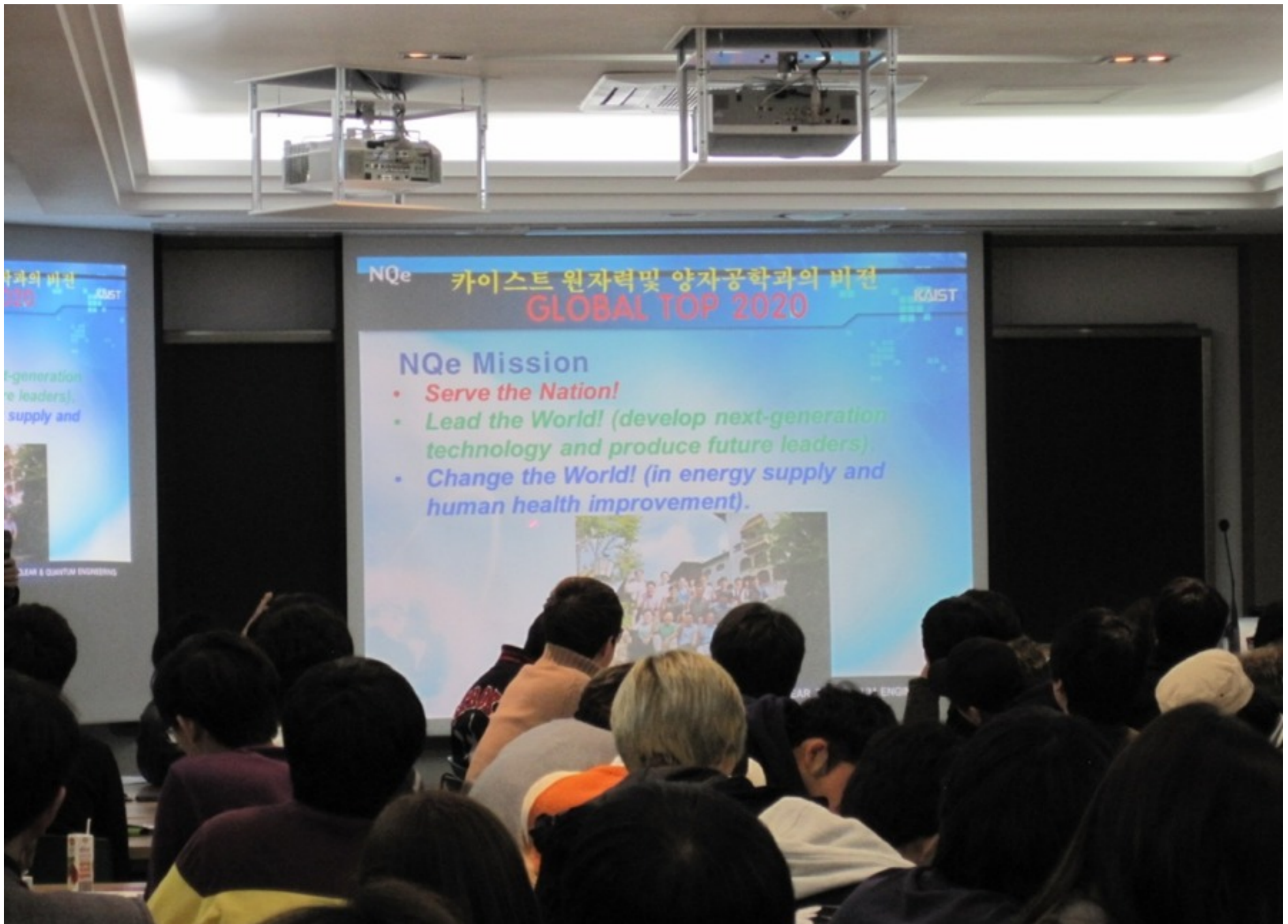
Mekander poster for NQe info session (November 2013)

“nuclear, reliable energy” (used in heaven)



poster for 2013 NQe info session

“Serve the Nation! Lead the World! Change the World!”



UAE vs Fukushima

- UAE: pure blessing for nuclear renaissance
- Fukushima: manageable obstacle, or even useful opportunity
- In post-Fukushima Korea, becoming a nuclear engineer requires one to embrace prepackaged views of two places/events.
- Little room for self-reflection on human tragedy and social consequence

Thank you

cjeon@kaist.edu

research assistance by YeonSil Kang, Yeongsu Kim, and Hanbyul Jeong