

# Monica Spolaore CV

First name	<i>Monica</i>
Surname	<i>Spolaore</i>
Institute	<i>Consorzio RFX and Istituto per la Scienza e Tecnologia dei plasmi (CNR), Padova, Italy</i>
e-mail	<i>monica.spolaore@igi.cnr.it</i>

## Studies and Working experiences post PhD

- Studies: 4-year degree (Laurea) in Physics in 1994 at the University of Padova. Master (corso di perfezionamento post laurea) on “Plasma engineering and thermonuclear fusion” at the Padova University in 1995. PhD (dottorato di ricerca) in Energetics at the University of Padova in 2000.
- 2000-2009: Resercher of the Consorzio RFX in Padova, Italy, a consortium formed by CNR, ENEA, INFN, University of Padova and Acciaierie Venete S.p.A. to manage the RFX-mod toroidal experiment for the confinement of fusion-relevant toroidal plasmas. Permanent position since 2002
- 2009-today: Researcher of the National Research Council (Consiglio Nazionale delle Ricerche), permanent position, carrying out her research activity at Consorzio RFX in Padova, Italy.

## Areas of Competence

### Relevant Competences

- Design, realization follow-up and usage of turbulence diagnostics with emphasis on interplay between electrostatic and magnetic fluctuations
- Edge physics and cross-comparison of different fusion magnetic configurations including RFP, tokamak, stellarator and non-fusion plasmas
- Diagnostics for NBI negative ion beam sources
- Management and organization of technical and research teams
- Communication skills for international conferences (invited) and international technical meetings (EUROfusion, F4E)

## Most important achievements

- Realization and exploitation of several diagnostics for edge and SOL turbulence investigations
- First direct measurement of current inside turbulent filament in a fusion device (PRL 2009)
- Direct two-dimensional measurements of the field-aligned current associated with plasma blobs, (PRL2011)
- Experimental estimate of dipolar vortices diffusivity in the edge of a fusion device (PRL 2004)
- Inter-machine comparison (RFP, Tokamak, Stellarator) of electromagnetic filamentary behavior and their 3D modulation(RFP, tokamak)
- Delivery of the embedded electrostatic probe system for negative ion source for NBI ITER Injector (2018)
- Measurement of current associated to ELM filaments in tokamak SOL
- Coordination of the working group for delivery of HRP probe to W7-X, commissioned during OP1.2b
- Preliminary evaluation of the edge diagnostics set for DTT experiment

## Experience in the EU or international fusion programme

- Principal Investigator of Enabling Research project
- Contact reference for Consorzio RFX in Enabling Research
- Participation to the MST1 EUROfusion Work-programme also as Scientific Coordinator
- Responsible Officer within the WPS1 Work-programme
- Work Package Manager within the F4E framework contracts
- Member of the Programme Committee of European Physical Society (EPS) Conference on Plasma Physics 2013
- LOC Chair of the Workshop EFTSOMP - Workshop on Electric Fields, Turbulence and Self-Organization in Magnetized Plasmas satellite meeting of EPS Conference (2019)

- Member of the TJ-II Access Committee (Spanish ICTS, Singular Scientific Technical Infrastructure) since 2019
- Responsible for electrostatic probe systems within F4E contracts (TO1- SPIDER diagnostics - 2015-2018, F4E TO2- SPIDER & MITICA diagnostics – (2017-2020), F4E TO3 - MITICA diagnostics - 2020-2023)
- Coordinator of the Langmuir Thermocouples and Turbulence diagnostics working group for DTT

**Main International collaborations:**

Royal Institute of Technology, Stockholm, Sweden; CEA Cadarache, France; Institute of Plasma Physics IPP-AS CR, Prague, Czech Republic; Laboratorio Nacional de Fusión, asociación EURATOM-CIEMAT, Madrid, Spain; Ecole Polytechnique Fédérale de Lausanne, Swiss Plasma Center (SPC), Switzerland; Institute for Ion Physics and Applied Physics, University of Innsbruck, Innsbruck, Austria; Technical University of Denmark, Kongens Lyngby, Denmark; University of Wisconsin, Center for Magnetic Self-Organization in Laboratory and Astrophysical Plasmas, Madison, WI, USA; Max-Planck-Institut für Plasmaphysik, Garching, Germany; Max-Planck- Institut für Plasmaphysik, Greifswald, Germany; Forschungszentrum Jülich, Germany

**Additional relevant professional experience and Expertise within or outside fusion**

- Supervisor of master, bachelor degree and PhD International Doctorate school (Fusion DC) students
- Qualified to be University Professor (*Prima fascia*) in "Experimental Physics of Matter" (2018)
- Referee for the following scientific journals: Nature Physics, Physics of Plasmas, Journal of Nuclear Materials, Fusion Engineering and Design, Nuclear Fusion, Nuclear Materials and Energy
- Leader of Information Technology (IT) group within Organization of Consorzio RFX (2009-2018)
- RFX-mod experiment: Session Leader since 2004, Transport Task force leader in 2008 and of Data Validation and Scaling group leader in 2009 and 2010.
- Development of insertable diagnostics for edge fluctuation transport studies in fusion and non-fusion devices (RFX-mod, Extrap T2R, TORPEX, COMPASS, TJ-II, W7-X )
- Involved in the development of plasma facing wall-embedded system of electrostatic sensors for the RFX-mod2 (upgrade of RFX-mod)

**Publications/patents**

**Number of refereed publications/ H-index** Source ISI WoS: 176/28

**Number of patents** | 2: European Patent (EP 2249732) and Italian Patent (N. 001351843)

Padova, October 14, 2020