

Monica Spolaore

📍 **Address:** Consorzio RFX c/o Area della Ricerca del CNR, Corso Stati Uniti 4, 35127, Padova, Italy <https://www.istp.cnr.it/> and <https://www.igi.cnr.it/>

Work Experience

Employment Contracts

- [01/2023 – current] Researcher, II level, (permanent position)
employed by Consiglio Nazionale delle Ricerche (CNR)
Istituto per la Scienza e Tecnologia dei Plasmi (ISTP)
carrying out her research activity at Consorzio RFX in Padova, Italy;
- [12/2009 – 12/2022] Researcher, III level, (permanent position)
employed by Consiglio Nazionale delle Ricerche (CNR)
Istituto per la Scienza e Tecnologia dei Plasmi (ISTP) (formerly
Istituto Gas Ionizzati (IGI) until 04/2020)
carrying out her research activity at Consorzio RFX in Padova, Italy;
- [03/2000 – 12/2009] Researcher, (permanent position since 2002)
employed by 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;

Management Roles within Consorzio RFX and CNR-ISTP

- [2021 –current] Responsible of Research and Scientific Management at Consorzio
RFX and member of the “Gruppo Coordinamento Programmi” of
Consorzio RFX
- [2022 –current] Appointed by CNR President Prof. Maria Chiara Carrozza as
Administrative Responsible of the NRRP project NEFERTARI “New
Equipment for Fusion Experimental Research and Technological
Advancements with RFX Infrastructure”- area ESFRI -ENERGY -
NEFERTARI - ID:IR0000007. Funded by MUR with 18Meuro within
PNRR Missione 4, “Istruzione e Ricerca” - Componente 2, “Dalla
ricerca all’impresa” - Linea di investimento 3.1, “Fondo per la
realizzazione di un sistema integrato di infrastrutture di ricerca e
innovazione”, finanziato dall’Unione europea –NextGenerationEU”;
- [2023-current] Appointed as RUP (Responsabile Unico di Progetto) within
NEFERTARI project (value >0.5Meuro, call for tender over EU
threshold) [GazzettaUfficiale.it](https://www.gazzettaufficiale.it)
- [2009 -2018] Leader of Information Technology (IT) group within Organization of
Consorzio RFX (2009-2018)

[2009-2010]	RFX-mod experiment: Data Validation and Scaling group leader
[2008]	RFX-mod experiment: Transport Task force leader
[2004 -2015]	RFX-mod experiment: Session Leader

Experience within EU or international fusion programme

[2021 - current]	<p>Italian representative member of the European Physical Society (EPS) Division Plasma Physics Board (from June 2021) http://plasma.ciemat.es/eps/board/</p> <p>and Coordinator of the PhD Research Award of the European Physical Society (EPS) Division Plasma Physics http://plasma.ciemat.es/eps/awards/phd-research-award/</p>
[2022 – current]	Member of the external committee for TJ-II (CIEMAT, Madrid) campaigns (stellarator device included within Spanish ICTS, Singular Scientific Technical Infrastructure)
[2019 – 2022]	Member of the TJ-II Access Committee (Spanish ICTS, Singular Scientific Technical Infrastructure)
[2019]	LOC Chair of the Workshop EFTSOMP - Workshop on Electric Fields, Turbulence and Self-Organization in Magnetized Plasmas satellite meeting of EPS Conference (2019)
[2015-current]	Work Package Manager for electrostatic probe systems within Fusion for Energy (F4E) contracts (TO1- SPIDER diagnostics - 2015-2018, F4E TO2- SPIDER & MITICA diagnostics – (2017-2020), F4E TO3 - MITICA diagnostics - 2020-2024)
[2018 -2021]	Coordinator of the Langmuir Thermocouples and Turbulence diagnostic working group for DTT experiment;
[2021 -current]	Deliverable owner of Embedded probes task for DTT experiment within EUROfusion Consortium from 2021
[2014]	<p>Principal Investigator of Enabling Research project financed by the EUROfusion Consortium</p> <p>Project title: Investigation of edge plasma electromagnetic filaments and associated transport: from ELMs to turbulent structures (WP14-ER-01/ENEA_RFX-06 participant associations: ENEA-RFX (Padova,Italy), EPFL(Lausanne), CIEMAT (Madrid), Universidad Carlos TerceroC3 Madrid, IPP Czech Academy of Science (Prague)</p>
[2015 - 2018]	Contact reference for Consorzio RFX in Enabling Research Projects (AWP15-ENR-01/EPFL-05 and AWP17-ENR - MFE - ENEA - 10)
[2015]	Scientific Coordinator within the EUROfusion MST1 (Medium Size Tokamak) Work-programme

