ViroiDoc – Advanced Research on Viroid Pathogenesis and Control for Agricultural Sustainability

MSCA Doctoral Network

Open Call for 10 PhD Positions

Guidelines for Applicants

www.viroidoc.eu

Funded by the European Union

Summary

Open Call for 10 Doctoral positions in the MSCA Doctoral Network

ViroiDoc - Advanced Research on Viroid Pathogenesis and Control for Agricultural Sustainability

This project is funded by the European Union (call HORIZON-MSCA-2023-DN-01-01).

The ViroiDoc Doctoral Network is seeking **10 highly motivated Doctoral Candidates (DC)** to join our research teams in France, Germany, Greece, Italy, Slovenia and Spain. Successful candidates will have the opportunity to participate in the **Marie Skłodowska-Curie Action (MSCA).**

Positions are available to candidates who hold a university degree (MSc or equivalent) in plant biology, genetics, cell biology, biology, bioinformatics, biochemistry, chemistry, or a related discipline, completed no later than the start of the PhD project. The successful candidate should have a strong interest in conducting collaborative research in international and cross-sectoral contexts.

Application deadline: 25 April 2025, 12:00 CET.

For more information, please visit www.viroidoc.eu.

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Date	Version	Changes
28/03/205	Corrigendum No.1	Guidelines for applicants are modified in Chapter 3.4. at Salary as follows: instead of €3,950.00 it shall read €3,038.74 per month, including social security contributions.
16/04/2025	Corrigendum No.1	Corrigenda to 3.6. in supervision for PhD as follows: instead of Supervisor: Purificación Lisón (UPV) and Kriton Kalantidis (UoC) it shall read Supervisor: Purificación Lisón (UPV). Corrigenda 3.9. to the link on the website for enrolment in the PhD program at the UoC.

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1 Project overview

ViroiDoc - *Advanced Research on Viroid Pathogenesis and Control for Agricultural Sustainability* is a doctoral network comprising academic institutions and industry partners from Slovenia, Italy, Spain, France, Greece, Germany, Switzerland, the Czech Republic, Poland, the United States, and Argentina. Collectively, these institutions offer exceptional interdisciplinary research and an innovative training environment for 10 doctoral students, equipping them with the expertise to advance their **careers in research, product and service development in agriculture, biotech, biosensors, and biomedicine**.

ViroiDoc is committed to comprehensively understanding and addressing the challenges posed by viroids in alignment with the European Green Deal and the Farm-to-Fork strategy for sustainable crop production and food security.

International, multidisciplinary and cross-sectoral ViroiDoc doctoral training program encompasses **different types of training** activities:

1) Individual Research Projects (IRP), including secondments,

2) ViroiDoc-specific training,

3) PhD programme and training provided by local doctoral schools.

ViroiDoc is a 4-year Marie Skłodowska-Curie Actions-Doctoral Network (HORIZON-MSCA-2023-DN-01-01) funded within the framework of the Horizon Europe Programme. The project started on the 1st of January 2025 and will last 48 months.

For more information, visit www.viroidoc.eu.

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ViroiDoc at a glance

ViroiDoc

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2 Open Call for 10 Doctoral positions in MSCA Doctoral Network "ViroiDoc"

ViroiDoc consortium is seeking **10 highly motivated Doctoral Candidates (DC)** to join our research laboratories in France, Germany, Greece, Italy, Slovenia and Spain. The successful candidates will participate in the **Marie Sklodowska-Curie Action (MSCA).**

The Doctoral Network ViroiDoc offers exciting projects on viroids, the smallest plant pathogens, and viroid-like RNAs that have only recently been discovered outside the plant kingdom. The programme includes secondments to partner laboratories or companies involved in plant breeding and plant protection located in Argentina, the Czech Republic, Germany, Poland and Spain.

Career development and international mobility of researchers is a key concept within the MSCA-DN framework. The ViroiDoc training program is international, multidisciplinary and cross-sectoral. The training program consists of individual research projects (IRP), training by local doctoral schools and specific ViroiDoc network-wide training in scientific, technical, digital, entrepreneurial and transferable skills. By exposure to an international environment and different industries you will build a valuable network of contacts, providing a solid foundation for future research collaborations and direct employment opportunities in both the academic and the non-academic sectors working in molecular biology, bioinformatics, or in product and service development in European agriculture and innovation development.

Open positions with Individual Research Projects (IRP)

Fellow researcher	Individual Research Projects	Host institution	PhD study enrolment
DC1 Slovenia	How Disrupting Viroid Biogenesis Impacts Viroid propagation	University of Ljubljana (UL) – Biotechnical Faculty	UL
DC2 Slovenia	Climate change impact on viroid diseases	Slovenian Institute of Hop Research and Brewing (IHPS) in cooperation with the University of Ljubljana (Biotechnical faculty)	UL
DC3 Slovenia	Development of a disposable, selective, and sensitive electrochemical sensor for on-site detection of plant viroids	National institute of chemistry (NIC) in cooperation with the University of Ljubljana (Faculty of Chemistry and Chemical Technology)	UL
DC4 France	In vivo imaging of viroid RNA and associated host factors	Centre National de la Recherche Scientifique (CNRS), Institut de biologie moléculaire des plantes (IBMP), affiliated with the University of Strasbourg (École doctorale des Sciences de la Vie et de la Santé)	UDS
DC5 Spain	Point-of-care viroid diagnosis based on CRISPR-Cas technologies	Spanish National Research Council (CSIC) in cooperation with the Valencia Polytechnic University (UPV)	UPV

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Fellow researcher	Individual Research Projects	Host institution	PhD enrolment
DC6 Spain	Development of novel antiviroidal strategies: towards drug discovery	Valencia Polytechnic University (UPV)	UPV
DC7 Italy	Dissection of viroid pathogenesis through omics and phenotyping approaches	CNR-IPSP in cooperation with the Università degli Studi di Bari Aldo Moro (UNIBA-DiSSPA)	UNIBA-DiSSPA
DC8 Italy	Identification and characterization of novel infectious circular viroid-like RNAs in hosts belonging to different kingdoms	CNR-IPSP in cooperation with the Università degli Studi di Bari Aldo Moro (UNIBA-DiSSPA)	UNIBA-DiSSPA
DC9 Greece	How disrupting host factors suppresses viroid infectivity	University of Crete (UoC)	UoC
DC10 Germany	RNA sprays - precision tools for the modulation of host genes to develop viroid resistance	University of Regensburg (UREG)	UREG
Please note that the positions require the candidate to participate in secondments to other institutions, lasting up to a maximum of 1/3 of the 36-month MSCA-funded fellowship.			

Your profile:

- You have a university degree (MSc or equivalent) in plant biology, genetics, cell biology, biology, bioinformatics, biochemistry, chemistry or a related discipline, completed no later than by the start of the PhD project.
- You have a strong interest in conducting collaborative research in international and cross-sectoral contexts.

