

# Europass Curriculum Vitae



## Personal information

First name Surname **Marco Valisa**

Telephone(s) +39 049 8295031 Mobile: +39 320 412 5396

E-mail marco.[valisa@igi.cnr.it](mailto:valisa@igi.cnr.it) , marco.valisa@istp.cnr.it

Nationality Italian

Date of birth 30.11.1958

## Work experience

Occupation or position held

01/04/2022	Director of Consorzio RFX
1/2020 – today	CNR Research Director
06/2006 - 12/2019	CNR First Researcher
2001	Visiting Scientist at Alcator C-mod , MIT,Cambridge MA ( one month)
1996	Professor on contract University of Padua
1995	Visiting Scientist at MST, Madison, WI, University of Wisconsin ( two months)
12/1990 – 06/2006	CNR Researcher with permanent position
12/1985 – 12/1990	CNR Researcher with fixed term contract (As per Art. 36 Comma A)

Main activities and responsibilities

1985 – today	Published more than 164 papers in International Peer Reviewed Journals (list purged of publications linked to teams membership) . H-index =39 (Scopus). Invited speaker and oral presentation in several International Conferences. 194 between Conference Proceedings papers, posters and communications in (mainly) international and national Conferences
2019-today	Member of the ITER ITPA Topical group on Transport and Confinement and since 06/ 2020 chair of TC-11 “Impurity Transport”
2016-Today	Responsible of the Diagnostic Integration of the DTT experiment.
2019 - Today	Member of the physics coordination group of the DTT experiment
6/2007-Today	<ul style="list-style-type: none"><li>- Leader of Programma “Fisica del Tokamak e Stellarator” at Consorzio RFX to coordinate all the RFX collaboration activities with other laboratories, reporting each year on futiue program and past activities.</li><li>- Member of the Coordination group of Consorzio RFX who discuss and monitor the use of resources within the Institute.</li></ul>

1985 – today	<ul style="list-style-type: none"> <li>- Design and use of several diagnostics for nuclear fusion plasmas, mainly passive and active spectroscopy for RFX, FTU, JET, Asdex Upgrade, JT-60SA for impurity transport studies on temperature and collective plasma motion measurements.</li> <li>- Responsible of use and maintenance of several RFX spectrometers till 2007.</li> <li>- Responsible of the RFX Diagnostic Neutral Beam Injector till today.</li> <li>- Responsible for the installation on RFX of a 1 MW beam injector on loan from AIST Institute Tsukuba and of the loan of the same equipment to Tokamak Energy, Abingdon UK.</li> <li>- Modelling of impurity transport experiment in tokamaks with JINTRAC</li> <li>- Experiment Session Leader at RFX and JET ( &lt; 2MA)</li> <li>- Scientific coordination of experiments and tasks in RFX and EFDA/EURO-fusion machines JET , ASDEX Upgrade, mainly on impurity transport and density limit.</li> </ul>
1993-6/2007	Group leader of “ Physics A” group of Consorzio RFX (Spectroscopy, neutral losses and sources, Plasma Wall Interaction, Impurity transport , collective flows).
1990-1993	Coordination of the Diagnostics Technical team
Name and address of employer	ISTP-CNR, Padua unit, Corso Stati Uniti 4 – 35127 Padova, seconded to Consorzio RFX
Type of business or sector	Research in Nuclear Fusion Science

### Education and training

1986	Piero Caldirola International School, Basic and Advanced Fusion Plasmas Diagnostics Techniques
1985	European Commission/Euratom Grant at JET Joint Undertaking, Culham UK – Working withong Epx division 1 on Plasma Wall Interactions.
1984	Master Course in Plasma Physics and Engineering, University of Padua, working on first measurements SXR radiation emission on Eta-Beta II.
1983	Piero Caldirola International School, Varenna – Course on Alternatives Fusion Devices
1982	Piero Caldirola International School , Varenna – Diagnostics for Fusion Reactor Conditions
07/1982	Laurea in Physics, University of Milan, 110/110 cum laude, with a theoretical thesis work on Alpha Particle confinement in fusion plasmas.

