



Seminario nell'ambito del corso Fisica del Suolo (Prof. Marco Bittelli)
Lunedì 29 Novembre, ore 11-13, Aula 11
Dipartimento di Scienze e Tecnologie Agro-Alimentari

Prospects of a new nuclear era Dr. Alfredo Portone

In questo periodo di acceso dibattito, anche in seguito al recente Cop26, su problemi di cambiamento climatico, energia e futuro energetico, gli studenti spesso rivolgono domande e quesiti sulla questione energetica e sull'energia nucleare. Questa sarà un'occasione per chiarimenti, domande e dibattito. Per accedere collegarsi al link Lezioni online (Fisica del Suolo)

<https://www.unibo.it/sitoweb/marco.bittelli/didattica>

Key topics:

- (1) Nuclear reactions and fission reactor basics
- (2) Past, present and future reactors generations
- (3) Fuel cycle and nuclear waste
- (4) Nuclear safety
- (5) Nuclear energy outlook



Alfredo Portone received his MSc (Laurea cum Laude) in nuclear Engineering from the University of Bologna (Italy) in 1987 with a final thesis on high-energy neutron transport in 1D critical homogeneous systems. From 1988 to 1993, as recipient of a European Commission post-graduate grant in nuclear fusion research, he provided support to the Next European Torus (NET) team in Garching (FRG) to the design of the European next-step device following the JET (Joint European Torus) tokamak operating in Culham (UK). In 1993 he received his PhD in Electrical Engineering from Imperial College London (UK) with a thesis on plasma modelling and control system design in ITER (International Thermonuclear Experimental Reactor). From 1993 to 2000 he was part of the ITER Joint Central Team in Naka (Japan) in charge of Plasma Operation and Control studies. In 2000 he joined the European Fusion Development Agreement team in Garching (FRG) to follow up laboratory and industrial European R&D contracts in the areas of plasma engineering and superconducting magnet technology. In 2006 he was appointed Project Leader of the European Dipole Project (EDIPO) contributing to its design, manufacturing, installation and commissioning, successfully completed in 2013 at the Superconducting Laboratory in Paul Scherrer Institute in Villigen (CH). Since 2008 he serves as Engineering Analysis Group Leader and Deputy Head of Engineering Unit in Fusion For Energy, the European Domestic Agency for the ITER Project. He is author of over 200 scientific papers in peer-reviewed journals in the field of plasma engineering and control, tokamak operation, superconducting magnet design and manufacturing and engineering analyses of various tokamak systems.



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