Specific eligibility criteria:

- You are not in a possession of a doctoral degree at the date of recruitment. Researchers who have successfully defended their doctoral thesis but who have not yet formally been awarded the doctoral degree will not be considered eligible.
- You have not resided or carried out your main activity (work, studies, etc.) in the country of the selected host laboratory for more than 12 months during the 3 years immediately before the recruitment date (the starting date indicated in the employment contract or equivalent direct contract).
- You can communicate in both written and spoken English (language certificate B2-C2 required, see language proficiency in line with the Common European Framework of Reference for Languages - CEFR.

Note: An overview of each research and training project on offer, with requirements for applicants are described in chapter 3 of this document. Please read the project descriptions carefully to ensure that you meet the required qualifications.

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We offer:

- A competitive salary in accordance with the MSCA regulations for DC (including a living allowance, mobility allowance, and, if applicable, a family allowance and/or, special needs allowance for eligible recruited researchers).
- The opportunity to pursue a PhD in one of Europe's top research centres.
- The opportunity to work in an interdisciplinary environment and international team, with excellent equipment, infrastructure, and workspaces.
- Outstanding mentoring and career support.
- A comprehensive network-wide training and internship program, both in academia and industry.
- Training in cutting-edge techniques as well as other scientific, technical, digital, entrepreneurial and transferable skills through individual research projects accompanied by a multifaceted innovative training modules and secondment program.

Application deadline: 25 April 2025, 12:00 CET.

Please note that applications will be reviewed on a rolling basis.

For submission guidelines, see chapter 6.

Should you require any additional information about the vacancies, please contact the coordinator of the ViroiDoc DN at info@viroidoc.eu.

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3 List of research and training projects with requirements for candidates

The Individual Research Projects (IRP) are presented below. Please note that each institution offering a position has its own entry requirements for the Doctoral program, and the knowledge and skills that applicants must have.

Monthly gross salary information is indicated, which may be higher if/when a mobility allowance (600 EUR) is received. In addition, a monthly family allowance of EUR 660 may be granted if the eligibility conditions are met. A doctoral candidate may also apply for a special needs allowance. The request should include a description of the special needs, the type of support and the budget requested. The requested special needs allowance is limited.

3.1 DC1 in Slovenia: IRP How Disrupting Viroid Biogenesis Impacts Viroid propagation

Host institution: University of Ljubljana (UL) (Biotechnical Faculty, Chair of Genetics, Biotechnology, Statistics and Plant Breeding), Slovenia.

Individual Research Project objectives: The candidate will perform a meta-analysis of available RNA-seq data from different plant species infected with different viroids. The aim is to discover common and unique host proteins/processes that influence viroid infection in different plant species. Furthermore, the candidate will investigate how disruption of specific host proteins involved in viroid replication and movement in hops, or a model plant affects CBCVd infection by assessing viroid abundance, disease symptoms and plant immune responses.

Secondment at IBMCP, CSIC-UPV in Spain. The DC will gain knowledge on the use of VIGS to disrupt specific host genes in model plants (e.g. *Nicotiana benthamiana*) or hops and acquire new technical and digital skills.

Enrolment in doctoral program: The DC will participate either in the UL's interdisciplinary four-year doctoral program Biosciences, in the scientific field of Bioinformatics or in interdisciplinary four-year doctoral program Biomedicine, in the scientific field of Genetics, comprising 240 ECTS.

PhD supervisors: Nataša Štajner / Jernej Jakše (UL, Slovenia) for doctoral degree, José-Antonio Daròs (CSIC, Spain) for secondment.

The candidate will gain: Better understanding of the functional relationships between host proteins and viroid RNA, including identification of pathways used by viroids in different plant species and discovery of common and unique host genes that influence infection of different groups of viroids (e.g. Pospiviroidea vs. Avsunviroidea). The candidate will provide scientific support for the selection of viroid-resistant plant varieties and the development of new resistance strategies. Host proteins involved in viroid biogenesis may become targets for the development of broad-spectrum resistance to viroids.

University of Ljubljana requires candidates to meet the following criteria

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Specific Research and Technical Skills:

- Proficient in standard molecular biology techniques, e.g., PCR, gel electrophoresis, cloning, Sanger sequencing etc.
- Basic bioinformatics skills are a plus: familiarity in the UNIX/Linux shell environments, knowledge of scripting languages (e.g. Python), familiarity with handling the Next-Generation Sequencing (NGS) data, experience with databases.
- Experience with the R programming environment for data analysis and visualization is also a plus.

Education Requirements: Master's degree in the life sciences, e.g. biology, biotechnology, genetics, molecular biology, and a Master's degree combining life sciences with data science or bioinformatics is also considered.

Salary: €2,576.00 per month, including social security contributions.

The Research Environment:

- Advance your expertise at the University of Ljubljana, Biotechnical Faculty as a doctoral candidate, contributing to innovative research in life sciences and sustainable development.
- The doctoral candidate will join a dynamic research team consisting of 4 professors, 2 researchers, 3 teaching assistants, 5 doctoral students, and technical staff. Our work focuses on exploring plant genetic resources for diversity, conservation, and sustainable agricultural use through molecular tools, studying biotic stress responses and host-pathogen interactions, and employing advanced diagnostics to uncover genomic variations in plant pathogens. Additionally, we develop modern plant breeding methods, with a strong emphasis on genome editing techniques to drive innovative solutions in agriculture.
- University of Ljubljana promotes gender equality in employment and work.

3.2 DC2 in Slovenia: IRP Climate change impact on viroid diseases

Host institution: Slovenian Institute of Hop Research and Brewing (IHPS) in cooperation with the University of Ljubljana (Biotechnical faculty, Chair of Genetics, Biotechnology, Statistics and Plant Breeding), Slovenia.

Individual Research Project objectives: To evaluate the phenotypic characteristics of hop plants in pre-symptomatic and symptomatic stages following artificial infection with CBCVd, under varying temperature conditions, and combined with water and nutrient stress. To quantify CBCVd levels in hop plants subjected to different environmental stress conditions. To analyze the phenolic profile and mineral content of both CBCVd-infected and healthy hop plants exposed to various environmental stress factors.

Secondment at the Biotechnical Faculty, UL in Slovenia. The DC will conduct CBCVd molecular analysis and phenolic profiling of hop.

Enrolment in doctoral program: The DC will participate in the UL's interdisciplinary four-year doctoral program BIOSCIENCES, in the scientific field of Agronomy, comprising 240 ECTS.

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PhD supervisors: Sebastjan Radišek (IHPS, Slovenia) for doctoral degree, Jernej Jakše and Maja Mikulič Petkovšek (UL, Slovenia) for secondments.

The candidate will gain: Successful artificial inoculations and determination of environmental stress conditions affecting symptom expression of CBCVd-infected hop. Analysis of the influence of environmental stress conditions on CBCVd titer in plant tissue. Phenolic response of CBCVd infected and non-infected plants under different environmental conditions. Detection of differences in the mineral content of CBCVd-infected and non-infected plants.

