Beneficiaries staff to be seconded to the NBTF project team in Padova

Vacancy 1: NBTF thermo-mechanical design, verifications and procurement

Job Description

As a member of the ITER Neutral Beam Test Facility team, under the authority of the NBTF Program Manager, the job holder will be in charge of the management of thermo-mechanical verifications of NBTF components, related to procurement-based design change proposals or alternative configuration studies suggested by the experimental results on operating facilities. He/she will contribute under the direct supervision of the NBTF Project Leader for the Thermo-Mechanical area and/or the responsible of the specific system under scrutiny. He/she will also assess the design implications of the executed verifications, contributing to the possible redesign of the component.

The job will be based in Padova, Italy.

Working language will be English

Functions/ Responsibilities

- To execute the necessary thermo-mechanical analyses for the assessment of alternative design proposed, either during a procurement or in the framework of a design study or revision
- To contribute to the redesign and review of the involved component, should any, up to the definition of technical specification for procurement of new parts, and following up suppliers and installation works
- To specify R&D needs, should any, and control and integrate results into the design
- To contribute to the follow-up of the procurements for which alternative design is under scrutiny
- To implement quality and engineering management processes related to the systems within his/her contribution, in particular: propagation of requirements, verification & validation, engineering management, interfaces management, configuration control, etc.
- To participate to SPIDER and MITICA operations as engineer on shift during experimental sessions
- To maintain a strong commitment to the implementation and perpetuation of the health and safety, values and ethics

Qualifications and experience

- At least a Master degree in Nuclear or Mechanical or Engineering
- Some years of experience in engineering projects and/or in the field of engineering of high technology and in high precision systems

Knowledge, skills and abilities

- Good knowledge of at least one of the following design and construction codes/standards: RCC-MR(x), ASME Section III or VIII, EN-13445; EN-13480
- Good capability of using ANSYS,in particular thermo-mechanical verifications of complex parts
- Knowledge of CATIA is an advantage
- Knowledge of pressure equipment regulations and of high temperature systems design is an advantage
- Good knowledge of vacuum technology is an advantage
- Knowledge of Project Management processes is an advantage
- Good organisational, interpersonal and communication skills; ability to work in a team

Date of vacancy: **January 1, 2026**
Contact: **Diego Marcuzzi** ***diego.marcuzzi@igi.cnr.it***

Beneficiaries staff to be seconded to the NBTF project team in Padova

Vacancy 2: Engineer for the NBTF Cryogenics

Job Description

As a member of the Neutral Beam Test Facility (NBTF) team, under the authority of the NBTF Project Manager, the job holder will contribute to the management of the NBTF cryogenic system, in particular he/she will support the operations, monitoring and management of the MITICA Cryogenic System composed by the Cryogenic plant and two Cryogenic Pumps.

After thorough training about the MITICA Cryogenic Plant and MITICA Cryopumps, he/she will be part of the Team in charge for operating, monitoring and tuning the plant during MITICA operations and Cryopumps regeneration, taking care of the necessary maintenance activities, identifying any possible problem and proposing proper solutions and actions for troubleshooting.

Specific tasks and responsibilities will be assigned by the Thermo-Mechanical Project Leader according to the commissioning/experimental phase and current needs and commensurate to experience and competences. Work will be coordinated by the Thermo-Mechanical Project Leader and will be done in close collaboration with other functions in the project team, particularly the Host Manager, the CODAS Project Leader and the MITICA Gas Injection and Vacuum system engineer in charge.

The job will be based in Padova, Italy.

Working language will be English.

