

**FIREURISK - DEVELOPING A HOLISTIC, RISK-WISE STRATEGY FOR EUROPEAN WILDFIRE MANAGEMENT**  
Grant Agreement Number: 101003890

## **Webinar on**

# **An Integrated Program of Wildfire Risk Management – The Case of Portugal**

**Registrations are mandatory at** [https://us06web.zoom.us/webinar/register/WN\\_qXp\\_dRnNT4WfK7tuIN4yUA](https://us06web.zoom.us/webinar/register/WN_qXp_dRnNT4WfK7tuIN4yUA)

**Date and time: March 16<sup>th</sup>, 2022; 10h00 to 13h00 CET**

After the very violent fires of 2107 which caused 116 fatalities in Portugal, the country reacted proposing an extensive set of reforms that included the creation of a coordinating agency, modifications in several government agencies, detailed definition of the role of the various stakeholders, including the citizens, and the launching of an operative program with several sectoral and transverse actions to prepare better the country for future events.

In the scope of FirEURisk project we are committed to propose scientific based proposals that consider the risk of wildfire as a whole, to impact the processes of decision making at local, regional, national and at EU level. One of our scopes is to propose an integrated fire management strategy supported by our research activity on risk assessment, risk reduction and risk adaptation, to make Europe and its communities more resilient to the risk of fire in the present and in the future.

In order to prepare this activity we organized the Seminar to promote a reflection on the case of Portugal, to understand the philosophy of the proposed changes, their implementation and to have an assessment on their effectiveness, five years after the fires of 2017.

We invited representatives of the following five agencies that are fully engaged in the definition and the implementation of the integrated program:

- AGIF - Agência para a Gestão Integrada dos Incêndios Florestais (Agency for the Integrated Management of Forest Fires)
- ANEPC - Agência Nacional de Emergência e Proteção Civil (National Agency for Emergency and Civil Protection)
- ICNF - Instituto Nacional de Conservação da Natureza e Florestas (National Institute for Nature Conservation and Forests)
- GNR - Guarda Nacional Republicana (National Republican Guard)
- IPMA - Instituto Português do Mar e da Atmosfera (Portuguese Institute of the Sea and Atmosphere)

The case study of Portugal will be presented in this Seminar with the purpose of learning lessons, hearing the stakeholders and of planting the seeds of innovative solutions that may be adopted in other countries as well.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003890.

10h00-10h10

## Welcome and Introduction

Domingos X. Viegas (ADAI)

10h10-10h40

## Agency for the Integrated Management of Forest Fires (AGIF)



Arlindo Santos

*Arlindo Santos, Advisor for Knowledge and Innovation at the Agency for Integrated Management of Rural Fires (AGIF), holds a Master's degree in Mechanical Engineering (specialization in thermal energy) and a Master's degree in Innovation and Technological Entrepreneurship, both from the University of Porto. He has been connected to the energy sector throughout his career, starting in the field of energy management. He then carried out activities within the strategic planning of infrastructure development, network modeling and elaboration of technical documentation. Since 2016 he has developed his activity in the area of innovation management, having been responsible for the implementation and management of the Research, Development and Innovation Management System at a major Portuguese utility, as well as for the management of several innovation projects. Since March 2020, he is responsible for the department of Knowledge and Innovation at AGIF where, among other projects, his team has the responsibility of implementing the Interoperability Platform of the Integrated Management System for Rural Fires, that will link the data of public and private entities, ensuring that information is more easily shared, updated and gathered, and thereby providing a consolidated global view of processes and activities.*

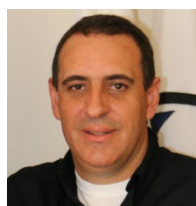
## Abstract

AGIF's intervention will expose the path taken since the tragic events of 2017 that led to the creation of the agency and the implementation of the new Integrated Rural Fire Management System (IRFMS). The speaker will talk about AGIF's role and responsibilities and show a general overview of the System from a strategical point of view, particularly the governance model on various territorial levels (national, regional and local), give a brief look at the two pillars on which the IRFMS is based on and reveal the process chain of the System. As assumed in the national action program (Council of Ministers Resolution No. 45-A/2020 of 16 June 2020), Portugal intends to contribute to a greater alignment between European and Portuguese practices in the rural fire risk management model and propose a common initiative at European level. Example of this commitment is the organization of the 8th International Wildland Fire Conference, 16–19 May 2023, in Oporto, where the central topic will be integrated wildfire management.