[2013]	Member of the Programme Committee of European Physical Society (EPS) Conference on Plasma Physics 2013
[2015- current]	Responsible Officer and deliverable owner within the WPW7X EUROfusion Work-programme (formerly WPS1) dedicated to the exploitation of the Stellarator device W7-X located in IPP-Greifswald, Germany

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

- Qualified to be University Professor in "Experimental Physics of Matter" (2018) "Abilitazione Scientifica Nazionale" Abilitazione professore di I fascia (Professore Ordinario)
- Supervisor of student of master, bachelor degree and PhD International Doctorate school (Fusion DC)
- Invited talk at the following International and National Conferences:
 - AAPPS-DPP2019 3rd Asia-Pacific Conference on Plasma Physics (Hefei, China, Nov. 4-8, 2019)
 - EFTSOMP 2018 - Workshop on Electric Fields, Turbulence and Self-Organization in Magnetized Plasmas, held in Institut of Plasma Physics (IPP), Prague, Czech Republic, on July 9 - 10, 2018
 - joint ICPP(International Congress on Plasma Physics)-EPS Conference on Plasma Physics, held in Stockholm, Sweden, on July 2-6 2012
 - 9th Electric Fields, Structures, and Relaxation in Plasmas (EFSREP) Workshop, Roma, June 26-27 2006 satellite Workshop of 33rd European Physical Society Conference on Plasma Physics Roma, June 19 - 23, 2006
 - XC Congresso Nazionale SIF(Società Italiana di Fisica), Brescia 20-25 settembre 2004

- 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

Education and Training

- [2000] PhD (dottorato di ricerca) in Energetics at the University of Padova in 2000.
- [1995] Master (corso di perfezionamento post laurea) on “Plasma engineering and thermonuclear fusion” at the Padova University
- [1994] 4-year degree (Laurea) in Physics in 1994 at the Padova University

Publications

Monica Spolaore (<https://orcid.org/0000-0002-2350-2033>) co-authored more than 200 papers on Peer-Reviewed Journals with H-index 34 (source ISI Web of Science). She is co-author of one European patent and one Italian Patent.

Selected Publications

- [1] Spolaore, M., Antoni, V., Spada, E., Bergs aker, H., Cavazzana, R., Drake, J. R., Martines, E., Regnoli, G., Serianni, G., and Vianello, N.: Vortex-induced diffusivity in reversed field pinch plasmas -: art. no. 215003, Physical Review Letters, 93, 4, 10.1103/PhysRevLett.93.215003, 2004.
- [2] Spolaore, M., Vianello, N., Agostini, M., Cavazzana, R., Martines, E., Scarin, P., Serianni, G., Spada, E., Zuin, M., and Antoni, V.: Direct Measurement of Current Filament Structures in a Magnetic-Confinement Fusion Device, Physical Review Letters, 102, 4, 10.1103/PhysRevLett.102.165001, 2009.
- [3] Furno, I., Spolaore, M., Theiler, C., Vianello, N., Cavazzana, R., and Fasoli, A.: Direct Two-Dimensional Measurements of the Field-Aligned Current Associated with Plasma Blobs, Physical Review Letters, 106, 4, 10.1103/PhysRevLett.106.245001, 2011.
- [4] Spolaore, M., Cavazzana, R., Marrelli, L., Carraro, L., Franz, P., Spagnolo, S., Zaniol, B., Zuin, M., Cordaro, L., Dal Bello, S., De Masi, G., Ferro, A., Finotti, C., Grando, L., Grenfell, G., Innocente, P., Kudlacek, O., Marchiori, G., Martines, E., Momo, B., Paccagnella, R., Piovesan, P., Piron, C., Puiatti, M. E., Recchia, M., Scarin, P., Taliercio, C., Vianello, N., and Zanotto, L.: H-mode achievement and edge features in RFX-mod tokamak operation, Nuclear Fusion, 57, 13, 10.1088/1741-4326/aa7f1e, 2017.
- [5] Spolaore, M., Agostini, M., Momo, B., Rea, C., Vianello, N., Zuin, M., Cavazzana, R., De Masi, G., Innocente, P., Marrelli, L., Martines, E., Mazzi, A., Puiatti, M. E., Spagnolo, S., Spizzo, G., Scarin, P., Terranova, D., and Zanca, P.: Turbulent electromagnetic filaments in actively modulated toroidal plasma edge, Nuclear Fusion, 55, 11, 10.1088/0029-5515/55/6/063041, 2015.
- [6] Grenfell, G., Spolaore, M., Abate, D., Carraro, L., Marrelli, L., Predebon, I., Spagnolo, S., Veranda, M., Agostini, M., van Milligen, B. P., Cavazzana, R., Cordaro, L., De Masi, G., Franz, P., Hidalgo, C., Martines, E., Momo, B., Puiatti, M. E., Scarin, P., Vianello, N., Zaniol, B., Zuin, M., and Team, R. F.-m.: Turbulent filament properties in L and H-mode regime in the RFX-mod operating as a tokamak, Nuclear Fusion, 60, 21, 10.1088/1741-4326/abaf32, 2020.
- [7] Spolaore, M., Kov arik, K., St ockel, J., Adamek, J., Dejarnac, R., Duran, I., Komm, M., Markovic, T., Martines, E., Panek, R., Seidl, J., Vianello, N., and Team, C.: Electromagnetic ELM and inter-ELM filaments