IHPS / University of Ljubljana requires candidates to meet the following criteria

Specific Research and Technical Skills:

- Standard molecular biology techniques, e.g., PCR, gel electrophoresis
- Experience with the statistical programs for data analysis and visualization
- Basics analytical chemistry
- Familiarity with laboratory work (safety, personal protective equipment, handling of chemicals, laboratory glassware and instruments, pipetting)

Education Requirements: Master's degree in life sciences, e.g. agronomy, biology, microbiology, biotechnology, genetics, molecular biology or related areas in Natural Science

Salary: €2,832.20 per month, including social security contributions.

The Research Environment: The activities at the Diagnostics Laboratory (DL) of Plant Protection at IHPS focus on diagnostics, epidemiology studies, plant-pathogen interactions, and disease management. Most research is centred on diseases affecting hops, hemp, vegetables, and fruit trees, with an emphasis on fungal pathogens, oomycetes, viruses, and viroids. The laboratory is equipped for molecular analysis (PCR, qPCR), serological analysis (ELISA), and plant cultivation (growing chambers, greenhouses, and experimental fields). The phytopathology research team, led by Dr. Sebastjan Radišek, includes 2 researchers, 4 technicians, and students. The team's work also collaborates with other departments, such as the Chemistry Department, for the analysis of metabolomic responses of plants to different pathogens.

3.3 DC3 in Slovenia: IRP Development of a disposable, selective, and sensitive electrochemical sensor for on-site detection of plant viroids

Host institution National Institute of Chemistry (NIC) in cooperation with the University of Ljubljana (Faculty of Chemistry and Chemical Technology), Slovenia.

Individual Research Project objectives: Develop a highly sensitive, selective, and portable electrochemical (bio)sensor for the detection of specific plant viroid(s), with emphasis on CBCVd at the early infection stage. Optimization and adaptation of the electrochemical (bio)sensor for its potential application in the field (artificial and/or real matrix calibration, further improvement of selectivity and sensitivity).

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Secondment(s): (1) At the Institute of Biophysics, CAS in in the Czech Republic, the DC will gain the extensive transfer of knowledge, with emphasis on the electrochemical signal generation schemes with respect to the chosen supporting electrode, capture probe, target analyte, and expected limit of detection. **(2) At the ICN2 in Spain**, the DC will gain extensive knowledge transfer, with emphasis on the immobilization protocols for successful implementation of the capture probe.

Enrolment in Doctoral degree(s): The DC will participate in the UL's Doctoral Study Programme in Chemical Sciences, a four-year study programme comprising 240 ECTS.

PhD supervisors: Samo Hočevar (NIC, Slovenia) for doctoral degree, Miroslav Fojta (CAS, Czech Republic) and Arben Merkoçi (ICN2, Spain) for secondments.

The candidate will gain: Development of a new (bio)sensing platform for effective immobilization of the RNA or DNA capture probe combined with state of-the-art (electro)catalytic (nano)materials and disposable supporting electrodes. Sensitive and selective electrochemical detection of a selected viroid under laboratory conditions. Optimization of the methodology for potential measurements on plant sap obtained in the field.

NIC / University of Ljubljana requires candidates to meet the following criteria

Specific Research and Technical Skills:

- Experience with Microsoft Windows.
- Knowledge of the basics of analytical chemistry and, optionally, electrochemistry,
- Familiarity with laboratory work (safety, personal protective equipment, handling of chemicals, laboratory glassware and instruments, pipetting, chemical calculations).
- High motivation to work in an international research environment.

Education Requirements: Master's degree in Chemistry, Chemical Engineering, Pharmacy, Materials Science, Life Science, Nanotechnologies, Microbiology, or related areas in Natural Science.

Salary: €3,432.20 per month, including social security contributions.

The Research Environment: The activities at the Department of Analytical Chemistry (National Institute of Chemistry) comprise fundamental studies and development of analytical tools, sensors, and approaches in the interconnected fields of (i) electrochemical (bio)sensing, (ii) elemental (bio)imaging, (iii) atmospheric chemistry, and (iv) food chemistry. The research team involves ca. 30 researchers, technicians, and students. Dr. Samo Hočevar is the head of the department and PI of the research program "Analytics and chemical characterization of materials and processes".

3.4 DC4 in France: IRP In vivo imaging of viroid RNA and associated host factors

Host institution: Centre National de la Recherche Scientifique (CNRS), Institut de biologie moléculaire des plantes (IBMP), affiliated with the University of Strasbourg (École doctorale des Sciences de la Vie et de la Santé,) Strasbourg, France.

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Individual Research Project objectives: *In vivo* fluorescent tagging of viroid RNA and analysis of its intra- and intercellular trafficking in association with host factors. Isolation of *in vivo* ribonucleoprotein (RNP) complexes formed with viroid RNA, identification of associated proteins by LC-MS/MS and analysis of the functional significance of selected proteins during viroid trafficking and infection by reverse genetics and in vivo imaging.

Secondment(s): During the project, several (one to two months) secondments with the following partners are foreseen, i.e. **(1) at IMBB, Crete in Greece**, with an expert in viroid cell biology, (**2) at IBBM, University of La Plata, Argentina**, with an expert in RNA imaging and **(3) in Spain at the Abiopep**, company working on plant health, specifically viruses, and improvement of vegetable crops.

Enrolment in doctoral program: The candidate will be registered at the Doctoral School of Life Sciences and Health of the University of Strasbourg (http://ed.vie-sante.unistra.fr/) which provides numerous training courses in technical and transversal skills (108 hours of training are mandatory). In the laboratory, the candidate will be supervised and trained by experienced postdocs and a follow-up committee will provide support during the thesis project.

PhD supervisors: Manfred Heinlein / Todd Blevins (CNRS, France) for doctoral degree, Eduardo Peña (IBBM Institute, UNLP, Argentina), Kriton Kalantidis (IMBB, UoC, Greece), Yolanda Hernando (Abiopep SL, Spain) for secondments.

The candidate will acquire essential knowledge and experience in plant-pathogen interactions, cell biology, molecular biology, genetics, and biophysics. The candidate will learn advanced techniques, including DNA cloning, biochemical characterization of protein-RNA complexes and their analysis by mass spectroscopy, in vivo fluorescence imaging and microscopy, Arabidopsis genetics, and plant virology. The candidate will also achieve training in writing and communication skills, and how to present results to different audiences.

Universite de Strasbourg (UDS) / CNRS requires candidates to meet the following criteria

Education Requirements: The candidate must have a Master's degree in molecular and/or cell biology.

Specific Research and Technical Skills:

- Interest in plant-pathogen interactions. Previous experience in plant-pathogen interactions is a plus.
- Proficiency in DNA cloning and analytical techniques (qPCR, RT-PCR, Western-blot, etc).
- Experience in fluorescence microscopy. Skills in cell biology, fluorescent proteins and confocal microscopy would be highly valued.

