

Call for Applicants

Top Talent Team: Burning Lowlands

Large scale fires are affecting natural and built up areas across the globe. As some of the recent headlines from international media highlight, we struggle to respond adequately to this growing challenge.

Are you willing to help develop the vocabulary and research strategies to tackle this growing crisis?! Join our Top Talent Team, "Burning Lowlands".



NOS Nieuws • Woensdag, 08:23 • Aangepast woensdag, 19:42

Blussen grote natuurbrand in De Peel duurt nog dagen, 34 hectare in brand



Crews battled the large wildfire that ignited on Mount Penteli on July 19th. Credit: Odysseas Karadis/Greek Reporter



Gironde. Un incendie brûle 75 hectares dans le Médoc

Les pompiers girondins ont été mobilisés ce lundi 5 septembre 2022 par un feu à Vendays-Montalivet. Celui-ci a au total brûlé 75 hectares.



Incêndios na Amazônia geram nuvem de fumaça céu de Porto Velho

Manicoré está no ranking dos dez municípios brasileiros com o maior número de focos de incêndio acumulados neste mês, entre 1º e 23 de agosto, segundo o Inpe (Instituto Nacional de Pesquisas Espaciais) Christian Braga - 18.ago.2022/Greenpeace

We are an interdisciplinary team of researchers from different faculties across the VU campus investigating innovative approaches to tackle the rise in large-scale (wild) fires in many parts of the world, including The Netherlands.

We have been approached by the Fire Brigade and the Dutch Institute for Public Safety (NIPV) to join forces in national and international cooperative contexts. Specifically, they have asked our help in developing a conceptual framework for (wild) fire management that is appropriate to the ecological, socio-economic, cultural and governance context of The Netherlands.

To this end, we have together initiated the Burning Lowlands project (see Appendix!).

Funded by the CLUE+ Interfaculty Institute we are able to offer 10 spots to highly motivated VU students, bachelor's or master's. Under our guidance, this Top Talent Team will work collaborative on the Burning Lowlands project.

Who are we looking for?

Students wishing to help tackle urgent societal challenges;

- # Students keen to discover the value of their academic training;
- # Students excited to bring their expertise and personal traits to a heterogenous team of highly motivated researchers;
- # Students committed to dedicating 6ec worth of creative and resilient effort between September 2022 and January 2023.

What can we offer?

- # Expert guidance by a team of VU researchers with extensive experience in directing international, interdisciplinary projects;
- # Exciting opportunities to work hands-on with relevant societal stakeholders and international scholars in our network through excursions, interviews and seminars;
- # Training in collaborative, interdisciplinary research methods;
- # Training in maximising the scientific and societal impact of your research.

How can you apply?

Write a motivation letter - maximum 500 words - in which you explain:

- # Why are you excited to join this Top Talent Team?
- # What will you bring to the team, i.e. what are your key assets in terms of knowledge, skills and personal traits?

Submit your letter by email to n.van.manen@vu.nl by Friday 15th September and in your email also specify:

- # The degree programme in which you are enrolled and no. credits obtained so far;
- # Your schedule for period 1 and period 2.

How will we decide who to offer a spot?

- # There is a maximum of 10 spots available;
- # We are looking for highly motivated and committed students;
- # We are seeking to form a team of students from as wide a variety of backgrounds as possible, in terms of discipline, methodologies, linguistic skills, personalities, cultural background, etc.

With kind regards,

The Burning Lowlands Team

Dr. Hilde J. H. Brouwers and Dr. Evelien de Hoop, Athena Institute and Faculty of Science;
Dr. Linde Egberts, Faculty of Humanities and CLUE+;
Dr. Niels van Manen, School of Business and Economics and CLUE+;
Dr. Marleen C. de Ruiter, Institute for Environmental Studies (IVM) and Faculty of Science;
Dr. Sander Veraverbeke, Faculty of Science.