AGIF strongly believes that the results of the FireEURisk project will influence public policies on EU level, aligned with Portugal's vision and experience in pioneering (as recently highlighted by UNEP) the focus of the strategy for managing the rural fire risk in tackling the causes, not only the consequence. In order to better assimilate all the information, main legal documents have been translated to English and will be shared with all stakeholders.

10h40-11h10

## National Agency for Emergency and Civil Protection (ANEPC)



*Pedro Nunes was born in Sertão in 1971. He graduated in Civil Protection Engineering at the Escola Superior Agrária de Castelo Branco. In 2019 at Escola Superior Agrária de Coimbra under the guidance of Prof. Dr. José Gaspar, took the Master's Degree in Forest Resources, with the presentation of a thesis entitled "Delimitation of burned areas, classification of fire severity, and assessment of the recovery of burned areas using multispectral images from the Sentinel-2 Satellite". He began his professional activity in 1990 at the National Fire Service, where he worked in the area of emergency management until 2010 at the National Authority for Emergency and Civil Protection (ANEPC). In parallel between 2008 and 2010, he assumes the position of Commander of the Sertão Volunteer Fire Department. In 2010, he joins the Special Fire Force as Commander of the 1st Company, and in 2017 he takes on the role of National Assistant in the operational structure of ANEPC, functions he maintains to date.*



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003890.

|  |   |
|--|---|
| <p><b>Abstract</b></p>   | <p>In the context of the rural fires of 2017, despite the stipulated protocols for action and within the scope of the incident development, it was demonstrated the extreme importance of the capacity for rapid and informed analysis of the ongoing situation, especially considering the size and geographic dispersion of the fires, their simultaneity and the involvement of a large number of resources from different entities. Until the implementation of the current decision support system, the flow of operational information was supported, mostly, by verbal communications and by their transposition to the National Authority for Emergency and Civil Protection (ANEPC) operations management platform time line (SADO). This methodology, given the amount of information to be processed, the sender's subjectivity and the ability to encode the information (verbal information to written information), showed a high potential for bias in the situational analysis and, inherently, implied an inefficient management of resources.</p> <p>In 2018, given the current scenario, the National Emergency and Civil Protection Command (CNEPC) implemented a decision support unit for the analysis of rural fires (Núcleo de Apoio à Decisão para a Análise de Incêndios Rurais - NAD-AIR), with the objective of assisting the command structure, at national, regional or district level, and the on-site Commander (Comandante das Operações de Socorro - COS), in the collection, analysis and interpretation of important data for the fire behaviour understanding and previsions of its impacts. For this purpose, this centre has permanent operatives, several technological resources and two aircraft dedicated to reconnaissance and situation assessment.</p> <p>In terms of products, NAD-AIR guarantees the continuous monitoring of the most important events, based on a logic structured in three major actuation areas:</p> <ul style="list-style-type: none"> <li>• Supporting the operational decision process with a strategic analysis of the fire hazard (Operational Strategic Analysis - AEO) before an incident in a preventive scope;</li> <li>• Exclusive operational analysis for each most significant ongoing fire (Operational Information – INFOP);</li> <li>• Reporting of the most important facts of the incident (statistics and reports), after the end of operations.</li> </ul> <p>Associated with the objectives outlined for the NAD-AIR, several tools were built, including the FEB Monitorização (FM) platform. This decision support system was developed by the members of the Força Especial de Proteção Civil (FEPC), in order to meet the needs expressed by all the operatives, allowing a non-linear consumption of content/information by all the entities involved in the relief operations.</p> |
| <p><b>11h10-11h40 National Institute for Nature Conservation and Forests (ICNF)</b></p>                          |   |
| <p><br/><b>João Pinho</b></p> | <p><i>João Rocha Pinho has a degree in Forestry from the Instituto Superior de Agronomia/School of Agriculture and a master's degree in Regional and Urban Planning from the Technical University of Lisbon.</i></p> <p><i>He is currently head of the Department of Rural Fire Management at the Institute for Nature Conservation and Forests (ICNF), having also held the functions of vice-president of the Board of Directors and director of the Department of Forest Management and Forestry Production.</i></p> <p><i>Between 2004 and 2006, he was president of the National Council for Reforestation and between 2008 and 2012 national director for Forest Management, at the National Forest Authority. He also served as director of the Department of Fire Protection in 2007 and 2008.</i></p> <p><i>As a forester, and also as a land use planner, he has worked in the areas of forest planning and projects, rural fire management, forestry, forest policy and history, land use planning and nature conservation, having published several articles and chapters in technical and scientific books and magazines.</i></p>  |
| <p><b>Abstract</b></p>   | <p>1. Fire is a vital environmental factor for Mediterranean ecosystems and for the conservation of an inhabitable landscape in the climatic and soil conditions of the western part of Iberia, as it controls the vigorous growth of vegetation. That is why it has been a traditional landscape management tool for the people who live in this region (and in other parts of Europe).</p>  |



