

Curriculum Vitae

Personal information

First name(s) / Surname(s)

Alessandro CARDINALI

Address(es)

Telephone(s)

Fax(es)

E-mail

E-mail

E-mail

E-mail

Nationality

Date of birth

Gender

Work experience

Dates

From January 2020 to present

Occupation or position held

Dirigente di Ricerca

Main activities and responsibilities

Affiliato ad ente di Ricerca

Name and address of employer

Istituto Nazionale di Astrofisica, Via del Fosso del Cavaliere 100, 00133 ROMA

Department

Istituto di Astrofisica e Planetologia Spaziali (IAPS)

Type of business or sector

Research

Dates

From February 2020 to present

Occupation or position held

Dirigente di Ricerca

Main activities and responsibilities

Affiliato ad ente di Ricerca

Name and address of employer

Consiglio Nazionale delle Ricerche c/o Politecnico di Torino

Department

Istituto Sistemi Complessi

Type of business or sector

Research

Dates

From 3rd February 2023 to present

Occupation or position held

Cultore della Materia

Main activities and responsibilities

Affiliato ad Università

Name and address of employer

Università Sapienza Facoltà Ingegneria Civile ed Industriale

Department

Ingegneria Astronautica Elettrica e Energetica (DIAE)

Type of business or sector

Research

Dates

From 1st July 2023 to present

Occupation or position held

Dirigente di Ricerca Quiescente

Main activities and responsibilities

Affiliato ad ente di Ricerca

Name and address of employer

INFN Laboratori Nazionali del Sud (LNS)

Department

Divisione Acceleratori

Type of business or sector

Research

Dates	From January 1991 to present
Occupation or position held	Dirigente di Ricerca
Main activities and responsibilities	Affiliato ad ente di Ricerca
Name and address of employer	Istituto Nazionale di Alta Matematica "Francesco Severi" - Piazzale Aldo Moro, 5- Roma
Department	Gruppo Nazionale per la Fisica Matematica
Type of business or sector	Research

Dates	From July 1983 to October 2022
Occupation or position held	Dirigente di Ricerca (Director of Research)
Main activities and responsibilities	Research activities in theory of Laboratory Plasma.
Name and address of employer	ENEA Agenzia Nazionale per le nuove tecnologie, l'energia e lo sviluppo económico sostenibile – Lungotevere Thaon di Revel, 76- Roma
Type of business or sector	Research

Dates	From November 1982 to July 1983
Occupation or position held	Scientific Consultant
Main activities and responsibilities	Numerical Calculations of the propagation and absorption of the Lower Hybrid in the Heating and current drive Experiment on FT & FTU.
Name and address of employer	ENEA Agenzia Nazionale per le nuove tecnologie, l'energia e lo sviluppo económico sostenibile – Lungotevere Thaon di Revel, 76- Roma
Type of business or sector	Research

Dates	From November 1979 to July 1983
Occupation or position held	Postdoctoral Researcher
Main activities and responsibilities	Theory studies and mathematical models concerning the propagation and absorption of electromagnetic waves in thermonuclear plasmas and tokamak devices.
Name and address of employer	Centre d'Etude Atomique (CEA) – Grenoble (France)
Type of business or sector	Research

Dates	From March 1979 to November 1979
Occupation or position held	Technical-Scientific Employee
Main activities and responsibilities	Informatization of database for public and private administration activities in mainframe computers
Name and address of employer	Honeywell Information System Italy- Milan
Type of business or sector	Informatics

Dates	From October 1978 to March 1979
Occupation or position held	Teacher of Mathematics and Physics in a high school
Main activities and responsibilities	Teaching
Name and address of employer	Italian Ministry of Education
Type of business or sector	Education

Education and training

Dates	November 1980 – July 1983
Title of qualification awarded	Fellowship
Name and type of organisation providing education and training	Institut National Polytechnique de Grenoble (INPG)- Grenoble- France
Principal subjects/occupational skills covered	"Eikonal description of HF waves in Toroidal Plasmas"

Dates **November 1974 – October 1978**

Title of qualification awarded Laurea in Fisica (Vecchio ordinamento) with note 109/110

Principal subjects/occupational skills covered Tesi di Laurea: “Modi di conversione e assorbimento di onde elettromagnetiche in regime di Lower Hybrid in un plasma toroidale con gradiente di campo magnetico”

Name and type of organisation providing education and training Università di Milano- Via Festa del Perdono, 7- Milano

Dates **October 1969 –July 1974**

Title of qualification awarded Diploma Liceo Scientifico with note 60/60

Name and type of organisation providing education and training Liceo Scientifico “Luca da Penne” Penne (Pescara) Italy

Personal skills and competences

Mother tongue(s) **Italian**

Other language(s) **Spanish, English, French, German**

Self-assessment

European level ()*

Spanish

English

French

German

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
	good		good		Fair		Fair		Fair
	Excellent		Excellent		Excellent		Excellent		Excellent
	Excellent		Excellent		Excellent		Excellent		Excellent
	Fair		Good		Fair		Fair		Fair