Functions/ Responsibilities

- Support the management, monitoring, tuning and optimization during commissioning and operation of the MITICA Cryogenic System
- Participate to MITICA operations as engineer on shift for the Cryogenic System during experimental sessions
- Update the technical documentation of MITICA Cryogenic System according to envisaged optimizations
- Maintain a strong commitment to the implementation and perpetuation of the health and safety, values and ethics

Qualifications and experience

- At least a Master degree in Industrial Engineering (Cryogenic, Nuclear, Mechanical, Energy or Chemical engineering)

Knowledge, skills and abilities

- Consolidated experience in the field of cryogenic plants operations and monitoring is an advantage
- Good knowledge of vacuum technology is an advantage
- Good knowledge of pressure equipment regulations and of cryogenic systems design is an advantage
- Good knowledge of cryogenic codes for plant simulations is an advantage
- Good organisational, interpersonal and communication skills; ability to work in a team and to promote team spirit

Date of vacancy: **January 1, 2026**
Contact: **Diego Marcuzzi** ***diego.marcuzzi@igi.cnr.it***

Beneficiaries staff to be seconded to the NBTF project team in Padova

Vacancy 3: Physicist/Engineer for the NBTF Diagnostics

Job Description

As a member of the Neutral Beam Test Facility (NBTF) team, under the authority of the NBTF Project Manager, the job holder will contribute to the integration, commissioning, operation and data analysis of one or more NBTF diagnostics (thermal sensors, electrostatic probes, passive and active spectroscopy, infrared thermography, beam imaging & tomography, neutron imaging). Specific tasks and responsibilities will be assigned by the Diagnostics Project Leader according to the experimental phase and current needs and commensurate to experience and competences. Work will be coordinated by the interested Diagnostic Responsible Officers and will be done in close collaboration with other functions in the project team, particularly the Host Manager, the CODAS Project Leader and the Leader of Source Physics and Experiments.

The job will be based in Padova, Italy.

Working language will be English.

Functions/ Responsibilities

- Contribute to the final development phase of SPIDER diagnostics, particularly integration and commissioning
- Contribute to the development, installation, integration and commissioning of MITICA diagnostics
- Develop data visualization and analysis tools and contribute to exploitation of diagnostic capabilities
- Participate in the NBTF experimental campaigns, including shifts
- Take responsibilities of specific subsystems or research topics, as assigned by the Diagnostic Project Leader
- Maintain a strong commitment to the implementation and perpetuation of the health and safety, values and ethics

Qualifications and experience

- At least a Master degree in Physics or Engineering
- At least 2 year experience in plasma or particle beam diagnostics

Knowledge, skills and abilities

- Good knowledge of at least one plasma or beam diagnostic technique, among those used in NBTF
- Good knowledge of programming languages: IDL, Python, LabView and good programming capabilities
- Experience on electrical signal optimization in severe EMI environment is an advantage
- Experience in electrical or optical diagnostics applied to low temperature plasma is an advantage
- Experience on beam diagnostics is an advantage
- Flexibility to adapt to different research tasks according to the experimental needs
- Good organisational, interpersonal and communication skills; ability to work in a team and to promote team spirit

Date of vacancy: **January 1, 2026**
Contact: **Diego Marcuzzi** ***diego.marcuzzi@igi.cnr.it***

Beneficiaries staff to be seconded to the NBTF project team in Padova

Vacancy 4: Automation Engineer for the NBTF I&C Systems

Job Description

As a member of the Neutral Beam Test Facility (NBTF) team, under the authority of the NBTF Project Manager, the job holder will be in charge of the integration, testing, operation, and documentation of I&C (Instrumentation and Control) systems. He/she will execute project and system engineering management processes in his/her area of responsibility in close collaboration with other functions in the project team (Host Manager, Control and Data Acquisition Project Leader, Plant System Responsible Officers).

The job will be based in Padova, Italy.

Working language will be English.