Specific CNRS requirements:

Candidates that after initial screening are found eligible for the position must also apply to the CNRS job portal, https://emploi.cnrs.fr/. A link to the specific job post will be provided to these candidates.

Salary: € 3,038.74 per month, including social security contributions.

The Research Environment: The team is a leader in plant virology with a focus on virus cell-to-cell movement in the context of plant defense responses such as RNA silencing and pattern-triggered

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immunity. Current work also focusses on the development of dsRNA-containing formulations for antiviral plant protection and on understanding the mechanisms that determine the outcome of viral infection in terms of disease and tolerance. The IBMP is the largest CNRS laboratory dedicated to plant research (UPR2357) and is associated with the University of Strasbourg. The 16 research teams work in diverse research areas (e.g., RNA biology, protein degradation, organelle biology, epigenetics) and are supported by well-staffed core facilities including greenhouses, growth chambers, qRT-PCR, sequencing, bioinformatics, bioimaging and metabolomics.

3.5 DC5 in Spain: IRP Point-of-care viroid diagnosis based on CRISPR-Cas technologies

Host institution: Spanish National Research Council (CSIC) in cooperation with the Valencia Polytechnic University (UPV).

Individual Research Project objectives: Adaptation of current CRISPR-Cas12a-based diagnostic strategies for the detection of viroids in infected tissues. Application of a Cas9-based strand displacement strategy, combined with a fluorescent or colorimetric readout, to diagnose viroid targets. To advance towards direct viroid RNA detection using Cas13a/d variants. To develop point-of-care field-deployable viroid diagnostic devices based on CRISPR-Cas strategies.

Secondment(s): (1) at the Biotechnical Faculty, UL in Slovenia. The DC will validate the CRISPR/Cas technology in the CBCVd-hop pathosystem. **(2) At the industry partner Elsner Pac in Germany** is planned to validate the technology in the context of a modern plant production company.

Enrolment in doctoral program: The DC will be enrolled in a 3-year PhD Program in Biotechnology offered by the Universitat Politècnica de València (UPV).

PhD supervisors: José-Antonio Daròs (CSIC, Spain) for doctoral degree, Nataša Štajner (UL, Slovenia) and Dominic Eberle (Elsner pac, Germany) for secondment.

The candidate will gain: Development of CRISPR-Cas-based protocols for the detection of viroids. Development of a protocol for direct RNA detection of viroids without RNA-to-DNA amplification step. Development of CRISPR-Cas-based point-of-care viroid detection devices for field use.

CSIC / UPV requires candidates to meet the following criteria

Specific Research and Technical Skills:

- Specific requirements for admission to the Doctoral Program in Biotechnology at UPV are detailed on the UPV website.

Candidates with demonstrated expertise in any of the following areas will be highly valued:

- **Analytical Techniques**: Proficiency in methods like qPCR, RT-PCR, Northern-blot, sRNA detection, and fluorescence microscopy for molecular and cellular analysis.

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- **RNA Biology and Plant-Pathogen Interactions**: Including molecular mechanisms of pathogen infection and signal transduction pathways.
- ***In Vitro* Plant Cell Culture:** Experience in plant cell culture systems, including the use of model systems for experimental studies.
- **Drug Discovery and Antiviral Strategies**: Designing and evaluating bioactive compounds through in vitro and in vivo assays.
- **Experimental Design and Problem-Solving**: Managing interdisciplinary projects, from cell cultures to whole-plant systems, with a focus on innovation in pathogen control strategies.
- **Collaboration and Multidisciplinary**: Readiness to engage in an international and cross-sectoral research environment.

Education Requirements:

- Master's degree in fields related to biotechnology, molecular biology, biochemistry, biology or chemistry.
- The general requirements for admission to Doctoral Programs at the Universitat Politècnica de València (UPV) can be reviewed on the UPV website.

Salary: €2,867.70 per month, including social security contribution.

The Research Environment: Plants host many infectious agents that cause damage to crops. The goal of our research group at the CSIC – IBMCP is to understand the interaction between plants and some of these pathogens, such as viruses and viroids. From this knowledge, we aim to develop new biotechnological strategies for crop protection and innovation. We can also take advantage of the remarkable biological properties of plant viruses and viroids by repurposing them into useful biotechnological tools. Our goal is also to develop systems to obtain products of interest, such as recombinant proteins, nanoparticles, metabolites or recombinant RNAs in biofactory plants, using conveniently engineered viruses and viroids.

3.6 DC6 in Spain: IRP Development of novel antiviroidal strategies: towards drug discovery

Host institution: Valencia Polytechnic University (UPV).

Individual Research Project objectives: To develop and validate a system for assessing antiviroidal activities by integrating cell culture-based evaluations in tobacco BY2 cells and confirming their efficacy in plant models, with the ultimate goal of designing and creating effective viroid-control solutions.

Secondment(s): (1) at the UoC in Greece. The DC will test the effect of the antiviroidal compounds in Nicotiana benthamiana infected with PSTVd. Besides, the molecular pathways underlying the antiviroidal activities will be explored, by using the genetic tools developed in his laboratory. **(2) At the CNR in Italy** where the DC will extend the analyses of the antiviroidal properties to the Avsunviroidae family, testing the compounds against CChMVd. Besides, the molecular pathways underlying the observed antiviroidal activities will be explored.

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Enrolment in Doctoral degree(s): The DC will be enrolled in a 3-year PhD Program in Biotechnology offered by the Universitat Politècnic de València (UPV).

PhD supervisors: Purificación Lisón (UPV, Spain) for doctoral degree, Kriton Kalantidis (UoC, Greece) and Francesco di Serio (CNR, Italy) for secondments.

The candidate will gain: To develop a streamlined and scalable system for evaluating antiviroidal activities, ensuring simplicity and efficiency in its application. It is also expected to identify and provide novel compounds with potential use against viroid infections.

UPV requires candidates to meet the following criteria

Specific Research and Technical Skills:

- Specific requirements for admission to the Doctoral Program in Biotechnology at UPV are detailed on the UPV website.

Candidates with demonstrated expertise in any of the following areas will be highly valued:

- **Analytical Techniques**: Proficiency in methods like qPCR, RT-PCR, Northern-blot, sRNA detection, and fluorescence microscopy for molecular and cellular analysis.
- **RNA Biology and Plant-Pathogen Interactions**: Including molecular mechanisms of pathogen infection and signal transduction pathways.
- **In Vitro Plant Cell Culture:** Experience in plant cell culture systems, including the use of model systems for experimental studies.
- **Drug Discovery and Antiviral Strategies**: Designing and evaluating bioactive compounds through in vitro and in vivo assays.
- **Experimental Design and Problem-Solving**: Managing interdisciplinary projects, from cell cultures to whole-plant systems, with a focus on innovation in pathogen control strategies.
- **Collaboration and Multidisciplinary**: Readiness to engage in an international and cross-sectoral research environment.