See below: Appendix Burning Lowlands Project outline

APPENDIX

Burning Lowlands: Reconsidering the Wildland-Urban Interface

Top Talent Team, Connected World, 2022/2023

Linde Egberts (LRE) and Niels van Manen (NvM)

Abstract

With the Top Talent Team *Burning Lowlands* we aim to make the next step in the challenge of understanding and living with fires in the Dutch landscape. Through inquiry-based learning we will facilitate 10 students from a variety of relevant disciplines to collaborate in developing a context-appropriate conceptual framework of fires in the Dutch landscape. This Top Talent Team taps into the VU theme Connected World as it aims to bring together interdisciplinary approaches to a societal problem that needs a multitude of perspectives in order to be understood and addressed. It builds on an existing network of highly motivated and engaged researchers from different faculties, rooted in the FireScapes project.¹

Introduction

Over the last decade, the number of wildfires has increased dramatically in the Netherlands and they are expected to increase further (Bednar-Friedle et al. in IPCC 2022, Sutanto et al., 2020). This increase can be attributed to both climate change and changes in the use and management of the land. Researchers and fire practitioners plead for measures to prevent the spreading of fires over large areas, for example by developing vegetation buffers. Like the fires themselves, these measures could have a great impact on the landscapes and the ecological, economic, cultural and political values they constitute. The understanding of this problem therefore requires multi/interdisciplinary collaboration and knowledge production.



Figure 1 Dune fire on Terschelling. Leeuwarder Courant, 15 April 2010.

With the Top Talent Team *Burning Lowlands* we aim to make the next step in the challenge of understanding and living with fires in the Dutch landscape. It taps into the VU theme Connected World as it aims to bring together interdisciplinary approaches to a societal problem that needs a multitude of perspectives in order to be understood and addressed. Figurehead for this assignment is the concept of the “Wildland-Urban Interface (WUI)”. First used in the United States and Canada to highlight the zones where most fires would start and would be most threatening to humans, this concept is now also applied in the Dutch context. But whereas in North America a concept like “wildland” might relatively accurately describe a type of vegetation and territory,² in some definitions large parts of the Netherlands would be marked as a “WUI”, making its relevance questionable. Moreover, it is a term that is very helpful when doing global, satellite-based risk-calculations, the term says little about how people actually live in specific landscapes with specific values and uses. Because of this, it is necessary that an interdisciplinary group of scholars develops a context-appropriate conceptual framework of fires in the Dutch landscape.

Societal relevance and background

Fires are becoming a serious concern for countries in North-West Europe, like the Netherlands (Bednar-Friedle et al. in IPCC 2022). Whereas this part of the world does not have an history of large fires in the landscape, the last few years have shown a substantial change in “fire regime” (Jones et al., 2022). Particularly in the drier landscape types, like the Veluwe, Utrechtse Heuvelrug and Zuid-Limburg large fires are more likely to occur and become uncontrollable. The same is true for peat areas like the Deurnsche Peel, where 710 out of 1200 hectares were burned in April 2020 (Stoof et al., 2020). Fire is not necessarily a problem: human societies have become more

¹ FireScapes: <https://vu.nl/en/news/2021/seed-money-for-the-project-firescapes-ivm>

² “Wildland is an area in which development is essentially nonexistent, except for roads, railroads, power lines, and similar transportation facilities, and structures, if any, are widely scattered” (Tang, 2020). “The wildland-urban interface (WUI) is defined as the area where houses and other structures are built within or close to wildland vegetation” Johnston et al. 2020.

complex and 'civilised' thanks to a domestication of the fire phenomenon (Goudsbloem, 1992). Fire also has an important function in almost any vegetated system (Elrod, 2022). Humans have used fire to manage landscapes for hunting, gathering and agriculture since prehistory.

But the current problems are twofold. First of all, fires now occur in places where hardly to no historical 'fire regimes' existed. Secondly, since the Middle Ages at least, humans have become increasingly successful at repressing and preventing fire: hiding it in lightbulbs, central heating systems and engines. This way, western societies have become unused to 'living with fire' and all fire has become framed as dangerous and threatening (Pyne, 2022; Stoof & Kettridge, 2022). This means that when repressing fires no longer works, communities seem powerless against a destructive force.

