

Enrico Padovani

Degree in Nuclear Engineering (1986) at the University of Bologna.

Besides short professional activities in the fields of composite materials and metrology equipment, during 1988-90 he carried out a research in the field of digital signal processing c/o ENEA in Bologna. During 1991-1992 he carried out a research in the field of the numerical simulation of seismic waves c/o Osservatorio Geofisico Sperimentale in Trieste.

Since 1992 he has been employed as researcher of Nuclear Reactor Physics at the Politecnico di Milano. Since 2001 he has been teacher of courses on the Physics of fission reactors at the Politecnico di Milano.

RESEARCH ACTIVITY:

- Neutronic calculation with fuel burn-up; evaluation of the radiotoxicity inventory vs. time; shielding calculation via Monte Carlo programs.
- Development and application of Artificial Neural Networks to the analysis of data in the field of identification, diagnostics and optimization.
- Responsible of a research contract on irradiation experiments of an inert matrix nuclear fuel in the Halden reactor (Norway).
- Participating in research contracts with JRC-Ispra on: evaluation of the radiotoxicity of irradiated nuclear fuel; measurement and simulation in the nuclear safeguards field.
- Participating in some national research projects (PRIN) co-funded by the Italian Ministry of University and Research.
- Main contributor of the expansion to correlated transport of the capabilities of the Monte Carlo codes MCNP and MCNPX, which are widely used for the transport simulation of particles and gamma-rays. The new codes MCNP-PoliMi and MCNPX-PoliMi are now included in the list of programs maintained and distributed by RSICC at the Oak Ridge National Laboratory site, USA, with the package code CCC-718 and CCC-791, respectively.

Co-author of about 30 papers on journals, about 50 papers on conference proceedings and some internal technical reports.

Present scientific interests:

Monte Carlo methods for particle and radiation transport; neutronic calculation for multiplying systems; nuclear safeguard.