



‘Training the next-generation of European GLIOblastoma (translational) researchers, to RESOLVE precision targeting of the brain tumour microenvironment’

**Welcome to the first GLIORESOLVE newsletter!**



### About the project

GLIORESOLVE is a multi-national, multi-sectoral training network, funded by the EU’s Horizon Europe research and innovation programme under the Marie Skłodowska-Curie Doctoral Network initiative.

Between 2022 and 2026 we will train 10 new scientists with a specific focus on improving treatment outcomes in glioblastoma.

### Glioblastoma: The Unmet Need

- 250,000-300,000 cases of brain and central nervous system (CNS) tumours are diagnosed worldwide every year.
- Glioblastoma is a type of brain cancer and is the most frequent and aggressive CNS tumour.
- Standard of care for glioblastoma is surgery (to reduce tumour size), followed by chemotherapy (temozolomide) and radiotherapy (to kill remaining cancer cells).
- The main causes of treatment failure are:
  1. Invasion of tumour cells into the surrounding brain tissue making full removal of the tumour impossible
  2. Extreme resistance of tumour cells to radiation and chemotherapy.

**New treatment options are urgently required.**

*You can read more about Glioblastoma on our website. Please see links provided at the end of this Newsletter.*

### The Tumour Microenvironment

The glioblastoma tumour microenvironment or ‘TME’ for short is the neighbourhood in the brain in which the cancer cells live. Namely, cancer cells live alongside non-cancerous cells including normal brain cells, glial cells, blood vessel cells and different types of immune cells. The many different interactions between these cell types contribute to the difficulty in treating GBM.

In a previous project, three new ‘subtypes’ of GBM, based on the TME were identified. Each subtype had distinct mixes of cells and genetic mutations. You can read more about the biology of the TME subtypes in our flyer.

### Project Objective

Overall, the project seeks to identify a new TME-targeting platform for glioblastoma brain tumours.

We will establish new ‘precision’ therapeutic strategies for glioblastoma by specifically considering how patients with tumours of each TME subtype might be treated.

## How will we achieve our objectives?

Over the course of the project, ten PhD students, working in different laboratories throughout Europe, will work on individual research projects. Whilst these ten projects are unique, they all work towards the same overall goal of improving GBM treatment options through exploitation of the Glioblastoma TME.

We will also exploit the significant expertise available in the consortium, which comprises 21 international organisations and brings together leading academics, clinicians, private sector and not-for-profit partners from 10 countries. Our expertise lies in multiple disruptive research methods including multi-'omics, spatial technologies, ex-vivo 'tumour-on-a-chip' assay development, preclinical models, computational modelling and systems biology.

By the end of the project we hope to generate sufficient data to support a Phase 2 clinical trial to establish a new TME-based precision medicine approach for application in Glioblastoma

## GLIORESOLVE News

### Recruitment of 10 PhD candidates

The most important aspect of the GLIORESOLVE project to date has been the identification of 10 PhD candidates of excellence. A recruitment drive was undertaken during the first months of the projects and we are pleased to have a great cohort of students, representing many different backgrounds, both scientifically and culturally. You can read the biographies of each our students on the GLIORESOLVE website (link [here](#)).


### 1<sup>st</sup> Plenary Meeting and Training Event

In June 2023, the 1<sup>st</sup> GLIORESOLVE plenary meeting and PhD candidate training event took place at the Royal College of Surgeons in Ireland, Dublin. At the Plenary meeting, PIs and PhD students were welcomed to the project by Coordinator Prof Annette Byrne. All of the PhD candidates presented an overview of their research project and there were discussions regarding the sharing of preclinical models, alignment of methodologies amongst other important matters. The day rounded off with a network dinner.



The remaining 3 days of the programme were focussed on training. Research and scientific integrity and ethics sessions were delivered by Prof Suzanne van de Vathorst (Lecturer and Researcher in the Department of Medical Ethics, Philosophy and History of Medicine at Erasmus MC) and by Prof Ségolène Aymé (Emeritus Director of Research at INSERM and expert in residence for rare diseases at the Brain and Spine Institute). Workshops focussing on time management and personal organisation and project management was delivered by Dr Margaret Collins from Training for Universities (<https://trainingforuniversities.com/>).