Humans need to start living with fire again, but the current increase as well as prevention and mitigation of fires require complex human-nature interactions. In present-day societies this actually appears to be a typical wicked problem: it is "long-term, large-scale, has entrenched interests, compounding risks and is full of uncertainties" (Balint, 2011). For example, fire suppression will in many landscapes lead to an accumulation of 'biofuel', which means that if a fire occurs it will be hotter and stronger. But also, the areas in which fire is most dangerous is also exactly the areas where most fires start: in places with lots of human activity. Due to its wickedness, fire demands networks of learning organizations to deal with it, even if there is no optimal solution. In countries like the Netherlands where frequent uncontrollable fires are a relatively new phenomenon, the scientific world has hardly been connected to the world societal stakeholders such as terrain managers, who tend to have ecological agendas, and firefighters, who are mainly trained to repress fire in urban areas, not in nature reserves that are under increasing risk (De Hoop et al. under review).

Knowledge development about landscape fire approaches in the Netherlands is therefore in great demand. Particularly the Fire Brigade and the Dutch Institute for Public Safety (NIPV) have reached out to the fire researchers at Vrije Universiteit Amsterdam to join forces in national and international cooperative contexts. According to these experts, there is a lack of political urgency of this topic, as the scientific prognoses demonstrate that landscape fire is now a higher risk for casualties than flooding, whereas no legislation or coordinated adaptation programs are in place. In order to be able to create more awareness of this topic, the academic world needs to get better grips on how to develop conceptual research approaches that align with the cultural, social, territorial and economic specificities of the Dutch landscape.

The Top Talent Team Burning Lowlands builds on an existing network of highly motivated and engaged researchers from different faculties, rooted in the FireScapes project.³ In this project, the research group mapped this knowledge gap on the relationship between fires, fire risk reduction and mitigation measures and the ecological, cultural and political values of the Dutch landscape. We investigated the perceptions of fire by stakeholders and citizens, in which we concluded that perceptions and framing of potential adaptation measures vary greatly. This way, we made a great start with interdisciplinary exchange on the fire challenge in the Netherlands, resulting in the engagement of 40+ Ma students, a peer-reviewed article,⁴ a book chapter,⁵ conference presentations, a stakeholder workshop and connections to the professional field nationally and internationally. But so far, we have been unable to address there the lack of conceptual understanding of how this new challenge can be understood in the Dutch/north-western European context. And that is exactly what the Burning Lowlands Top Talent Team will take on.

Didactic approach

Project leaders LRE and NvM have extensive experience leading interdisciplinary Bachelor's and Master's programmes (Minor Heritage and Space; MA Heritage Studies; MSc Geographical Information Science) and coordinating interdisciplinary research (e.g. Hericoast, Heriland). We will utilize **inquiry-based learning** to facilitate the collaboration within the Burning Lowlands Top Talent Team. This approach is ideal for self-directed student teams. Together they define the steps needed to tackle the assignment and make the most of their different areas of expertise. This approach stimulates students' autonomy and empowers them to nurture their skills sets in a stimulating and supportive environment. At the same time, we will engage pro-actively in coaching the students as a group as well as individually in order to maintain momentum and facilitate their learning process. We will utilize our experience with **mixed classroom in practice** and **community service learning** to support the students in making the most of the diversity within the team and in working with the societal stakeholders. Participation in the Top Talent Team will yield 6 ects per student.

³ FireScapes: <https://vu.nl/en/news/2021/seed-money-for-the-project-firescapes-ivm>

⁴ Evelien de Hoop, Hilde J. H. Brouwers, Sophie L. Buijs, Linde Egberts, Max J. van Gerrevink, Marleen C. de Ruiter, and Sander Veraverbeke, "Multi-stakeholder Analysis of Fire Risk Reduction in a Densely Populated Area in the Netherlands: A Case-study in the Veluwe Area," *Environmental Research Letters*, under review.

