Impression on 12th Int. Conf. on Emerging Nuclear Energy Systems (ICENES) , Brussels, Belgium, August 2005

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Objectives

The main objective of ICENES 2005 is to provide an international scientific and technical forum for scientists, engineers, industry leaders, policy makers, decision makers and young professionals who will shape future requirements, for a broad review and discussion, at world level, of various advanced, innovative and non-conventional nuclear energy production systems.

The proposed systems should contribute to a sustainable development of future energy production.

Earlier Conferences

Graz (Austria)

Lausanne (Switzerland)

Helsinki (Finland)

Madrid (Spain)

Karlsruhe (Germany)

Monterey (USA)

Chiba (Japan)

Obninsk (Russia), 1996

Tel-Aviv (Israel), 1998

Petten (The Netherlands), 2000 and

Albuquerque (USA), 2003

Topics

- **Advanced Fission Systems**
  Advanced PWR, advanced BWR, high temperature gas reactors, very high temperature reactors, super critical pressure water reactors, lead cooled fast reactors, sodium cooled fast reactors, gas cooled fast reactors, molten salt reactors and other types of advanced reactors.
- **Fusion Energy Systems**
  Magnetic confinement systems (tokamaks, stellarators, other advanced configurations), inertial confinement systems (laser and heavy ions driven, z-pinch, electrostatic confinement devices, other advanced configurations), cold fusion and other types of advanced systems.
- **Accelerator Driven Systems**
  Lead/bismuth ADS, gas cooled ADS, water cooled ADS and other advanced ADS design.
- **Exotic Nuclear Concepts**
  Space power and propulsion, submarine power and propulsion, direct energy-conversion devices and other exotic nuclear concepts.
- **Transmutation and Fuel Cycle**
  Actinide transmutation in fission driven reactors, actinide transmutation in ADS, actinide transmutation in fusion driven reactors, advanced radioactive waste management, advanced fuel cycles, recycling, reprocessing techniques, energy sustainability, environmental issues and public acceptance.
- **Co-Generation and Non Electricity Production Applications**
  Hydrogen production, sea water desalination, heat production, isotopes production and other co-generation applications.
- **Next Generation Systems**
  Generation IV issues, IAEA-INPRO issues and other international projects issues.
- **Societal Issues**
  Public information, social acceptance of emerging ideas, ethical choices, education and training and other societal issues.

Participation and Highlights

- 104 participants from 20 countries
- 92 papers (68 orals and 24 posters)
- Comments and Discussions Following Oral Presentations – Good Format
- 12 papers on energy conversions and management
- 12 Papers on Fusion Energy Systems
  - 4 on Cold Fusion

Concluding Remarks

- Massive Energy Production Systems Required for the Future to Meet the Population Demand
- Fission - Emphasizing
  - Fast Spectrum to Eliminate HLW
  - Th-U Cycle
- Fusion Looks Promising
  - Ignition, ITER, and DEMO
  - IFMIF – 100 dpa/y; 15-20 He/dpa
- Applications
  - Water Desalination
  - Hydrogen Production

ICENES 2007 in Istanbul

- Next (13^{TH}) ICENES will be Held in Istanbul, Turkey
- Organizer: Professor S. Sahin, Gazi University, Ankara, Turkey (sumer@gazi.edu.tr)
- Website: www.icenes2007.org