Education Requirements:

- The degrees related to the program are detailed on the UPV website.
- The general requirements for admission to Doctoral Programs at the Universitat Politècnica de València (UPV), which can be reviewed on the UPV website.
- Languages: proficiency in English is required. Proficiency in Spanish is desirable.

Salary: €2,862.00 per month, including social security contribution.

The Research Environment:

- The Universitat Politècnica de València (UPV) is a top-ranking university known for its commitment to excellence in research, innovation, and education. As a hub of technological and scientific advancement, the UPV provides a dynamic and collaborative environment, offering state-of-the-art facilities and fostering international partnerships. Its dedication to addressing

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global challenges through interdisciplinary research makes the UPV a prestigious institution for aspiring professionals and researchers alike.

- The **Signaling and Biotic Stress Response Laboratory** at the **Institute for Plant Molecular and Cellular Biology** (IBMCP) focuses on unraveling the molecular mechanisms plants use to perceive and respond to biotic stress. With a multidisciplinary team of dedicated researchers, the lab integrates molecular biology, genetics, biochemical approaches, and expertise in metabolomics to study plant-pathogen interactions, signaling pathways, and defense mechanisms. Our research aims to contribute to the development of sustainable solutions for improving plant resistance to diseases, enhancing agricultural productivity and resilience. The laboratory is part of the IBMCP, a leading center in plant molecular and cellular biology research affiliated with UPV.

3.7 DC7 in Italy: IRP Dissection of viroid pathogenesis through omics and phenotyping approaches

Host institution: CNR-IPSP in cooperation with the Università degli Studi di Bari Aldo Moro (UNIBA-DiSSPA).

Individual Research Project objectives: Elucidation of signalling pathways and mechanisms altered in the host by nuclear and chloroplast replicating viroid infections in symptomatic and non-symptomatic tissues by omics approaches (analysis of transcriptome, methylome, small RNAome). Assessment of the role of epigenetic changes in the interplay between a nuclear replicating (PSTVd) and a chloroplast replicating viroid (CChMVd) with their hosts (tomato and chrysanthemum). Evaluation of the impact of symptomatic and latent viroid infections on plant performance by phenotyping (photosynthesis efficiency, stomatal conductance and thermal imaging) in symptomatic, non-symptomatic viroid-infected and non-infected plants. Integration of phenotyping and molecular data to identify potential targets for the development of strategies to counteract viroid infection.

Secondment at the Biotechnical Faculty UL in Slovenia. The DC will perform metadata analysis to identify common pathways/genes involved in pospiviroid infection and pathogenesis by comparing own omics data from PSTVd/ tomato with those under study in the UL on CBCVd/ hop. To confirm the *in silico* results, experimental analysis in hop will be performed for some selected genes.

Enrolment in Doctoral degree(s): The DC will participate in a three-year study program of the Doctorate School in Biodiversity, Agriculture and Environment of the Università degli Studi di Bari Aldo Moro (UNIBA, DiSSPA).

PhD supervisors: Francesco di Serio (CNR, Italy) and Tiziana Mascia (UNIBA, Italy) for doctoral degree and Jernej Jakše (UL, Slovenia) for secondment.

The candidate will gain: to clarify whether asymptomatic viroid infections can cause developmental defects and/or reduce photosynthetic efficiency in the absence of obvious symptoms. It is expected generate relevant data to determine the phytosanitary risk posed by latent viroids, providing a scientific basis for the adoption of appropriate control measures to

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limit their spread. Plant performance data in latent and/or early viroid infections will be linked to concomitant molecular changes in infected plants. This research could contribute to the development of novel early detection methods based on biosensors. The integration of phenotyping and molecular data will allow the identification of potential targets for the development of new strategies to counteract viroid infections.

CNR-IPSP / UNIBA-DiSSPA requires candidates to meet the following criteria

Specific Research and Technical Skills:

Any of the following demonstrated competences will be positively evaluated:

- Familiarity with RNA and DNA handling techniques and expertise in molecular biology methods (qPCR, RT-qPCR, molecular hybridization);
- Knowledge of bioinformatics and -omics data analysis and previous experience with plant phenotyping.
- Skills in design and perform experiments.
- Ability to work both as part of a team and independently, with strong collaborative aptitude, analytical thinking and good communication skills.
- Readiness to be involved in a multidisciplinary research environment.

Education Requirements: MSc degree (or equivalent) in Agricultural Sciences, Biochemistry, Biological Sciences, Molecular Biology, Biotechnology, Plant Pathology, Plant Sciences or related disciplines.

Salary: €3,311.00 per month, including social security contribution. Note that the amount is subject to change due to changes in Italian legislation.

The Research Environment: The Institute for Sustainable Plant Protection (IPSP) belongs to the National Research Council of Italy (CNR) and focuses on the study of plant responses to biotic and abiotic stress factors, aiming to identify resistance and adaptation mechanisms to enhance plant health in agriculture and forestry.

The CNR-IPSP unit in Bari, where the doctoral project will take place, has a long-standing expertise in plant virology and performs research in this field by combining biological and molecular approaches with the latest "omics" technologies. Our team has over 20 years of research experience on plant-associated viroids and viroid-like RNAs. We study the molecular pathways involved in plant-viroid interactions and investigate on the role of RNA silencing in viroid pathogenesis. We also develop high-throughput sequencing-based approaches for viroid identification and characterization.
The PhD student will be enrolled at the Doctorate School in Biodiversity, Agriculture and Environment at the University of Bari, a prominent public university in southern Italy. The university offers a PhD program that includes project management, research activities, publishing, and academic English, ensuring comprehensive supervision and training for students.

Applications for this position are not yet being accepted. For further information, please contact info@viroidoc.eu

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3.8 DC8 in Italy: IRP Identification and characterization of novel infectious circular viroid-like RNAs in hosts belonging to different kingdoms

Host institution: CNR-IPSP in cooperation with the Università degli Studi di Bari Aldo Moro (UNIBA-DiSSPA).

Individual Research Project objectives: Identification and molecular characterization of novel viroids and viroid-like RNAs in plants and in fungi of agronomic interest (pathogenic and beneficial), in fungi of agri-food significance and in fungi isolated from the rhizosphere of different ecological niches. Evaluation of the effects of viroid-like RNA infection on fungal phenotype, pathogenicity and toxicity, to utilise these infectious agents as putative novel biocontrol agents and biostimulants or to identify them as putative regulators of mycotoxin expression. Functional studies of putative novel viroid-like encoded proteins.

Secondment at IBMCP (CSIC-UPV, Valencia) in Spain. The DC will study the enzymatic *in vitro* activity of ribozymes in the newly identified viroid-like circular RNAs.

Enrolment in Doctoral degree(s): The DC will participate in a three-year study program of the Doctorate School in Biodiversity, Agriculture and Environment, of the Università degli Studi di Bari Aldo Moro (UNIBA, DiSSPA).