### Personal skills and competences

Mother tongue(s) **Italian**

Other language(s) **Specify language and evidence of skill level (language certificate)**

Self-assessment

*European level*

**English**

**French**

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	C1	C1	C1
B2	B2	B2	B2	B1

Social skills and competences President for 20 years of an association involved in the care of disabled people

Organisational skills and competences Coordination of research national and international teams to carry out experiments and analysis. (RFX and EURO-fusion organization)  
Development and monitoring of Research Programme in a research Institute.

Technical skills and competences Design of plasma diagnostics.  
Transport analysis in plasmas.  
Design of experiments in complex devices.

Computer skills and competences IDL and Fortran in Unix. Computer programs for data analysis and use of high performance modelling tools ( example JINTRAC ) .  
Windows

Other information 1983 Military Service as Specialist in Artillery.(Folgore)

**Annexes**

- 1- List of best 15 publications
- 2- List of the last 3 years publications

**Date:**30/04/ 2022

Signature: Marco Valisa



## Annex 1 List of the 15 best publications

#	Title	Authors	Juornal	
1	Metal impurity transport control in JETH-mode plasmas with central ion cyclotron radiofrequency power injection	<b>M. Valisa</b> , L. Carraro, I. Predebon, M.E. Puiatti, C. Angioni, I. Coffey, C. Giroud, L. Lauro Taroni, B. Alper, M. Baruzzo, P. Belo daSilva, P. Buratti, L. Garzotti, D. Van Eester, E. Lerche, P. Mantica, V. Naulin, T. Tala, M. Tsalas and JET-EFDA contributors	Nuclear Fusion <b>51</b> (2011) 033002	
2	High current regimes in RFX-mod	<b>M Valisa</b> ; T Bolzonella; P Buratti; L Carraro; R Cavazzana; S Dal Bello; P Martin; R Pasqualotto; J S Sarff; M Spolaore; P Zanca; L Zanotto; M Agostini; A Alfier; V Antoni; L Apolloni; F Auriemma; O Barana; M Baruzzo; P Bettini; D Bonfiglio; F Bonomo; M Brombin; A Buffa1; A Canton; S Cappello; M Cavinato; G Chitarin; A De Lorenzi; G De Masi; D F Escande; A Fassina; P Franz; E Gaio; E Gazza; L Giudicotti; F Gnesotto; M Gobbin; L Grando; L Guazzotto; S C Guo; V Igochine; P Innocente; R Lorenzini; A Luchetta; G Manduchi; G Marchiori; D Marcuzzi; L Marrelli; S Martini; E Martines; K McCollam; F Milani; M Moresco; L Novello; S Ortolani; R Paccagnella; S Peruzzo; R Piovan; L Piron; A Pizzimenti; P Piovesan; N Pomaro; I Predebon; M E Puiatti; G Rostagni; F Sattin; P Scarin; G Serianni; P Sonato; E Spada; A Soppelsa; S Spagnolo; G Spizzo; C Taliercio; D Terranova; V Toigo; N Vianello; D Yadikin; P Zaccaria; B Zaniol; E Zilli; M Zuin	Plasma Physics Control. Fusion <b>50</b> (2008) 124031	