detected in the COMPASS Scrape-Off Layer, Nuclear Materials and Energy, 12, 844-851, 10.1016/j.nme.2016.12.014, 2017.

- [8] Spolaore, M., Vianello, N., Agostini, M., Cavazzana, R., Martines, E., Serianni, G., Scarin, P., Spada, E., Zuin, M., and Antoni, V.: Magnetic and electrostatic structures measured in the edge region of the RFX-mod experiment, Journal of Nuclear Materials, 390-91, 448-451, 10.1016/j.jnucmat.2009.01.132, 2009.
- [9] Spolaore, M., Vianello, N., Furno, I., Carralero, D., Agostini, M., Alonso, J. A., Avino, F., Cavazzana, R., De Masi, G., Fasoli, A., Hidalgo, C., Martines, E., Momo, B., Scaggion, A., Scarin, P., Spagnolo, S., Spizzo, G., Theiler, C., and Zuin, M.: Electromagnetic turbulent structures: A ubiquitous feature of the edge region of toroidal plasma configurations, Physics of Plasmas, 22, 10, 10.1063/1.4906869, 2015.
- [10] Spolaore, M., Antoni, V., Cavazzana, R., Regnoli, G., Serianni, G., Spada, E., Vianello, N., Bergs aker, H., and Drake, J. R.: Effects of ExB velocity shear on electrostatic structures, Physics of Plasmas, 9, 4110-4113, 10.1063/1.1506310, 2002.
- [11] Spolaore, M., Serianni, G., Leorato, A., and Degli Agostini, F.: Design of a system of electrostatic probes for the RF negative ion source of the SPIDER experiment, Journal of Physics D-Applied Physics, 43, 5, 10.1088/0022-3727/43/12/124018, 2010.
- [12] Lorenzini, R., Martines, E., Piovesan, P., Terranova, D., Zanca, P., Zuin, M., Alfier, A., Bonfiglio, D., Bonomo, F., Canton, A., Cappello, S., Carraro, L., Cavazzana, R., Escande, D. F., Fassina, A., Franz, P., Gobbin, M., Innocente, P., Marrelli, L., Pasqualotto, R., Puiatti, M. E., Spolaore, M., Valisa, M., Vianello, N., Martin, P., and Collaborators, R. F.-M. T.: Self-organized helical equilibria as a new paradigm for ohmically heated fusion plasmas, Nature Physics, 5, 570-574, 10.1038/nphys1308, 2009.
- [13] Spolaore, M., Agostinetti, P., Killer, C., Moresco, M., Brombin, M., Cavazzana, R., Ghirardelli, R., Grenfell, G., Grulke, O., Lazerson, S. A., Martines, E., Neubauer, O., Nicolai, D., Satheeswaran, G., Schweer, B., Vianello, N., Visentin, M., and Team, W. X.: High Resolution Probe for filament transport and current density study at the edge region of W7-X, Journal of Instrumentation, 14, 12, 10.1088/1748-0221/14/09/c09035, 2019.
- [14] Antoni, V., Carbone, V., Cavazzana, R., Regnoli, G., Vianello, N., Spada, E., Fattorini, L., Martines, E., Serianni, G., Spolaore, M., Tramontin, L., and Veltri, P.: Transport processes in reversed-field-pinch plasmas: Inconsistency with the self-organized-criticality paradigm, Physical Review Letters, 87, 4, 10.1103/PhysRevLett.87.045001, 2001.
- [15] Vianello, N., Spada, E., Antoni, V., Spolaore, M., Serianni, G., Regnoli, G., Cavazzana, R., Bergs aker, H., and Drake, J. R.: Self-regulation of ExB flow shear via plasma turbulence -: art. no. 135001, Physical Review Letters, 94, 4, 10.1103/PhysRevLett.94.135001, 2005.

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