PhD supervisors: Beatriz Navarro Ramirez (CNR, Italy) and Rita Milvia De Miccolis Angelini (UNIBA, Italy) for doctoral degree and Marcos de la Peña (CSIC-UPV, Spain) for secondment.

The candidate will gain: Characterization of the biodiversity of the viroid-like RNAs infecting plants and fungi of interest and other organisms from different ecological niches. Molecular and functional characterization of putative new ribozymes and viroid-like-encoded proteins. Defining the biological and ecological roles of viroid-like RNAs associated with fungal holobionts and their potential use for biotechnological applications in sustainable agriculture and human health and well-being.

CNR-IPSP / UNIBA-DiSSPA requires candidates to meet the following criteria

Any of the following demonstrated competences will be positively evaluated:

- Familiarity with RNA and DNA handling techniques and protein functional analysis.
- Expertise in molecular biology methods (qPCR, RT-PCR, molecular hybridization).
- Knowledge of bioinformatics and -omics data analysis.
- Skills in designing and performing experiments.
- Ability to work both as part of a team and independently, with strong collaborative aptitude, analytical thinking and good communication skills.
- Readiness to be involved in a multidisciplinary research environment.

Education Requirements: MSc degree (or equivalent) in Agricultural Sciences, Biochemistry, Biological Sciences, Molecular Biology, Biotechnology, Plant Pathology, Plant Sciences or related disciplines.

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Salary: €3,311.00 per month, including social security contribution. Note that the amount is subject to change due to changes in Italian legislation.

The Research Environment: The Institute for Sustainable Plant Protection (IPSP) belongs to the National Research Council of Italy (CNR) and focuses on the study of plant responses to biotic and abiotic stress factors, aiming to identify resistance and adaptation mechanisms to enhance plant health in agriculture and forestry.

The IPSP unit in Bari, where the doctoral project will take place, has a long-standing expertise in plant virology and performs research in this field by combining biological and molecular approaches with the latest "omics" technologies. Our team has over 20 years of research experience on plant-associated viroids and viroid-like RNAs. We study the molecular pathways involved in plant-viroid interactions and investigate the role of RNA silencing in viroid pathogenesis. We also develop high-throughput sequencing-based approaches for viroid and viroid-like identification, contributing to the discovery of a new layer of biodiversity consisting of infectious circular RNAs carrying ribozymes.

The PhD student will be enrolled at the Doctorate School in Biodiversity, Agriculture and Environment at the University of Bari, a prominent public university in southern Italy. The university offers a PhD program that includes project management, research activities, publishing, and academic English, ensuring comprehensive supervision and training for students.

Applications for this position are not yet being accepted. For further information, please contact info@viroidoc.euD

3.9 DC9 in Greece: IRP How disrupting host factors suppresses viroid infectivity

Host institution: University of Crete (UoC), Greece.

Individual Research Project objectives: Develop tools that enable the visualisation of viroids and viroid movement *in planta*. Investigate the effects of impairing or knocking down specific host proteins involved in viroid replication and movement on PSTVd infection of *N. benthamiana* plants, viroid titer and disease progression. Identify proteins whose suppression blocks viroid infection or progression within the plant.

Secondment at the IBMCP, UPV in Spain with the laboratory that has experience in the identification of host proteins interacting with viroids. In addition, the IBMCP has a Proteomic service that allows the identification of potential protein candidates.

Enrolment in doctoral program: DC will be enrolled in a 4-year PhD program of the University of Crete.

PhD supervisors: Kriton Kalantidis (UoC, Greece) for doctoral degree and Purificación Lisón (UPV, Spain) for secondment.

The candidate will gain: Identify novel viroid-binding proteins. By silencing specific host proteins involved in the replication and movement of the viroid, genes that are necessary or at least important for the biological cycle of the viroid will be identified. The ability to visualise the subcellular localization of viroids will greatly improve our understanding of viroid biology. A

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better understanding of the functional relationships between host proteins and viroid RNA is expected. Identification of specific viroid-host interactions will help breeding efforts for viroid-resistant plant plants.

University of Crete requires candidates to meet the following criteria

Specific Research and Technical Skills: DC should have specific research and technical skills in Plant Molecular Biology and Plant Virology when applying to your PhD studies.

Education Requirements: The candidate must have a Master's degree in Agronomy, Biology or similar.

Salary: €2,767.60 per month, including social security contribution.

The Research Environment:

- The University of Crete (UoC) is consistently ranked among the top universities in Greece, with a strong reputation for research excellence.
- The Plant Molecular Biology laboratory, which is jointly affiliated with UoC and the Institute of Molecular Biology and Biotechnology (IMBB/FoRTH), benefits from a supportive research environment that includes over 30 molecular biology labs. The lab has a well-established focus on viroid research.
- The research group is led by Professor Kalantidis, who has specialized in viroids for over 25 years. He is currently the Chair of the Department of Biology at UoC and a member of the Scientific Board at IMBB/FoRTH. Professor Kalantidis also chaired the organizing committee for the 2021 International Conference on Viroids.

3.10 DC10 in Germany: IRP RNA sprays - precision tools for the modulation of host genes to develop viroid resistance

Host institution: University of Regensburg (UREG), Germany.

Individual Research Project objectives: Investigate commonalities between different pathosystems and host factors as a starting point for RNA-based viroid resistance breeding or anti-viroid treatments. Identify vd-sRNAs (viroid-derived small RNAs) of different viroid pathosystems and their host targets for the development of targeted (epi)gene editing-based antiviroid interventions. Design and develop innovative RNA-spray applications (using dsRNA, caRNA and mRNA) for gene modulation at multiple levels to counteract viroid-induced reprogramming of the host machinery. Evaluate the effectiveness of RNA-spray applications in reducing viroid infection and disease symptoms.

Secondment(s): (1) at UPV in Spain to use the cell culture model system developed at the UPV to adopt a modified CRISPR-dCas9 system, previously used in human cancer therapy to facilitate the epigenetic editing (EpiEdit) of plant immunity genes (UPV already established the EpiEdit system at University in Regensburg). **(2) At CNRS in France** the DC will enable validation of

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EpiEdit-based viroid control through intracellular localization experiments. **(3) At the Innosil in Poland** the secondment is focused on plant protection risk assessment and product registration.

Enrolment in doctoral program: The DC will be enrolled in a 3-year PhD program at the Faculty of Biology and Preclinical Medicine (UR) and join the Regensburg International Graduate School of Life Sciences (RIGeL), Section Cell Biochemistry and Biophysics.

PhD supervisors: Aline Koch (UREG, Germany) for doctoral degree and Purificación Lisón (UPV, Spain), Manfred Heinlein (CNRS, France), Marcin Smiglak (Innosil, Poland) for secondments.

The candidate will acquire essential knowledge: Insight into the specific host genes and pathways influenced by vd-sRNA. Development of innovative RNAspray technologies for non-transgenic induction of viroid resistance, gene regulation and viroid elimination. These approach offers the basis for development of novel strategies for management of viroid and other plant diseases.