(*) *Common European Framework of Reference for Languages*

Skills and competences

- During his scientific activity he has published as author/co-author **132 articles in peer-reviewed Journals; 360 articles in Conference Proceedings; 12 Technical Reports:**
- From Google Scholar, **Citations 3805, H-index 32, i10-index 87,**
- From Web of Science (Clarivate): **Citations 8859, H-index 41,**
- From Scopus: **Citations 3516, H-index 30,**
- He has been invited speaker in several Plasma Physics Conference including the "Italian Physical Society (SIF), the "European Fusion Theory Conference (EFTC)", The "Joint Varenna-Lausanne International Workshop (Theory of Fusion Plasmas)"; IAEA Technical Meetings, The Topical Conference of RF Power in Plasmas (RFPPC).
- He has been visiting researcher in the following University and research center: i) Max Planck Institute fur Plasmaphysik, Germany; ii) Ecole Polytechnique de Lausanne, Switzerland; iii) Princeton Plasma Physics Laboratory, USA; iv) Hydro-Quebecq, Varenne (Montreal), Canada; v) UKAEA-CCFE Joint European Torus, Culham, UK.
- He has addressed for several seminars and lectures in Italian and foreign laboratories & University. He is official referee-evaluation for the Italian Ministry of Research (Reprise). Referee of several International Scientific Journals. He is member of the Italian Physical Society (SIF) and American Physical Society (APS), and fellow of the GNFM (INDAM). He participated like expert in several Italian and foreign Scientific Projects.

The papers production ranges from

- Linear propagation and absorption of electromagnetic waves in plasmas in frequency domain of a) Lower Hybrid; b) Electron Cyclotron; c) Ion Cyclotron; d) Ion Bernstein Waves
- Non-linear phenomena in wave propagation: Parametric Decay Instability
- Vlasov and Fokker-Planck equations (numerical codes)
- Laser-Plasma Interaction
- Plasma Propulsion (satellite application)
- Astrophysical Plasmas and Thermonuclear Instabilities
- Asymptotic analysis in solution of Hyperbolic Partial Differential Equations
- Hamiltonian Chaos
- Numerical Solution of Differential Equations for wave propagation (Helmholtz type Equations)
- Fractional Calculus

Organisational skills and competences

During his career he has followed and organized the work of several students for thesis (Laurea Magistrale) and PhD from faculty of Physics (Rome University Sapienza, Rome 3 University, Bologna University, Pisa University, Catania University); of Mathematics (Rome University Sapienza); of Electronic & Electric Engineering (Padua University, Rome 3 University). He has organized the European Fusion Theory Conference in Frascati October 2011. He has been member of the board of the European Fusion Theory Conference from 2012 until 2018.

Computer skills and competences

Programming languages (Fortran 90 & MATLAB). Operative systems: UNIX, MAC OS X. Software applications: MS Word, MS Excel, FTP client, Acrobat Reader, SSH client.

Other skills and competences

He cultivates on a regular basis Opera and Classical Music. He has studied at the University level Philosophy (Milan University) and German Language and Literature (Goethe-Institute Rome).

Additional information

He has collaborated and he is collaborating with the following distinguish scientist

- **Prof. Bruno Coppi** (Emeritus MIT professor), MIT Boston USA
- **Prof. Francesco Romanelli** (former EFDA (European Fusion Development Agreement) leader and former director for JET (Joint European Torus), actual President of DTT consortium) University of Tor Vergata, Rome Italy
- **Prof. S. Y. Dobrokhoto** (Director of the Laboratory for the Mechanics of Natural Hazards) Ishlinsky Institute for Problems in Mechanics, Russian Academy of Science, Moscow Russia.
- **Dr. Stefano Bernabei** (former director of PLT tokamak) Princeton University USA
- **Dr. Marco Brambilla** (former EURATOM Official of the European Commission), Max-Planck Institut fuer Plasma-Physik, Garching (Muenchen), Germany

Annexes

A complete list of publications (articles in peer-reviewed Journal; articles in Conference Proceedings; and Technical Reports) is added to the CV.

Il sottoscritto Alessandro Cardinali autorizza il trattamento dei dati personali riportati nel presente curriculum vitae, ai sensi del D.L. 101/2018 e dell'art. 13 GDPR (Regolamento UE 2016/679).

Il sottoscritto Alessandro Cardinali consapevole delle sanzioni penali previste dall'art. 76 del D.P.R. 28 dicembre 2000, n° 445 nelle ipotesi di falsità in atti e dichiarazioni mendaci, dichiara che le informazioni riportate nel presente curriculum vitae redatto in formato europeo corrispondono a verità

Frascati 06/05/2024

In fede

Alessandro Cardinali