César QUERAL

Contact

Address:
4 Alenza Street, 28003 Madrid

Phone:
+34 910676419

Email:
cesar.queral@upm.es

Researchgate:
https://www.researchgate.net/profile/Cesar_Queral

Summary

Ph.D. Physics (1996). Professor of Nuclear Engineering at Technical University of Madrid (UPM) since 1992 (permanent academic staff since 2001). Head of the Energy Systems Department (2006-2010). He is leading a research team on Nuclear Safety since 1996. Member of the NEA Working Group on Analysis and Management of Accidents (WGAMA) since 2018.

Author of more than 45 articles in international scientific journals. About 90 communications to international meetings and 100 to national ones.

He has about 30 years' experience in the field of safety analysis and has participated in more than 50 projects related with nuclear safety.

Research Topics

Transient analysis (Standard PWR, VVER, BWR and AP1000 reactors: LOCA, SBO; SGTR, Loss of CCWS; TLFW; ATWS; loss of RHRS; MSLB); Small Modular Reactors (CAREM, NuScale); thermo-mechanical analyses (LOCA); Accident Tolerant Fuel; Probabilistic Safety Analysis; Severe accident management (PWR, BWR); thermal hydraulics and numerical methods; Integrated deterministic probabilistic safety analysis (IDPSA); dynamic event trees; verification of success criteria; verification of emergency operating procedures (EOPs) and severe accident management guidelines (SAMG); EOPs computerization; Standardized Plant Analysis Risk (SPAR) models.

Main projects

CAMP (NRC, TRACE code); CSARP (NRC, MELCOR code); consultancy services to Almaraz NPP (PWR) during 20 years; OECD/NEA PKL; OECD/NEA PKL III; OECD/NEA ATLAS; OECD/NEA ROSA; OECD/NEA ROSA-II; OECD/NEA SM2A; OECD/NEA SETH; Passive Isolation Condenser (PIACE) H2020; Application of IDPSA methodologies to PSA and EOPs/SAMGs verification (TRACE, MAAP, MELCOR); McSAFER (High-Performance Advanced Methods and Experimental Investigations for the Safety Evaluation of Generic Small Modular Reactors) H2020; Application of the Integrated Safety Assessment methodology to AP1000 and PWR-W; Computerization of emergency operating procedures for LWR; thermal hydraulic software development; application of MAAP severe accident code to training codes; Passive Autocatalytic Recombiners sizing and location with GOTHIC containment code.

He has also participated in several IAEA missions and IAEA research coordinated projects.

Simulation Codes

TRACE, RELAP5, MELCOR, MAAP4, Risk Spectrum, FRAPCON, FRAPTRAN, TRANSURANUS.