3	Diagnostics, data acquisition and control of the divertor test tokamak experiment	Albanese R.; Ambrosino R.; Ariola M.; De Tommasi G.; Pironti A.; Cavinato M.; Neto A.; Piccolo F.; Sartori F.; Ranz R.; Carraro L.; Canton A.; Cavazzana R.; Fassina A.; Franz P.; Innocente P.; Luchetta A.; Manduchi G.; Marrelli L.; Martines E.; Peruzzo S.; Puiatti M.E.; Scarin P.; Spizzo G.; Spolaore M.; <b>Valisa M.</b> ; Gorini G.; Nocente M.; Sozzi C.; Apicella M.L.; Gabellieri L.; Maddaluno G.; Ramogida G	Fusion engineering and design	Corresponding author
4	Locked modes induced plasma-wall interactions in RFX	<b>M. Valisa</b> ; T. Bolzonella; L. Carraro; E. Casarotto; S. Costa; L. Garzotti; P. Innocente; S. Martini; R. Pasqualotto; M.E. Puiatti; R. Pugno; P. Scarin	Journal of Nuclear Materials <b>241-243</b> (1997) 988-	
5	Issues in the plasma wall interactions in RFX	<b>M. Valisa</b> , R. Bartiromo, D. Bettella, L. Carraro, S. Costa, P. Martin, S. Martini, R. Pasqualotto, M.E. Puiatti, P. Scarin, F. Sattin, G. Telesca, P. Zanca, B. Zaniol, RFX Team	Journal of Nuclear Materials <b>290-293</b> (2001) 980-	
6	Self-organized helical equilibria as a new paradigm for ohmically heated fusion plasmas	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.; <b>Valisa M.</b> ; Vianello N.; Martin P.	Nature Physics <b>14 JUNE 2009</b>   DOI: 10.1038/NPHYS1308	
7	Scaling of local core transport with Lundquist number in the reversed field pinch	A. Intravaia; L. Marrelli; P. Martin; R. Pasqualotto; P. Franz; A. Murari; G. Spizzo; T. Bolzonella; A. Canton; P. Innocente; S. Martini; M. E. Puiatti; P. Scarin; D. Terranova; <b>M. Valisa</b>	Physical review Letters <b>83</b> , 1999, 5499	
8	Active-feedback control of the magnetic boundary for magnetohydrodynamic stabilization of a fusion plasma	R. Paccagnella; S. Ortolani; P. Zanca; A. Alfier; T. Bolzonella; L. Marrelli; M. E. Puiatti; G. Serianni; D. Terranova; <b>M. Valisa</b> ; M. Agostini; L. Apolloni; F. Auriemma; F. Bonomo; A. Canton; L. Carraro; R. Cavazzana; M. Cavinato; P. Franz; E. Gazza; L. Grando; P. Innocente; R. Lorenzini; A. Luchetta; G. Manduchi; G. Marchiori; S. Martini; R. Pasqualotto; P. Piovesan; N. Pomaro; P. Scarin; G. Spizzo; M. Spolaore; C. Taliercio; N. Vianello; B. Zaniol; L. Zanotto; M. Zuin;	Physical review Letters <b>97</b> , 075001 (2006)	