The final day of the training event was our first workshop focussing on patient and public interaction and engagement (PPIE). Sessions were led by Ms Fiona Keegan, GLIORESOLVE External Advisory Board (EAB) member and CEO of charity Brain Tumour Ireland, and Dr Michelle Flood, RCSI PPI Ignite Network Site Lead. Students were given introductory training in PPIE and tips and tricks for explaining their research to a non-scientific audience. Fiona Keegan also gave a talk explaining the work of Brain Tumour Ireland and the importance of patient and family engagement. At the end of the workshop, the students were tasked with presenting a 5-minute talk on their own research, in a suitable format for a PPIE event. Feedback was provided by Ms  PPI IGNITE NETWORK and Dr Flood.

Overall, the first event provided key training for the GLIORESOLVE PhD students and it was also the first chance for the students to network with their GLIORESOLVE colleagues. We look forward to the next event, which will take place in Rotterdam in January!

### Communication and Dissemination Activities *Patient and Public Involvement and Outreach*

The GLIORESOLVE consortium is committed to undertaking PPI activities throughout the course of

the project. To achieve our PPI objectives, we work with the International Brain Tumour Alliance, whose Chair and Founding Co-Director, Kathy Oliver sits on the GLIORESOLVE EAB. In Ireland, GLIORESOLVE Coordinator Prof Annette Byrne works closely with Brain Tumour Ireland and throughout Europe our PIs and students liaise with national charities and bodies to ensure that they reach the widest networks possible. We seek to increase awareness of Glioblastoma whilst informing the public of the work that is going into tackling this underfunded research area.

### RCSI and Brain Tumour Ireland Annual PPI research update event

During Brain Tumour Awareness week 2022 and 2023 RCSI and Brain Tumour Ireland co-hosted research update events. The events were held at RCSI, Dublin.



Talks at the 2022 event ranged from an overview of Glioblastoma projects being undertaken at RCSI, including GLIORESOLVE, exploring the rehabilitation needs of people with brain tumours in Ireland a review of current practice and recent advancements in brain tumour treatment. You can see a video recorded at the 2022 event [here](#).

In 2023, talks focussed on research that will improve immunotherapy options for brain tumour patients, discovering new approaches to treat brain tumour related epilepsy, reviewing new ways to treat glioblastoma through the exploitation of the TME subtypes and refining drug delivery methods to brain tumour patients. A full recording of the live event from 2023 can be found [here](#).

### Luxembourg Institute of Health Public Event



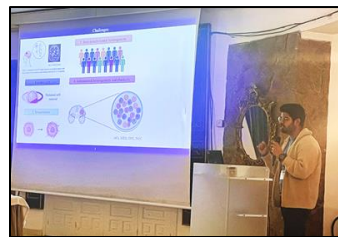
GLIORESOLVE PhD candidate Marta De Lucas Sanz and Principle Investigator Dr Anna

Golebiewska (Group leader of the NORLUX Neuro-Oncology laboratory at the Department of Oncology, Luxembourg Institute of Health [LIH]) took part in an outreach event on 17 September 2023. The event, organised by LIH, was held to give the public the opportunity to discover the world of clinical research.

### Media Features

The GLIORESOLVE project was highlighted in an article entitled 'Changing the Lives of Patients with Brain Cancer', which was published on the Horizon Europe in Ireland website. We were also featured in a Labiotech.eu online article in the 'best of biotech' section. The article was entitled 'Five advancements in brain tumor [sic] research over the past year' and is available [here](#). GLIORESOLVE Coordinator Prof Annette Byrne was interviewed as part of Brain Tumour Awareness Week 2023 activities by a reporter from the Irish Examiner. She discussed the ongoing brain tumour research in her group and the necessity to improve patient outcomes. The article was released on 31 October 2023 and you can read it [here](#).

### Scientific dissemination



Mr Jayesh Telang, our PhD student based at KU Leuven, Belgium, recently attended the EMBO Workshop on Computational

models of life: From molecular biology to digital twin. Jayesh presented a poster and gave a flash talk at the workshop, giving him the opportunity to communicate the background a rationale behind his project and to disseminate preliminary results in collaboration with GLIORESOLVE Partner Organisation, Arjuna Therapeutics. We hope to see more of our PhD candidates attending and presenting at meetings and conferences in the coming 6 months and we will update you in the next newsletter!

### What's next

#### Training

##### Dissemination and Communication workshop

The next PhD candidate network-wide training event takes place at Erasmus MC in Rotterdam in January. The training will be focussed on Dissemination (poster presentations) and Communication with a non-scientific audience, given the importance of this skill to the consortium.

##### Other 2024 training events

We also have two additional training events planned, including a translational research symposium, which will be open to external participants. Keep an eye on our socials for more information!

The GLIORESOLVE team

Coordinating Institute



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OF MEDICINE  
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