Functions/ Responsibilities

- To specify requirements and needs for the integration of plant system I&C with central system I&C
- To prepare test plans and reports to integrate plant system with central I&C
- To manage test and commissioning campaigns
- To implement System Engineering Management processes, in particular: propagation of requirements, verification & validation, engineering management, interfaces management, configuration control, etc.
- To participate in the NBTF experimental campaigns, including shifts
- To collaborate with integrated support provided by NBTF team
- To maintain a strong commitment to the implementation and perpetuation of the health and safety, values and ethics

Qualifications and experience

- At least a Master degree in Automation or Control Systems or Electronic or Software Engineering or Physics
- Some years of experience in engineering projects
- Among which a minimum of 1 years of experience in the field of Instrumentation and Control systems

Knowledge, skills and abilities

- Good knowledge of at least one of the following technologies: PLC hardware/software, programming languages and tools; Java, C or C++ programming languages; Commercial or collaborative SCADA systems; communication protocols TCP/IP, UDP, fieldbuses, OPC/OPC-UA, others; Functional safety of electrical/electronic/programmable electronic safety-related systems
- Good organizational, interpersonal and communication skills; ability to work in a team and to promote team spirit
- Experience in the field of ITER CODAC Core System and ITER Plant System design practices and/or ITER design review procedure is an advantage
- Experience in experimental data acquisition systems and/or real-time control frameworks is an advantage

Date of vacancy: **January 1, 2026**
Contact: **Diego Marcuzzi** ***diego.marcuzzi@igi.cnr.it***

Beneficiaries staff to be seconded to the NBTF project team in Padova

Vacancy 5 : Control Engineer for the NBTF I&C Systems

Job Description

As a member of the Neutral Beam Test Facility (NBTF) team, under the authority of the NBTF Project Manager, the job holder will be in charge of the integration, testing, operation, and documentation of I&C (Instrumentation and Control) and diagnostic systems. He/she will execute project and system engineering management processes in his/her area of responsibility in close collaboration with other functions in the project team (Host Manager, Control and Data Acquisition Project Leader, Plant System Responsible Officers).

The job will be based in Padova, Italy.

Working language will be English.

Functions/ Responsibilities

- To specify requirements and needs for the integration of plant system and diagnostic I&C with central system I&C
- To prepare test plans and reports to integrate plant system/diagnostic with central I&C
- To manage test and commissioning campaigns
- To implement System Engineering Management processes, in particular: propagation of requirements, verification & validation, engineering management, interfaces management, configuration control, etc.
- To participate in the NBTF experimental campaigns, including shifts
- To maintain a strong commitment to the implementation and perpetuation of the health and safety, values and ethics

Qualifications and experience

- At least a Master degree in Automation or Control Systems or Electronic or Software Engineering or Physics
- Some years of experience in engineering or fusion diagnostics projects
- Among which a minimum of 1 year of experience in the field of Instrumentation and Control systems

Knowledge, skills and abilities

- Good knowledge of at least one of the following technologies: Linux Operating System; data acquisition hardware and programming tools; Java or C++ or Python programming languages; FPGA design, testing, programming languages
- Good organisational, interpersonal and communication skills; ability to work in a team and to promote team spirit
- Experience in the field of ITER CODAC Core System or ITER Plant System design practices or ITER design review procedure is an advantage
- Experience in experimental data acquisition systems and/or real-time control frameworks is an advantage

Date of vacancy: **January 1, 2026**
Contact: **Diego Marcuzzi** *diego.marcuzzi@igi.cnr.it*

Beneficiaries staff to be seconded to the NBTF project team in Padova

Vacancy 6 : Support for operations, management, monitoring and verifications of NBTF Cooling System

Job Description

As a member of the ITER Neutral Beam Test Facility team, under the authority of the NBTF Program Manager, the job holder will support the operations, management, monitoring and verifications of the NBTF Cooling System composed by the Cooling Plant and the actively cooled components and auxiliary plants. The plant has the function of keeping at specified temperature levels the actively cooled components and auxiliary plants for SPIDER and MITICA experiments, with a maximum exhausted power of about 70 MW.

After specific training about the Cooling Plant for NBTF, he/she will be part of the Team in charge for operating and monitoring the plant during SPIDER and MITICA operations, following the necessary maintenance activities, identifying any possible problem and proposing proper solutions and actions for troubleshooting.