⁵ Hilde Brouwers, Evelien de Hoop & Linde Egberts, forthcoming. "Dealing with diverse values and knowledge forms: reflections on how being on-site aids researchers and stakeholders in working towards strategies in landscape fire prevention", to appear in an edited volume on transdisciplinary research methodologies.

Learning goals

After the Burning Lowlands Top Talent Team, the participating students:

1. Have knowledge of the cultural, social, territorial and economic specificities of the increasing fire risks in the Dutch landscape;
2. Are able to contribute to group discussions and research, using their own (disciplinary) background in a multi/interdisciplinary group project.
3. Be able to develop an interdisciplinary, conceptual research approach to wild fire risk that aligns with the cultural, social, territorial and economic specificities of the Dutch landscape;
4. Can present their research approach to societal stakeholders and scientists working on wild fire management both orally and on paper.
5. Are aware of their own strengths, challenges and motivation to work in interdisciplinary settings on urgent societal topics, which will strengthen their abilities to make decisions about their future career paths.

Learning activities

The students participating in the Top Talent Team will:

1. Participate in an introductory seminar in which the project leaders and steering-committee members introduce the inquiry-based learning approach, the Burning Lowlands assignment and relevant concepts derived from practice and (inter)disciplinary fields.
2. Write a joint research report to tackle the assignment, making optimal use of the expertise, language skills and personalities present in the team.
3. Participate in biweekly progress meetings with the project leaders and steering committee members to discuss preliminary findings and decide on the next steps.
4. Present the final outcomes at an academic conference and in a scientific publication.

Assessment

In the research report, the students will define their main deliverables and with each deliverable submit a reflection on the contribution that was made by each team member. The deliverables and reflection reports will be used to monitor the students' performance.

Project organization and recruitment

We are aiming to recruit 10 students, mainly within the faculties of the engaged researchers. For Humanities this means that participation will be offered to Bachelor students through the Honours Programme. Coordinators of the Masters Arts&Culture, Heritage Studies, Archaeology and Research Master Environmental Humanities will share our recruitment announcement on the Canvas pages of their programmes. For Science, students in BSc Aardwetenschappen, MSc Earth Sciences, MSc Hydrology and MSc Ecology and Evolution will be approached. For Economics, the opportunity will be offered to students participating in the Bachelor's Aarde, Economie en Duurzaamheid and the MSc in Spatial, Transport and Environmental Economics. For Social sciences, we will recruit among the Bachelor students of Governance Studies.

The students will receive their assignment in September officially from Jelmer Dam, National Coordinator Wildfire Management at Dutch Institute for Public Safety (NIPV). He will also be available for field visits and response on student work when they request that.

The support of this Top Talent Team will be facilitated by Linde Egberts, Faculty of Humanities, and CLUE+ (project initiator) and Niels van Manen, School of Business and Economics and CLUE+ (project coordinator). We will engage our partners-of-old as members of the steering committee: Evelien de Hoop & Hilde J. H. Brouwers, Athena Institute, Faculty of Science; Marleen C. de Ruiter Institute for Environmental Studies (IVM) and Faculty of Science; Sander Veraverbeke, Faculty of Science all based at Vrije Universiteit.

Planning and deliverables

Student activities for this Top Talent Team will take place between mid-September 2022 and end of January 2023. The exact planning of the work will be done by students themselves. The students will define the milestones including deadlines in a work plan that will (at least) include: 1) an **abstract** for the European Geoscience Union conference in Vienna, that hosts a specific session on fire; 2) a **research report** on their findings; 3) a presentation of results to their commissioner, Jelmer Dam; 3) a **presentation** of the research outcomes at the EGU conference; 4) a draft of a **peer-reviewed paper** in a journal like *Landscape Research, Environment and Planning D*, to be decided by the students.

Literature

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