9	Runaway electron mitigation by applied magnetic perturbations in RFX-mod tokamak plasmas	Gobbin, <b>M.</b> ; <b>Valisa</b> , M.; White, R. B.; Cester, D.; Marrelli, L.; Nocente, M.; Piovesan, P.; Stevanato, L.; Puiatti, M. E.; Zuin, M.	NuclearFusion 57 (2017) 016014	
10	Internal and external electron transport barriers in the RFX-mod reversed field pinch	M.E. Puiatti; <b>M. Valisa</b> ; M. Agostini; F. Auriemma; F. Bonomo; L. Carraro; A. Fassina; M. Gobbin; R. Lorenzini; B. Momo; A. Scaggion; B. Zaniol; A. Alfier; L. Apolloni; M. Baruzzo; T. Bolzonella; D. Bonfiglio; A. Canton; S. Cappello; R. Cavazzana; S. Dal Bello; G. De Masi; D.F. Escande ; P. Franz; E. Gazza; S. Guo; P. Innocente; G. Marchiori; L. Marrelli; P. Martin; E. Martines; S. Martini; S. Menmuir; L. Novello; R. Paccagnella; P. Piovesan; L. Piron; I. Predebon; A. Ruzzon; F. Sattin; P. Scarin; A. Soppelsa; G. Spizzo; S. Spagnolo; M. Spolaore; D.Terranova; M. Veranda; N. Vianello; P. Zanca; L. Zanutto; M. Zuin	NuclearFusion 51 (2011) 073038	
11	Tungsten transport in JET H-mode plasmas in hybrid scenario, experimental observations and modelling	Angioni C.; Mantica P.; Pütterich T.; <b>Valisa M.</b> ; Baruzzo M.; Belli E.A.; Belo P.;Casson F.J.; Challis C.; Drewelow P.; Giroud C.; Hawkes N.; Hender T.C.; HobirkJ.; Koskela T.; Lauro Taroni L.; Maggi C.F.; Mlynar J.; Odstrcil T.; Reinke M.L.;Romanelli M.; JET EFDA Contributors	Nucl. Fusion 54 (2014) 083028	
12	Role of sawtooth in avoiding impurity accumulation and maintaining good confinement in JET radiative mantle discharges	M.F.F. Nave; J. Rapp; T. Bolzonella; R. Dux; M.J. Mantsinen; R. Budny; P. Dumortier; M. von Hellermann; S. Jachmich; H.R. Koslowski; G. Maddison; A. Messiaen; P. Monier-Garbet; J. Ongena; M.E. PuiattiJ. Strachan, G. Telesca , B. Unterberg, <b>M. Valisa</b> , P. de Vries and contributors to the JET-EFDA	Nucl. Fusion 43 (2003) 1204	
13	Analysis of metallic impurity density profiles in low collisionality Joint European Torus H-mode and L-mode plasmas	M. E. Puiatti; <b>M. Valisa</b> ; C. Angioni; L. Garzotti; P. Mantica; M. Mattioli; L. Carraro; I. Coffey; C. Sozzi and JET-EFDA contributors	Phys. Of Plasmas 13, 042501, 2006	
14	The ITER full size plasma source device design	P. Sonato; P. Agostinetti; G. Anaclerio; V. Antoni;O. Barana; M. Bigi; M. Boldrin; M. Cavenago; S. Dal Bello; M. Dalla Palma; A. Daniele; M. D'Arienzo; A. De Lorenzi; A. Ferro; A. Fiorentin; E. Gaio; E. Gazza; L. Grando; F. Fantini; F. Fellin; A. Luchetta; G. Manduchi; F. Milani; D. Marcuzzi; L. Novello; R. Pasqualotto; M. Pavei; R. Pengo; S. Peruzzo; A. Pesce; N. Pilan; R. Piovan; N. Pomaro; M. Recchia; W. Rigato; A. Rizzolo; G. Serianni; M. Spolaore; P. Spolaore; S. Sandri; C. Taliercio; V. Toigo; <b>M. Valisa</b> ; Veltri; P. Zaccaria; A. Zamengo; L. Zanutto	Fusion Engineering and Design 84 (2009) 269–274	
15	The Greenwald density limit in the Reverse Field Pinch	M. Valisa; et al	Proc. of 20th IAEA Fusion Energy Conf. Villamoura , 2004 ISBN 92-0-100405-2	

