



**Australian Institute of Physics
NSW Branch (May Public Talk)**

“Nuclear Energy without Radioactive Radiation”

Professor Heinrich Hora

Department of Theoretical Physics, UNSW

Monday 24th May 2010 @ 6.00PM

At the

Slade Lecture Theatre, School of Physics, University of Sydney

Public talk arranged by: The Australian Institute of Physics (NSW Branch)

Entrance is FREE

Summary of talk:

It seems unbelievable how nuclear energy could be produced without all the well known problems of radioactive radiation and environmental damage. The need for an energy source without carbon emission is evident to avoid few meters rise of ocean levels and other catastrophes.

Ideal fusion fuel is considered with ordinary hydrogen and boron (HB11) generating no neutrons and less radioactivity per energy than from burning coal. Coal contains 2 parts per million uranium that never was considered a nuclear problem. The HB11 reaction is very difficult to achieve, and the present lasers for spherical compression and ignition cannot reach the extremely high densities needed. This changed drastically after new laser pulses of petawatt power and picoseconds duration became available some 10 years ago. Within numerous new effects, few measurements showed an extreme anomaly in agreement with earlier results from Australia. This may lead to a short-cut to an ideal nuclear energy source.

Reference: August-issue of Australian Physics, page 111-113 (2009) or Optics Communications 282, 4124 (2009).

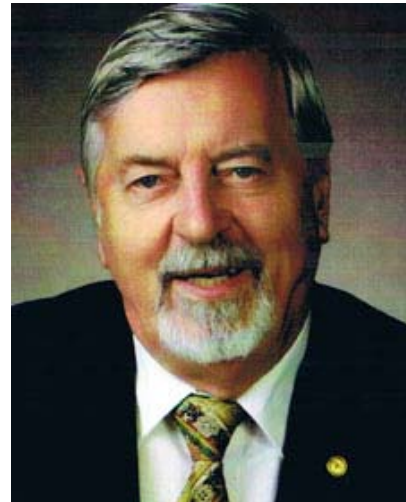




Brief Biography of the Speaker:

Professor Heinrich Hora, Dr.rer.nat. (Jena 1960) D.Sc. (UNSW 1981), FAIP, FInstP (Lond) Professor of Theoretical Physics and Head of Department (UNSW) from 1975, Emeritus 1992. Konrad Zuse Professor, Faculty of Elect.Eng. Regensburg (Germany 1993-95). Attach rem. CERN 1990-92, Guest Professor, Inst. Laser Engin. Univ. Osaka 1996. He is known for his work on the theory for fusion energy with lasers. He has published 10 books and co-edited 14 including Dirac's "Directions in Physics" and "Edward Teller Lectures". He has published more than 450 papers on laser-plasma interaction and inertial nuclear fusion, ponderomotive and relativistic self-focusing, laser acceleration of

particles, correspondence principle of electromagnetic interaction, accuracy principle of nonlinearity. Ritter-von-Gerstner medal, Edward Teller medal Dirac medal, Ernst-Mach-medal.



Detailed Schedule for Monday, 24th May 2010:

- **6:00-6.30 pm REFRESHMENTS, Slade Lecture Theatre.**
- **6.35-7.30 pm LECTURE by Professor Heinrich Hora.**
- **8.00 pm DINNER with the Speaker at Buon Gusto (Italian), 368 Abercrombie Street, Chippendale.**
E-mail Dr Fred Osman (fred_osman@exemail.com.au) if you will be able to join us for dinner.

Travel Directions:

- Train to Redfern station and walk to the **School of Physics.**
- Buses 422, 423, 426, 428, 448, and 450 from Circular Quay to City Road / King, or 412, 435, 438, 470, 483 etc. along Parramatta Road from Circular Quay.
- Drive and park in various parking lots. You will need to pay for parking (**\$6 flat-rate after 4 pm**) and display the ticket in your car. You may also find parking places on public roads outside the Uni.

Event sponsored by:



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