

# Scientific and Professional Curricula

**Name:**

Dr. GUSTAVO GRANUCCI

**Present Position:**

Senior Researcher of Institute of Plasma Physic "Piero Caldirola" – CNR  
Work Package Manager of Heating and Current Drive of DTT scarl

**Professional Experiences**

From 1988 member of Italian National Council of Research (CNR) at Institute of Plasma Physics of Milan.

The professional experience has been gained primarily in the study, design and construction of additional heating systems for fusion plasmas. Especially in the first phase of his professional experience he designed the power transmission lines and the high-voltage power supply for gyrotron at 140 GHz, 0.5 MW of ECRH system on FTU tokamak. He was subsequently dedicated to plasma-wave coupling problems for high frequency waves (electron cyclotron and the lower hybrid frequency), participating at experimental campaigns on FTU and JET tokamaks. He had also detailed aspects of the physics of high density plasma heating and of non-inductive current generation through RF injection.

He was in charge for 12 years as coordinator of Plasma Operation Group of the FTU tokamak and of the CNR team exploiting and developing the FTU ECRH system. In these roles, he integrated the knowledge of additional heating needs with the control of plasma operation in a tokamak. He conducted on FTU and ASDEX-Upgrade (Germany) tokamaks experiments for the control of disruptions by the way of injection of localized ECRH power, demonstrating the feasibility of a real time system to avoid the violent termination of the plasma.

He had the responsibility for the design and realization of a fast launching system for the ECRH power in FTU, to perform experiments based on a real-time steering of the mirror for a localized injection of ECRH aimed to the control of instabilities.

He was in the Leadership of HCD group for DEMO design, with the coordination role of EC Conceptual Design System.

He was also responsible for the management and for the scientific program of the linear machine GyM for plasma magnetic confinement in operation at the Institute of Physics Plasma. In 2014 the machine has been upgraded in order to be used as facility for plasma wall interaction studies, introducing sample holder and dedicated diagnostics.

From 2017 he is working in the project team of the new Italian tokamak DTT (Divertor Tokamak Test), acting from 2018 as Manager of the Heating Systems of DTT, consisting in ECRH, ICRH and NBI systems for a total power to plasma of 45MW.

## **Main scientific tasks and management roles in the period 2011 – 2020**

Responsible for the ECRH system on FTU tokamak (since 2003)

Coordinator of Plasma Operations at the FTU tokamak machine of CRE ENEA Frascati (2004-2016)

Member of the Coordination Board of FTU Tokamak (since 2004-2016)

Scientific Coordinator of experiments in feedback for the mitigation disruption by ECRH on ASDEX-Upgrade and TCV under the MST1 project (from 2014).

Responsible of the project "Experiments and models of innovative processes to scale" of Department for Energy and Transport of the CNR (2008-2012).

Responsible for scientific program of linear machine GyM at IFP (since 2008)

Responsible for the project Fast Launcher for ECRH on FTU (2008-2012).

Responsible for the project "Development of Instrumentation and systems for plasma and Thermonuclear Fusion" of Institute of Plasma Physics "Piero Caldirola" CNR – Milano. (2013-2015)

From 2014 Project Leader of EC Conceptual Design System for DEMO in the WPHCD of Eurofusion.

From 2011 lecturer of the European Fusion Master of Padua.

From 2011 Contract Professor for University of Milano Bicocca leading the course of Plasma Laboratory.

From 2013 to 2020 lecturer of the Master in Fusion Energy: Science and Engineering

From 2017 responsible for the Heating System of DTT project

Total Indexed publications: more than 270; h-index: 31

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