The job will be based in Padova, Italy.

Working language will be English.

Functions/ Responsibilities

- To support the management, monitoring, tuning and optimization of the NBTF Cooling Plant
- To participate to SPIDER and MITICA operations as engineer on shift for NBTF Cooling Plant during experimental sessions
- To acquire and analyse the calorimetric measurements during operations
- Starting from the monitoring of the plant, to contribute to verification analyses of the actively cooled experimental components and auxiliary systems, aiming to assess the energy balance under different experimental configurations
- To update the technical documentation of NBTF Cooling Pant according to envisaged changes and optimizations
- To maintain a strong commitment to the implementation and perpetuation of the health and safety, values and ethics

Qualifications and experience

- At least a Master degree in Industrial Engineering (Nuclear, Energy, Chemical or Mechanical Engineering)
- Some years of experience in engineering projects and/or in plant engineering

Knowledge, skills and abilities

- Experience in the field of plants operations and monitoring is an advantage
- Good knowledge of thermo-hydraulic technology is an advantage
- Knowledge of pressure equipment regulations and of high temperature systems design is an advantage
- Knowledge and/or experience on the water chemistry and compatibility with other materials is an advantage
- Knowledge of thermo-hydraulic codes as Relap or FlowMaster is an advantage
- Good organisational, interpersonal and communication skills; ability to work in a team and to promote team spirit

Date of vacancy: **January 1, 2026**
Contact: **Diego Marcuzzi** *diego.marcuzzi@igi.cnr.it*

Beneficiaries staff to be seconded to the NBTF project team in Padova

Vacancy 7 : High Voltage Engineer for the NBTF

Job Description

As a member of the Neutral Beam Test Facility team, under the authority of the NBTF Project Manager, the job holder will participate to the installation, commissioning, troubleshooting, maintenance, modifications and operation of the power supply systems of the NBTF in Padova. The main features of this system are:

- high power, switching power converters, with very fast control performances and a total rated power of about 100 MVA
- high voltage dc components both air and SF_6 gas insulated, with voltage as high as 1MV dc and power of tens of MWs
- complex electrical power distribution configuration
- challenging Electro-Magnetic environments
- challenging layout configuration

The job will be based in Padova, Italy.

Working language will be English.

Functions/ Responsibilities

- Is involved in the installation, commissioning, troubleshooting and operation of the NBTF power supply systems, with particular focus on air and gas insulated high voltage components, to ensure that all components of belonging this system will operate according to the requirements, including the system and layout integration aspects and the interfaces with other NBTF systems
- Performs the transient and steady state analysis of the electrical circuits of the system to verify the design solutions and the performances
- Manages the interfaces of the high voltage components, including cooling system, gas handling system and control system
- Maintains a strong commitment to the implementation and perpetuation of the health and safety, values and ethics
- To participate in the NBTF test and experimental campaigns, including shifts

Qualifications and experience

- At least a Master Degree in the electrical or power electronic engineering field or other relevant discipline
- Some years of experience in design, installation and tests of high voltage electrical components insulated in air or in gas

Knowledge, skills and abilities

- Good knowledge of international electrical standards
- Good knowledge high voltage insulated systems
- Good knowledge of the electrical circuit transient analysis
- Good knowledge international standards for high voltage and insulating gas (SF_6) is an advantage
- Experience in the design and installation of power supply systems for neutral beam systems is an advantage
- Good organisational, interpersonal and communication skills; ability to work in a team and to promote team spirit

Date of vacancy: **January 1, 2026**
Contact: **Diego Marcuzzi** *diego.marcuzzi@igi.cnr.it*

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Beneficiaries staff to be seconded to the NBTF project team in Padova

Vacancy 8 : Power Supply Engineer for the NBTF

Job Description

As a member of the Neutral Beam Test Facility team, under the authority of the NBTF Project Manager, the job holder will participate to the installation, commissioning, troubleshooting, maintenance, modifications and operation of the power supply systems of the NBTF in Padova. The main features of this system are:

- high power, switching power converters, with very fast control performances and a total rated power of about 100 MVA;
- high voltage dc components both air and SF_6 gas insulated, with voltage as high as 1MV dc and power of tens of MWs;
- complex electrical power distribution configuration;
- challenging Electro-Magnetic environments;
- challenging layout configuration.