2. Sometime in the 1950s/60s, our landscapes reached the minimum amount of biomass with the potential to burn , given the high demographic pressure on the territory: maximum expansion of cultivated land; widespread pastoralism; high forest fuels demand for domestic purposes, transport and local industries; installation of large forest-based industries; intensive forestry activities with the use of local labour (resin tapping and cork extraction, etc.), which at the same time maintained a diverse landscape.
3. The “forest transition”, started in the 1960s and still ongoing, broke the existing “balance” and, for several decades, the public response focused on supporting agriculture and forestry sectors of greater economic return and on strengthening the fire suppression component of the fire protection policy, thus leaving in the background not only the support to family farming, that formerly guaranteed the traditional fuel breaks in the wildland-urban interface (WUI), but also the active management of most small private forest holdings or even of larger communal forests, in the mountains.
4. The government-led reforms, organized after the disastrous years of 2003, 2005 and, above all, 2017, aim to reverse the main causes and trends behind the megafires, acting mainly along the following strategic lines: A. Decrease in the number of ignitions, especially on the most critical days of the year; B. Land management, ensuring both the fuels load and continuity control in forest lands, as well as in the WUI, thus increasing the protection of communities and social infrastructures and building a fire-adapted landscape; C. Increase in the effectiveness and efficiency of resources allocated to fire suppression, acting in association with fire prevention activities.
5. The profound impact on society and the broad reflection that followed the 2017 fire season, allowed, on the one hand, to recover the pace and reformistic orientation that came from the beginning of the 21st century and, on the other hand, to bring to the fore the urgent need of learning to live with fire and to manage a “landscape transformation program”.
6. The ICNF, as the national authority for forests and for nature conservation, is refocusing and reinforcing its activity regarding land management, with the adoption of several intervention programs in estates under its custody, the promotion of active management by private forest owners and the implementation of national and regional level fuel management networks, as well as awareness-raising campaigns specially designed to address the main ignition causes, which are currently underway or at an early stage.
7. The agency was provided with greater operational capacity, to act both in public lands, communal forests and protected areas, but also in supporting and collaborating with other agents in the private and public sector, namely forest owners’ organizations and local authorities. A new rural fire management department was created in the ICNF, with a particular focus on land management and on supporting fire suppression efforts in rural areas.
8. New regulations and an adequate law enforcement led to a more sensible use of fire by the rural population and in the WUI, allowing a steady reduction in the number of fires, although there are still major challenges to overcome, especially with regard to the control of ignitions on days of high wildfire risk, and also on the economic viability of forest management, which includes the payment of ecosystem services, and its contribution to the creation and maintenance of a forest landscape adapted to the 21st century society, ensuring that communities and citizens can safely live with wildfires.

10 minutes break



11h50-12h20

## National Republican Guard (GNR)



**Ricardo Vaz  
Alves**

*Lieutenant Colonel Ricardo Vaz Alves has a Degree and a Masters in Military Sciences, a Masters in Law and Security, a Postgraduate in Human Resources Management and a Joint Staff Course. His professional experience includes:*

- *Head of the of Nature and Environment Division of the Directorate of Nature and Environment Protection. GNR Headquarters in Lisbon.*
- *Planner at European Union Liaison and Planning Cell for Libya, EU Delegation in Tunis.*
- *GNR School in Queluz.*
- *Military Academy in Lisbon.*

### Abstract

The National Republican Guard (GNR) within the scope of the SGIFR is the entity that, at the national level, actively participates in all stages associated with fires - Awareness, Inspection, Surveillance and Detection prior to the event, in suppression at the time of occurrence and in the Post-event with the investigation of the causes and validation of the burned areas.

With this new paradigm shift to reinforce prevention at the expense of combat, the GNR has adapted its way of interacting not only with the different stakeholders but essentially with society, making use of its distinctive capabilities in this field.

