

CURRICULUM VITAE

Personal Data

Name: *Francesco Paolo Orsitto* D.o.B.

Nationality: *Italian*

e-mail

Position: director of research (dirigente di ricerca) **retired november 2014**

Job : Advisor of the Director of Fusion Department for the scientific activities of DEMO and Broader Approach

Institution: ENEA Fusion and Nuclear Safety Department , v E Fermi 45 , 00044 Frascati (Italy)

Academic and Research Career Information

Physics Degree Univ Pisa(1973) and Fellow Scuola Normale Superiore Pisa(Italy)(1974-75)

1975-1978: ENEA C R Casaccia Lab Environmental Radioactivity

1978- 1999 and 2005-2014 : ENEA CR Frascati Unita' Tecnica Fusione

1999-2004 : EFDA(European Fusion Development Agreement) -JET Culham Science Centre

2014 - Retirement (november).

2015-2019- Collaboration with CREATE Consortium Universita di Napoli Federico II, Napoli and ENEA Fusion and Nuclear Safety Department.Frascati(Italy)

1987-1999 Group Leader Optical Diagnostic FTU (Thomson Scattering , active spectroscopy)

1990-1998 Collaboration with JET on Collective Thomson Scattering Experiment

1994-1996 Responsible of Project Proposal of FTAB/ HBFT (High Beta Frascati Tokamak) : a new tokamak device. proposed for ENEA Frascati .

1999-2004 EFDA JET Management Unit Resp Officer for Task Force Diagnostics and Deputy Task Force Leader Diagnostics (the largest Task Force at JET 200 scientists /year), and coordination JET-EP and EP-2 diagnostics enhancements. and developments

2006-2009 Programme of Development of ITER Relevant diagnostics on FTU

2005-2010 ENEA Responsible Scientific Contact Person at JET

2005-2010 FT3 and FAST tokamaks projects: responsible for coordination of the Diagnostics projects..

1995-2009 Nominated European Member of ITPA(International Tokamak Physics Activity) TG(Topical Group) Diagnostics for design and development ITER diagnostics.

2010-2013 European Member of Physics Unit JT-60SA: Responsible coordination at European level of Diagnostics.

2013-14 Coordinator of Eurofusion project PPP&T WP13-DAS 04 –DEMO Diagnostics and Instrumentation Systems.

November 2014 retired from ENEA.

2015-2019 CREATE Consortium and ENEA Frascati Fusion Department Collaboration on EUROFUSION activities and organization of ICFDT and FUNFI conferences (see conference section) .

Teaching Experience

Vice –Director of Master Course In ‘Fusion Energy –science and engineering’ organized by ENEA and Univ Rome II Tor Vergata..

Courses on Plasma Diagnostics at University of Pisa and Univ Roma II Tor Vergata

Tutor of PhD Thesis at Univ Roma II Tor Vergata

Organization of International Conferences

Chairman of International Conference ‘Burning Plasma Diagnostics’ Varenna(Italy) 2007

Chairman of International Conference ‘Fusion Reactor Diagnostics’ Varrenna(Italy) 2013

Chairman of International Conference ‘Frontiers in Diagnostics Technologies’ Frascati(Italy) 1st edition 2009 , 2nd edition 2011 and 3rd edition 2013., 4th edition 2016 , 5th edition 2018.

Organization and Scientific Secretary of Conference FUNFI (Fusion Neutrons for Fission):

Organization of the 2nd (Frascati 2016) and 3rd edition (Hefei China,2018) of the FUNFI conference dedicated to the Fusion-Fission reactors design and technology .

Scientific Secretary and Organization of the International Conference 'Diagnostics for Fusion Reactors ' Varenna (Italy) september 2020.

Topics of Research

Plasma Physics, Plasma Diagnostics , Fusion reactor Scenario evaluation . Thomson Scattering, plasma polarimetry, active spectroscopy. tokamak diagnostics , Tokamak Fusion Reactor Design and projects of diagnostics and controls, Fusion-Fission reactor projects . Fusion neutron sources projects..

Publication record

Author of about 80 papers published on peer-reviewed journals. Editor of three Conference proceedings books.

Some key publications

1.Title of publication: **Analysis of Faraday rotation in JET polarimetric measurements**

Journal : Plasma Physics and Controlled Fusion, 53 (2011)

2.Title of publication: **Investigating the possibility of a monitoring fast ion diagnostic for ITER**

Journal : Rev Sci Instr 79(2008)

3. Title of publication: **Requirements for fast particle measurements on ITER and candidate measurement techniques**

Journal : 2007 Nucl. Fusion 47 1311

4. Title of publication : **Thomson-Scattering Diagnostics on the Frascati tokamak Upgrade**

Journal : Applied Optics 34(1995)2712 and Rev Sci Instr 66(1995)1167

5. Title of publication : **JET experimental programme and related diagnostics development**

Journal : Rev Sci Instr 74(2003) 2084

6. Title of publication : **Characterization and preliminary results of the collective Thomson Scattering system on FTU tokamak**

Journal : Rev Sci Instr 70(1999) 1158

7. Title of publication : **Test of ITER Plasma Facing Mirror on JET**

Publisher : American Physical Society, 44th Annual Meeting of the Division of Plasma , #LP1.036

8. Title of publication: **Optical characterization of plasma facing mirrors for a Thomson scattering system of a burning plasma experiment**

Journal : Rev Sci Instr 2001

9. Title of publication : **Diagnostics and control for steady state and pulsed tokamak DEMO**

Journal : Nuclear Fusion 2016

Key Invited Talk :

New Tokamak physics and next step devices versus present limits of diagnostics – Invited Talk at High Temperature Plasma Diagnostics Conference 1998.

Diagnostics for Fusion-Fission reactors - 2nd edition FUNFI Conference Frascati (Italy)

Neutron sources for Fusion-Fission reactors - 3rd edition FUNFI Conference, Hefei (China).