University of Regensburg requires candidates to meet the following criteria

Specific Research and Technical skills:

- Experience in molecular biology techniques (qPCR, RT-PCR, RNA extraction, cloning)
- Background in plant-pathogen interactions, small RNA biology, and RNA-based plant defense mechanisms
- Previous work with SIGS, RNAi, or dsRNA synthesis is highly valued
- Proficiency in fluorescence microscopy and intracellular localization studies
- Strong analytical skills, including basic bioinformatics and -omics data analysis
- Ability to work independently and collaboratively in an international research environment
- Familiarity with laboratory work (safety, personal protective equipment, handling of chemicals, laboratory glassware and instruments, pipetting)

Education Requirements: Any requirements related to the PhD program at the Faculty of Biology and Preclinical Medicine (UR) and **join the Regensburg International Graduate School of Life Sciences** (RIGeL), **Section Cell Biochemistry and Biophysics**.

Salary: €3,942.20 per month, including social security contributions.

The Research Environment: Research at University of Regensburg includes a broad spectrum of fields, such as Biomedicine, Cellular and Structural Biochemistry and Biophysics, Microbiology, Genetics, Molecular Ecology and Evolution, and Neurobiology. Using a variety of modern technologies, it spans biological scales from single molecules to intact cells, tissues, and various living organisms. This multifaceted research community creates an exciting and stimulating environment for teaching in the biological and biomedical sciences.

At Plant RNA Transport under Prof. Dr. Aline Koch, they study how regulatory non-coding and coding RNAs can be used as "sprayable RNAs" to improve the agricultural value of crops.

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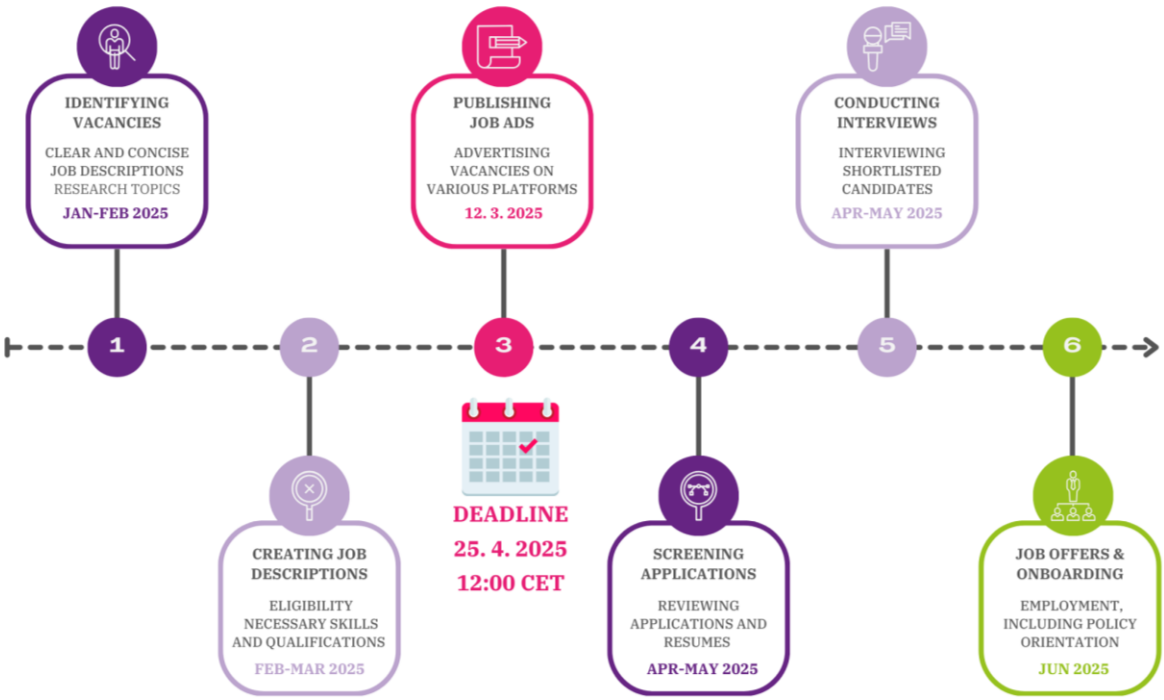
4 Indicative timeline

Indicative Open call timeline is as follows:

- **12 March 2025**: Launch of the open call.
- **25 April 2025, 12:00 CET**: Deadline for submitting applications.
- **April–May 2025**: Evaluation of candidates.
- **May 2025**: Notification of selected candidates.
- **From May/June 2025**: Start participation in ViroiDoc Network.
- **Duration of each fellowship**: 36 months and no longer than 31/12/2028.



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5 Evaluation and selection procedure

ViroiDoc consortium sets up a central recruitment for the first and second round of recruitment, with the aim to ensure an open, transparent, impartial and equitable process in line with the Code of Conduct for Recruitment and the European Charter and Code for the recruitment of researchers. By centralizing the process, the consortium will ensure that all candidates are evaluated using the same criteria, methods and documents. Beyond the application phase, candidates will be kept informed throughout the selection and recruitment process as outlined below:

1. **Eligibility check:** Applications will be reviewed on a rolling basis**.** Complete applications must have the online application form duly filled in and submitted together with the required application documents. Only complete applications containing all requested documents will be evaluated. Ineligible applicants will be notified by the Project Manager.
2. **Stage 1:** Eligible candidates will proceed to be reviewed by the selection committee specific to the project. Applicants scoring more than 75% will be included in the initial ranking list and invited to an (online) interview (Stage 2).
3. **Stage 2:** All interviews will be conducted in English and the interview panel will be made up of at least 3 people ensuring an adequate gender balance and Equal Opportunities Officer. The interviews will be designed to explore candidates' self-introduction, motivation, expertise and skills. Interviews will be carried out online or live when possible. Each selection committee will develop a final report with reviews and scores (for each candidate). Applicants that score a minimum of 75% will be eligible for consideration.
4. **Offer of contract**: Applicants will be ranked according to their final score, and the top candidates for each DC will be offered a contract. In addition to the selected candidate, a reserve list will be created. If the top-ranked applicant declines the funding offer, the next candidate on the reserve list for that project will be offered a contract.