The job will be based in Padova, Italy.

Working language will be English.

Functions/ Responsibilities

- Is involved in the installation, commissioning, troubleshooting and operation of the NBTF power supply systems, with particular focus on power conversion equipment and ac power distribution, to ensure that all components of belonging this system will operate according to the requirements, including the system and layout integration aspects and the interfaces with other NBTF systems
- Performs the transient and steady state analysis of the electrical circuits of the system to verify the design solutions and the performances
- Maintains a strong commitment to the implementation and perpetuation of the health and safety, values and ethics
- To participate in the NBTF test and experimental campaigns, including shifts

Qualifications and experience

- At least a Master Degree in the power electronic engineering field or other relevant discipline
- Some years of experience in design, installation and tests of complex electrical power conversion systems

Knowledge, skills and abilities

- Good knowledge of international electrical standards
- Good experience in managing design, construction, installation and testing of switching power supply and thyristor based power supply systems, comparable with those of the NBTF
- Good knowledge of the electrical circuit transient analysis
- Good knowledge of International Electrotechnical Commission standards for switching power conversion system is an advantage
- Experience in the design and installation of power conversion system for neutral beam systems is an advantage
- Good organisational, interpersonal and communication skills; ability to work in a team and to promote team spirit

Date of vacancy: **January 1, 2026**
Contact: **Diego Marcuzzi** *diego.marcuzzi@igi.cnr.it*

Beneficiaries staff to be seconded to the NBTF project team in Padova

Vacancy 9 : Experimental Officer for Beam Sources

Job Description

As a member of the Neutral Beam Test Facility (NBTF) team, under the authority of the NBTF Project Manager, the job holder will design, prepare, perform and summarise specific experimental campaigns in the SPIDER and MITICA test facilities. The Leader of Source Physics and Experiments, according to the experimental phase and to the current needs, will assign specific tasks and responsibilities commensurate to experience and expertise. The job holder will execute her/his work in close collaboration with other members of the NBTF team and will follow the indications of the responsible officers (like Host Manager, Diagnostics Project Leader, Engineers in Charge).
The job will be based in Padova, Italy.
Working language will be English.

Functions/ Responsibilities

- To participate in the operation of caesiated negative ion beam sources
- To contribute to the experimental plan of SPIDER and MITICA, by identifying the intermediate steps for their optimisation in view of the ITER NBI
- For each experimental campaign in her/his task of responsibility, to identify main and secondary aims of the experimental campaigns, sequence of operation, experiment configuration (status of plants and diagnostics)
- To perform the experimental campaigns in her/his task of responsibility and to provide regular and accurate reports, analyses and evaluations of the results
- To participate in the NBTF test and experimental campaigns also in the NBTF satellite test beds, including shifts
- To maintain a strong commitment to the implementation and perpetuation of the health and safety, values and ethics

Qualifications and experience

- At least a Master degree in Physics, Chemistry or Engineering a PhD diploma will be a plus
- Some years of experience with ion sources and/or beam injectors

Knowledge, skills and abilities

- Good working knowledge of Python, or MATLAB or IDL or similar software for data analysis
- Knowledge of the various components and diagnostics of beams or beam sources
- Good organisational, interpersonal and communication skills; ability to work in a team and to promote team spirit
- Experience in the field of hydrogen plasma spectroscopy or plasma diagnostics or beam diagnostics is an advantage
- Experience in the field of plasma simulation or beam simulation is an advantage
- Experience in operating caesiated negative hydrogen-like sources is an advantage