In the scope of surveillance and detection, in 2021, for the first time, the SGIFR had an Integrated Directive on Surveillance and Detection (DIVDIR), approved by resolution of the National Civil Protection Commission, on 21 April 2021, approved on 07 of May 2021, at ministerial level. This achievement constitutes a highly coveted milestone, allowing the fulfilment of the Government's strategic objectives in this matter, with the following main objectives:

- Establish coordination mechanisms between SGIFR entities;
- Ensuring inter-institutional coordination, articulation and optimization of the operational use of the SGIFR entities that participate in the DIVDIR device in pre-suppression actions;
- Ensure the articulation and optimization of fixed surveillance systems through forestry video surveillance and the National Network of Watch Posts (RNPV), mobile surveillance and aerial surveillance.

In terms of suppression, the GNR through the Emergency Protection and Relief Unit (UEPS) in addition to the exclusive national commitment to the Initial Attack (ATI), maintained its commitment to the Extended Attack (ATA) acting as a non-divisible force, guaranteeing a success rate of 95% in the first intervention.

In the Post Event process, specifically in the field of investigation of causes, there was an improvement in the process of identification of causes. Human resources were reinforced in this regard and in 2021, three Investigation Courses into the causes of Fires were carried out aimed at the 155 Forest Guards, who entered the career in 2020, which allowed us to increase the investigation rate and reduce unknown and undetermined causes.

12h20-12h50

## Portuguese Institute of the Sea and Atmosphere (IPMA)



**Nuno Moreira**

*Nuno Moreira (master) (male) is graduated in Geophysical Sciences (Meteorology/ Oceanography), by Sciences Faculty of Lisbon University (FCUL) and has a master's degree in Geophysical Sciences, specialization in Meteorology also by FCUL. He works at the Portuguese Institute for the Sea and Atmosphere (IPMA) since 1998. Between December 2012 and May 2018, he was the Head of the Numerical Weather Prediction, Weather Watch and Remote Sensing Division in the Meteorology and Geophysics Department of IPMA and between June 2018 and October 2019 he was the Head of the Numerical Weather Prediction, Weather Watch and Earth Observation Division in the Meteorology and Geophysics Department of IPMA. Ha has professional expertise in satellite meteorology, weather watch and forecast, training and forest fires. He has been a liaison to the National Agency for Emergency and Civil Protection (ANEPC) since 2010 and a liaison to the National Agency for the Integrated Management of Forest Fires*



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003890.

|                    |   |
|--------------------|---|
|                    | <i>(AGIF) since 2020. He has also participated in national and international working groups and projects in these areas, including EU-funded, EUMETSAT-funded and national-funded projects.</i>   |
| <b>Abstract</b>    | <p>In the scope of the Portuguese Integrated Management System of Forest Fires, IPMA is an active participant at both national and regional levels. Apart from being a support institution for several activities within the programmes, IPMA is the responsible institution for 2 programmes in the 4th strategic axis of the action - "Managing the Risk Efficiently".</p> <p>The first programme deals with weather data and weather knowledge related to forest fires, and aims to support all the entities of the Integrated Management System on the best use of weather information to better and more efficiently manage forest fire risk. On one hand, this programme includes the development and support of/to forest fire weather state-of-the-art knowledge, regarding internal and external sources, as the academia and other institutions dealing with forest fires, and consequently incorporating the results into operational real-time products. On the other hand, this first programme also includes human resources development and capacitation, as well as infrastructure development on which the technical know-on relies on. Currently, the infrastructure development is being focused on renewing the two meteorological radars in the centre and south of Portugal into a dual polarization solution and on the integration of automatic weather stations from regional networks into the computation of the Fire Weather Index in a in situ observation perspective of national level.</p> <p>The second programme deals with technological IT solutions to share all weather data referred above, with two weather data platforms being available for visualizations and retrieval. One platform is working as an interactive visualization tool and a weather data service for external entities to access data and use it for their own developments. A second platform is working as a ready-to-use chart and graphic repository, focusing in post-processing solutions tailored to user needs.</p> <p>These two programmes have mainly activities at a national level and are currently being treated to be, at some extent, refined at a regional level, in the scope of the five regional commissions that have recently been created in Portugal, under the National Integrated Management System of Forest Fires umbrella.</p> |
| <b>12h50-13h00</b> | <b>General debate and discussion</b>  |

NOTE: Participation is limited to 500 attendees. If this number is exceeded, users will be redirected to the live YouTube transmission at [youtube.com/user/CEIF2011](https://youtube.com/user/CEIF2011)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003890.