THE WORLD NUCLEAR UNIVERSITY
ATOMS FOR SUSTAINABLE DEVELOPMENT

WNU CREATORS

FOUNDERS
• IAEA
• NEA / OECD
• WANO
• WNA

CORPORATE SPONSORS
World Nuclear University
MISSION

To build worldwide knowledge and strong stewardship of the peaceful uses of atomic energy, and thereby to support global sustainable development
WNU : a network of networks

WNU Summer Institute

- 9 July – 20 August 2005, Idaho Falls, USA
- Hosted by the U.S. Department of Energy’s Idaho National Laboratory
- Organized in cooperation with the IAEA, NEA, WNA and WANO
Purpose of WNU Summer Institute

Provide a unique educational experience aimed at building future global leadership in fields of nuclear science and technology from among promising graduate students and young professionals.

WNU Summer Institute Goals

Institute designed to enable participants to:

- Gain awareness of cutting-edge knowledge and broad international perspective on issues related to peaceful applications of nuclear technology
- Hear from leading thinkers and educators on topics relevant to nuclear applications
WNU Summer Institute Goals

- Experience practical teamwork and establish lasting bonds with peers from many nations
- Be inspired to commit themselves to advancing the global contribution of nuclear science and technology

Participants

- Some 77 WNU Fellows from 34 countries – selected from among the world’s leading nuclear students and young professionals
- Presenters – outstanding nuclear and environmental scientists, industry experts, authors and policymakers
Qualification Criteria

- Master’s level or equivalent
- Academic or professional excellence
- Proficiency in English
- Maximum age of 32
- 136 applications presented officially from 54 countries

Selection Process

- Ranked each individual without regard to country of origin or ability to pay
- Shared outcome of review with representatives of WNU Founding Supporters, all of whom endorsed process
- Provided IAEA TC Support
Curriculum

• Global Settings
• International Regimes
• Technology Innovations
• Nuclear Industry Options
• Student Country Presentations
• On-Site Work – Field Trips – Special Presentations

Global Settings

• Global Environmental Crisis
• Energy Supply and Demand
• Nuclear Technology in Sustainable Development
• World Survey of Nuclear Politics
International Regimes

• Safety Standards and Safety Culture
• Radiological Protection
• Nuclear Law
• Waste Management, Decommissioning and Transport
• Global Regimes for Emission Control
• Non-Proliferation & Security

Technology Innovations

• Next-Generation Reactors
• Advanced Nuclear Fuel Cycle
• The Hydrogen Economy
• Desalination to Meet the Global Water Crisis
• Fusion
Nuclear Industry Operations

- Industry Economics
- Knowledge Management
- Comparative Risk Assessment
- Operational Excellence
- Public Acceptance and Social Ethics

Elements of the Program

- Classroom Presentations
- Field Trips
- Lectures on Nuclear Leadership
- Team-Based Activities
  - Team Building Exercises
  - Weekly Reviews of Previous Sessions
  - Case Studies
  - Final Projects
- Social and Recreational Activities
Lectures on Nuclear Leadership

Purpose of the lecture series is to provide

- Insights about notable careers in nuclear or related fields
- Realistic perspectives on challenges facing those who apply and advance uses of nuclear technology
- Appreciation for capacity of dedicated individuals to make substantial difference in the world through their careers

Institute Faculty

- 54 faculty representing
  - 12 countries
  - 28 organizations (8 from IAEA)

Of these
- 47 funded by their own organizations
- None receiving honoraria
Mentors

Primary Responsibilities
- Facilitate Study Teams during
  - Weekly Review Sessions
  - Preparation and Presentation of Case Studies
- Coach and Counsel Individual Fellows as requested
- Serve as Final Project Team coaches and resource guides
- Contribute to running of Institute
  - Introduce speakers
  - Encourage Fellow participation
  - Evaluate Institute components

Field Trips
- INL Reactor Technology Complex - site of Advanced Test Reactor
- INL Materials and Fuels Complex – site of Fuel Conditioning Facility and research on electrometallurgical fuel treatment
- Yucca Mountain Geological Waste Repository
Team-based Activities: Weekly Reviews and Case Studies

- **Mentor-facilitated study groups**
  - Review and discussion of previous week’s presentations with opportunity for Q & A with available faculty
  - Preparation and presentation of case studies led by experts in fields of
    - Nuclear Law
    - Safety Culture
    - Public Communication

Team-Based Activities: Final Projects

- Fellows select choice from among following three options
  - National Electrical Energy Policy Development
  - Program of Action for Cancer Therapy (PACT)
  - New Nuclear Paradigm to Minimize Nuclear Proliferation Concerns

- Mentors serve as coaches and resource personnel to teams
- Team presentations made to entire Institute during final week
Social and Recreational Activities

- Special Celebrations
  - Welcoming Reception
  - Farewell to Idaho dinner and program
  - Final banquet, celebration and ceremony in Las Vegas
    - (Hans Blix featured speaker)

SPECIAL GUESTS (afternoon speech & evening conversation)

- Hans Blix
- Geoff Ballard
- James Lovelock (video)
- Zack Pate
- Ann Lauvergeon (video)
- Susan Eisenhower
- Dimitri Perikos
- Senator Pete Domenici
- Senator Larry Craig
Knowledge Preservation and Self-Assessment Plan

- CD of Presentations and Materials
- Report of Planning and Implementation
  - I. Organizing the 2005 WNU Summer Institute: Processes and Lessons Learned
  - II. Comprehensive Self-Assessment of the 2005 WNU Summer Institute
- Make presentations to key stakeholders upon request.
  - WNA Symposium 2005
  - IAEA Senior management, October 2005

Self-Assessment Plan

- Pre-Institute Assessment
- Ongoing Assessment by Fellows, Mentors, Faculty and other presenters
- Post-Institute Assessment of Fellows, Mentors and local arrangements committee
- Follow-up Assessment of Fellows and their supervisors
WNU Further Events

A Vision,
As of
June 1st,
2005

LIST OF EVENTS (still potential)

• WNU SUMMER INSTITUTES

• WNU SUMMER SCHOOLS, SESSIONS, WORKSHOPS

• WNU SYMPOSIA

• Other international meetings: WG or specialized meetings.
2006 planned or expected events

• 2006 WNU-SUMMER INSTITUTE
  Date: July 09 to August 20, 2006
  Hosting: Sweden and France

• 2006 WNU SUMMER SESSION
  on “Energy and Ecology in the 21st century”
  When? One month between July 10 and August 20, 2006
  Where? Obninsk, Russia

• 2006 WNU SYMPOSIUM embedded with
  ENS International Conference on Education and Knowledge
  When? Most likely Fall 2006
  Where? ….waiting for ENS Board Meeting Minutes

Further planned or expected events (cont’d)

• 2006 IAEA Workshop on Managing Nuclear Knowledge
  ICTP, Trieste, 22-26 August 2005

• 2007 WNU SUMMER INSTITUTE
  Organization expected to be similar to the 2005 WNU-SI
  Candidate hosting countries:
  - USA
  - RUSSIA
  - SOUTH KOREA
  - FRANCE
  - ITALY (ICTP, in relation with AIEA)
  - AUSTRIA (IAEA)