Date of vacancy:	**January 1, 2026**	
Contact:	**Diego Marcuzzi**	*diego.marcuzzi@igi.cnr.it*

Beneficiaries staff to be seconded to the NBTF project team in Padova

Vacancy 10: Experimental and Modelling Officer for low-pressure RF plasmas

Job Description

As a member of the Neutral Beam Test Facility (NBTF) team, under the authority of the NBTF Project Manager, the job holder will model and operate low-pressure RF plasmas for the SPIDER and MITICA test facilities. The Leader of Source Physics and Experiments, according to the experimental phase and to the current needs, will assign specific tasks and responsibilities commensurate to experience and expertise. The job holder will execute her/his work in close collaboration with other members of the NBTF team and will follow the indications of the responsible officers (like Host Manager, Diagnostics Project Leader, Engineers in Charge).

The job will be based in Padova, Italy.

Working language will be English.

Functions/ Responsibilities

- To contribute to the operation and the improvement of RF plasma discharges
- To interpret the features of RF plasmas by numerical modelling
- To develop and use modelling to support the interpretation of experimental measurements for SPIDER and MITICA
- To investigate the interaction of RF with plasmas
- To contribute to the experimental plan of SPIDER and MITICA, by identifying the intermediate steps for their optimisation in view of the ITER NBI
- For each experimental campaign in her/his task of responsibility, to identify main and secondary aims of the campaigns, sequence of operation, experiment configuration (status of plants and diagnostics)
- To perform the experimental campaigns in her/his task of responsibility and to provide regular and accurate reports, analyses and evaluation of the results
- To participate in the NBTF test and experimental campaigns also in the NBTF satellite test beds, including shifts
- To maintain a strong commitment to the implementation and perpetuation of the health and safety, values and ethics

Qualifications and experience

- At least a Master degree in Physics, Chemistry or Engineering a PhD diploma will be a plus
- Some years of experience with operation and/or modelling of RF plasmas

Knowledge, skills and abilities

- Good working knowledge of Python, or MATLAB or IDL or similar software for data analysis
- Good organisational, interpersonal and communication skills; ability to work in a team and to promote team spirit
- Good knowledge of the programming languages C/C++ and/or FORTRAN is an advantage
- Experience in the field of hydrogen plasmas is an advantage
- Experience in the field of hydrogen spectroscopy is an advantage
- Experience in the field of plasma diagnostics is an advantage

Date of vacancy: **January 1, 2026**
Contact: **Diego Marcuzzi** *diego.marcuzzi@igi.cnr.it*

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Beneficiaries staff to be seconded to the NBTF project team in Padova

Vacancy 11: Modelling and Experimental Officer for Hydrogen Plasmas and Beams

Job Description

As a member of the Neutral Beam Test Facility (NBTF) team, under the authority of the NBTF Project Manager, the job holder will model non-thermodynamic equilibrium hydrogen plasmas and will design, prepare, perform and summarise specific experimental campaigns for the SPIDER and MITICA test facilities. The Leader of Source Physics and Experiments, according to the experimental phase and to the current needs, will assign specific tasks and responsibilities commensurate to experience and expertise. The job holder will execute her/his work in close collaboration with other members of the NBTF team and will follow the indications of the responsible officers (like Host Manager, Diagnostics Project Leader, Engineers in Charge).

The job will be based in Padova, Italy.

Working language will be English.

