Carlos Moreno (Heffen Technologies)

Carlos Moreno holds a degree in Astrophysics from the Universidad Complutense de Madrid and a master degree in Nuclear Engineering from the Universidad Politécnica de Madrid. He has over 20 years of experience in the development and exploitation of tritium transport models for fusion applications. During six years at CIEMAT, he co-developed the ECOSIMPRO tritium libraries in collaboration with EAI, tools that have since been extensively adopted in major international projects, including system-level models for a wide range of blanket concepts such as HCLL, HCPB, HCCB, WCLL, DCLL and WLCB.

Throughout his career, Carlos Moreno has led and contributed to tritium transport modelling activities for Fusion for Energy (F4E) and the EUROfusion consortium, covering blanket, early neutron source and tritium, fuel cycle and vacuum work packages, as well as safety analyses for the DONES facility. He has participated in EURATOM-funded projects including TRANSAT (H2020) and TITANS (Horizon Europe), and has coordinated the IEA working group on "Development and Validation of Computational Tools for Hydrogen Isotopes Transport in Solid Breeder Blankets." He is currently contributing to the EUROfusion consortium work programme, with activities spanning digital twin development, 3D modelling of blanket concepts, and tritium transport analyses for both driver blankets and test blanket modules. He is the founder and a member of the Organising Committee of the Tritium School, of which four editions have been held to date. Since 2020, he leads Heffen Technologies, a Seville-based company dedicated to tritium technology and fuel cycle solutions for nuclear fusion.