## Annex 2 List of the last three years publications (2019-2021)

First principle-based multi-channel integrated modelling in support to the design of the Divertor Tokamak Test facility	Casiraghi I.; Mantica P.; Koechl F.; Ambrosino R.; Baiocchi B.; Castaldo A.; Citrin J.; Dicorato M.; Frassinetti L.; Mariani A.; Vincenzi P.; Agostinetti P.; Aucone L.; Balbinot L.; Ceccuzzi S.; Figini L.; Granucci G.; Innocente P.; Johnson T.; Nystrom H.; Valisa M.	Nuclear fusion
Functional Analysis for the diagnostic systems to support the exploitation of the Divertor Tokamak Test facility	Tenaglia G.; Romanelli F.; La Rovere S.; Polli G.M.; Gabellieri L.; Valisa M.	Fusion engineering and design
The role of 3D fields on runaway electron mitigation in ASDEX Upgrade: a numerical test particle approach	Gobbin M.; Marrelli L.; Valisa M.; Li L.; Liu Y.Q.; Papp G.; Pautasso G.; McCarthy P.J.; the ASDEX Upgrade Team; the EUROfusion MST1 Team	Nuclear fusion
Predictive multi-channel flux-driven modelling to optimise ICRH tungsten control and fusion performance in JET	Casson F.J.; Patten H.; Bourdelle C.; Breton S.; Citrin J.; Koechl F.; Sertoli M.; Angioni C.; Baranov Y.; Bilato R.; Belli E.A.; Challis C.D.; Corrigan G.; Czarnecka A.; Ficker O.; Frassinetti L.; Garzotti L.; Goniche M.; Graves J.P.; Johnson T.; Kirov K.; Knight P.; Lerche E.; Mantsinen M.; Mylnar J.; Valisa M.; JET contributors	Nuclear fusion Agency.
Status and Perspectives of a Reversed Field Pinch as a Pilot Neutron Source	Piovan Roberto; Agostinetti Piero; Bustreo Chiara; Cavazzana Roberto; Escande Dominique; Gaio Elena; Lunardon Francesco; Maistrello Alberto; Puiatti Maria Ester; Valisa Marco; Zollino Giuseppe; Zuin Matteo	IEEE transactions on plasma science
Advances in the physics studies for the JT-60SA tokamak exploitation and research plan	Giruzzi, G. et al.	Plasma physics and controlled fusion
Analysis of metallic impurity content by means of VUV and SXR diagnostics in hybrid discharges with hot-spots on the JET-ITER-like wall poloidal limiter	Czarnecka, A.; Krawczyk, N.; Jacquet, P.; Lerche, E.; Bobkov, V.; Challis, C.; Frigione, D.; Graves, J.; Lawson, K. D.; Mantsinen, M. J.; Meneses, L.; Pawelec, E.; Pütterich, T.; Sertoli, M.; Valisa, M.; Van Eester, D.	Plasma physics and controlled fusion
Overview of physics studies on ASDEX Upgrade	Meyer H. et al.	Nuclear fusion
Overview of the FTU results	Pucella G M. et al.	Nuclear fusion
Overview of the JET preparation for deuterium-tritium operation with the ITER like-wall	Joffrin, E. et al.	Nuclear fusion
Physics research on the TCV tokamak facility: from conventional to alternative scenarios and beyond	Coda, S. et al.	Nuclear fusion
RFP based Fusion-Fission Hybrid reactor model for nuclear applications	Bustreo, C.; Agostinetti, P.; Bettini, P.; Casagrande, R.; Cavazzana, R.; Escande, D.; Osipenko, M.; Panza, F.; Piovan, R.; Puiatti, M. E.; Ricco, G.; Ripani, M.; Valisa, M.; Zollino, G.; Zuin, M.	Fusion engineering and design

Role of Italian DTT in the power exhaust implementation strategy	Mazzitelli G.; Albanese R.; Crisanti F.; Martin P.; Pizzuto A.; Tuccillo A.A.; Ambrosino R.; Appi A.; Di Gironimo G.; Di Zenobio A.; Frattolillo A.; Granucci G.; Innocente P.; Lampasi A.; Martone R.; Polli G.M.; Ramogida G.; Rossi P.; Sandri S.; Valisa M.; Villari R.; Vitale V.	Fusion engineering and design
Runaway electron imaging spectrometry (REIS) system	Causa, F.; Gospodarczyk, M.; Buratti, P.; Carnevale, D.; De Angelis, R.; Esposito, B.; Grosso, A.; Maddaluno, G.; Martin-Solis, J. R.; Piergotti, V.; Popovic, Z.; Rocchi, G.; Sibio, A.; Sozzi, C.; Tilia, B.; Valisa, M.; FTU Team	Review of scientific
Status, scientific results and technical improvements of the NBH on TCV tokamak	Vallar, M.; Karpushov, A. N.; Agostini, M.; Bolzonella, T.; Coda, S.; Duval, B. P.; Fasoli, A.; Galperti, C.; Garcia, J.; Geiger, B.; Goodman, T. P.; Jacquier, R.; Labit, B.; Maurizio, R.; Pimazzoni, A.; Piron, C.; Serianni, G.; Testa, D.; Valisa, M.; Veltri, P.; Vianello, N.	Fusion engineering and design