Functions/ Responsibilities

- To investigate caesiated negative hydrogen-like sources by kinetic modelling
- To interpret experimental findings and support the analysis of diagnostic measurements
- To participate in the operation of caesiated negative ion beam sources
- To contribute to the experimental plan of SPIDER and MITICA, by identifying the intermediate steps for their optimisation in view of the ITER NBI
- For each experimental campaign in her/his task of responsibility, to identify main and secondary aims of the campaigns, sequence of operation, experiment configuration (status of plants and diagnostics)
- To perform the experimental campaigns in her/his task of responsibility and to provide regular and accurate reports, analyses and evaluation of the results, also in the NBTF satellite test beds
- To maintain a strong commitment to the implementation and perpetuation of the health and safety, values and ethics

Qualifications and experience

- At least a Master degree in Physics, Chemistry or Engineering a PhD diploma will be a plus
- Some years of experience in at least one of the four fields indicated below:
    - in numerical modelling of particle beam extraction and dynamics
    - in numerical modelling of low-pressure plasma discharges, by means of methods capable of obtaining the population states of molecules, atoms and ions
    - in computational techniques for parallelising and optimising numerical algorithms for solving large-scale kinetic or fluid problems
    - in operating beam sources and/or beam injectors

Knowledge, skills and abilities

- Good working knowledge of Python, or MATLAB or IDL or similar software for data analysis
- Good knowledge of the programming languages C/C++ and/or FORTRAN
- Good organisational, interpersonal and communication skills; ability to work in a team and to promote team spirit
- Experience of collisional-radiative modelling of hydrogen is an advantage
- Experience in the field of caesiated negative hydrogen-like sources and beams is an advantage

Date of vacancy: **January 1, 2026**
Contact: **Diego Marcuzzi** *diego.marcuzzi@igi.cnr.it*

Beneficiaries staff to be seconded to the NBTF project team in Padova

Vacancy 12: Experimental and Modelling Officer for the Surface Chemistry of the Generation of Negative Ions

Job Description

As a member of the Neutral Beam Test Facility (NBTF) team, under the authority of the NBTF Project Manager, the job holder will investigate the caesium effectiveness in surface-plasma sources for the generation of negative hydrogen-like ions. The Leader of Source Physics and Experiments, according to the experimental phase and to the current needs, will assign specific tasks and responsibilities commensurate to experience and expertise. The job holder will execute her/his work in close collaboration with other members of the NBTF team and will follow the indications of the responsible officers (like Host Manager, Diagnostics Project Leader, Engineers in Charge).

The job will be based in Padova, Italy.

Working language will be English.

Functions/ Responsibilities

- To investigate features and dynamics of molecular beams produced by caesium emission
- To study the interaction of particles with surfaces (adsorption, sputtering, evaporation, ionisation, …) especially in the case of caesiated converters in surface-plasma sources
- To apply surface analysis methods and preparation of caesiated samples
- To study the phenomenology of the generation of negative hydrogen-like ions
- To contribute to the experimental plan of SPIDER and MITICA, by identifying the intermediate steps for their optimisation in view of the ITER NBI
- For each experimental campaign in her/his task of responsibility, to identify main and secondary aims of the campaigns, sequence of operation, experiment configuration (status of plants and diagnostics)
- To perform the experimental campaigns in her/his task of responsibility and to provide regular and accurate reports, analyses and evaluation of the results, also in the NBTF satellite test beds
- To maintain a strong commitment to the implementation and perpetuation of the health and safety, values and ethics

Qualifications and experience

- At least a Master degree in Physics, Chemistry or Engineering a PhD diploma will be a plus
- Some years of experience in any of the following fields: investigation of molecular beams, interaction of particles with surfaces, surface analysis methods, preparation of treated samples, generation of negative hydrogen-like ions

Knowledge, skills and abilities

- Good working knowledge of Python, or MATLAB or IDL or similar software for data analysis
- Good organisational, interpersonal and communication skills; ability to work in a team and to promote team spirit
- Good knowledge of the programming languages C/C++ and/or FORTRAN is an advantage
- Experience in the field of caesium chemistry is an advantage
- Experience in the field of molecular dynamics is an advantage
- Experience in the field of caesium in hydrogen atmosphere is an advantage
- Experience in the field of alkali metal diagnostics is an advantage

Date of vacancy: **January 1, 2026**
Contact: **Diego Marcuzzi** *diego.marcuzzi@igi.cnr.it*