Evaluation criteria

Evaluation criteria in Stage 1 – Candidates' application files	Scores
1. Academic Excellence • **Educational Background**: Quality, relevance, and grades of the academic degrees (Bachelor's and Master's or equivalent). • **Research Experience**: Evidence of previous research experience, such as internships, Master's theses, or publications. • **Awards/Distinctions**: Recognition of academic or professional excellence, scholarships, or other honours.	max= 40

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Evaluation criteria in Stage 1 – Candidates' application files	Scores
2. Research Potential • **Skills and Knowledge**: Alignment of the candidate's skills with the research area of the doctoral network. • **Relevant Experience**: Hands-on experience in techniques, methodologies, or tools related to the project.	max= 20
3. Motivation and Career Plan • **Motivation Statement**: Clarity, relevance, and originality of the candidate's statement of purpose. • **Alignment with MSCA Goals**: How the candidate's career goals align with the MSCA training and development framework. • **Career Aspirations**: Evidence of a clear and realistic vision for future career paths, especially in academia, industry, or related fields.	max= 20
4. International and Interdisciplinary Experience • **Mobility Experience**: Prior international experience (e.g., studies, internships, or exchanges abroad) or plans to comply with the MSCA mobility rule. • **Interdisciplinary Exposure**: Experience in crossing disciplinary boundaries or involvement in multidisciplinary projects. • **Communication Skills**: Ability to express ideas clearly and concisely in written and spoken English. • **Teamwork and Collaboration**: Evidence of working effectively in diverse or international teams.	max= 20
Rejection under 75/100 threshold. In case of equality, criteria 1 will prevail on criteria 2, then criteria 3 and then 4 and then 5.	**Total= 100**
Stage 2: Interview Process and Scoring	
The interview will involve a structured format, such as: 1. A brief **self-introduction** and motivation statement by the candidate. 2. **Technical questions** to assess research expertise. 3. **Behavioural or situational questions** to evaluate soft skills and adaptability. 4. **Innovative thinking**: Ability to demonstrate creative problem-solving and innovative approaches in research	(0-10) (0-10) (0-10) (0-10)
Scoring will be on a defined scale (e. g. 0-10) for each criterion, with weightings assigned based on the Doctoral Network´s priorities. In case of equality, criteria 1 will prevail on criteria 2, then criteria 3. In case of equality, the score in the 1st stage will prevail.	

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6 How to apply

Applications must be submitted before the call deadline: **25 April 2025, 12:00 CET**.

Applications must be **submitted electronically** via the ViroiDoc website form, available on www.viroidoc.eu, and must be complete and contain all mandatory Annexes and supporting documents (see below).

In the application, a Doctoral candidate may choose max two (2) Doctoral positions and associated Individual Research Project (IRP) in the following countries and institutions included in the ViroiDoc project network:

- **DC1 in Slovenia**: IRP *How Disrupting Viroid Biogenesis Impacts Viroid propagation* at the University of Ljubljana (UL) – Biotechnical faculty, Chair of Genetics, Biotechnology, Statistics and Plant Breeding.
- **DC2 in Slovenia**: IRP *Climate change impact on viroid diseases* at the Slovenian Institute of Hop Research and Brewing (IHPS) in cooperation with the University of Ljubljana (Biotechnical faculty, Chair of Genetics, Biotechnology, Statistics and Plant Breeding).
- **DC3 in Slovenia:** IRP *Development of a disposable, selective, and sensitive electrochemical sensor for on-site detection of plant viroids* at the National institute of chemistry (NIC) in cooperation with the University of Ljubljana (Faculty of Chemistry and Chemical Technology).
- **DC4 in France:** IRP In vivo *imaging of viroid RNA and associated host factors* at the Centre National de la Recherche Scientifique (CNRS), Institut de biologie moléculaire des plantes (IBMP), affiliated with the University of Strasbourg (École doctorale des Sciences de la Vie et de la Santé,) Strasbourg.
- **DC5 in Spain:** IRP *Point-of-care viroid diagnosis based on CRISPR-Cas technologies* at the Spanish National Research Council (CSIC) in cooperation with the Valencia Polytechnic University (UPV).
- **DC6 in Spain:** IRP *Development of novel antiviroidal strategies: towards drug discovery* at the Valencia Polytechnic University (UPV).
- **DC7 in Italy:** IRP *Dissection of viroid pathogenesis through omics and phenotyping approaches at the CNR-IPSP* in cooperation with the Università degli Studi di Bari Aldo Moro (UNIBA-DiSSPA). ***Applications for this position are not yet being accepted. For further information, please contact info@viroidoc.eu***
- **DC8 in Italy:** IRP *Identification and characterization of novel infectious circular viroid-like RNAs in hosts belonging to different kingdoms* at the CNR-IPSP in cooperation with the Università degli Studi di Bari Aldo Moro (UNIBA-DiSSPA). ***Applications for this position are not yet being accepted. For further information, please contact info@viroidoc.eu***
- **DC9 in Greece:** IRP *How disrupting host factors suppresses viroid infectivity* at the University of Crete (UoC).

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- **DC10 in Germany:** IRP *RNA sprays - precision tools for the modulation of host genes to develop viroid resistance* at the University of Regensburg (UREG).

A candidate should provide the following information, including attachments:

Note: All required documents attached as a Pdf file must include the specific DC code of the position that the candidate is applying to. Applications not meeting this condition will be automatically rejected. Example of Pdf file name: [*DC1] ViroiDoc MSCA DN Application-Family name.pdf*.

- **Candidate Information** (name & surname, contact information, nationality), including attachments:
  - Copy of valid ID (passport or other) document
  - Copy of Proof of Residence (issued by an administrative unit or a similar authority)
  - CV in Europass format
- **Educational background,** including degrees obtained, institutions attended, and major fields of study (BSc and MA), including attachments:
  - **Academic transcripts of records** and diplomas **in English and certified** (A scanned copy of the original Master´s degree with full transcripts. In case the Master's degree has not been obtained at the Call closing date, applicants must upload their BSc degree/diploma in English, and also upload the transcript of the exams sustained so far during their master course, with a clear indication of the conclusion of the studies).
  - **Proof of English language proficiency** (certificate at the level B2-C2 in line with the Common European Framework of Reference for Languages - CEFR).
- **Motivation letter** (as attachment, max 1000 words)**:** explain why the candidate wishes to join the ViroiDoc Doctoral Network and how the candidate's skills and interests align with the goals of the proposed doctoral program. Describe Skills and Qualifications Assessment; relevant skills in areas like research methodologies, languages, technical expertise, etc., Master's degree evaluation, Description of prior research experience (internships, publications, conference presentations, etc.).
- **Two Reference Letters, including names and contact details of referees:** Two letters from academic or professional references attesting to the applicant's qualifications, competencies, and potential contributions to the network.

The candidate must also sign the declarations included in application form, available on ViroiDoc website:

- **Declaration that DC meets the MSCA eligibility criteria:** *I [candidate name] declare that I had no residence or main activity (work, studies, etc.) in the country of the recruiting beneficiary for more than 12 months in the 36 months before their recruitment date* (the starting date indicated in the employment contract or equivalent direct contract).
- **Declaration that DC has no Doctoral Degree:** *I [candidate name] declare that I do not have a doctoral degree at the time of recruitment.*

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Should you require any additional information about the vacancies, please contact the coordinator of the ViroiDoc DN at info@viroidoc.eu.

Institutions participating in the Network are committed to ensuring equal opportunities for all employees and students, preventing workplace discrimination and fostering a diverse and inclusive working environment. Should assistance or accommodations be required during the application and interview process, applicants are requested to contact the ViroiDoc Network.

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