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**GLOBAL Robotic telescopes Intelligent Array
for e-Science**

MANUAL

for Personal Space users

Version: 1.0

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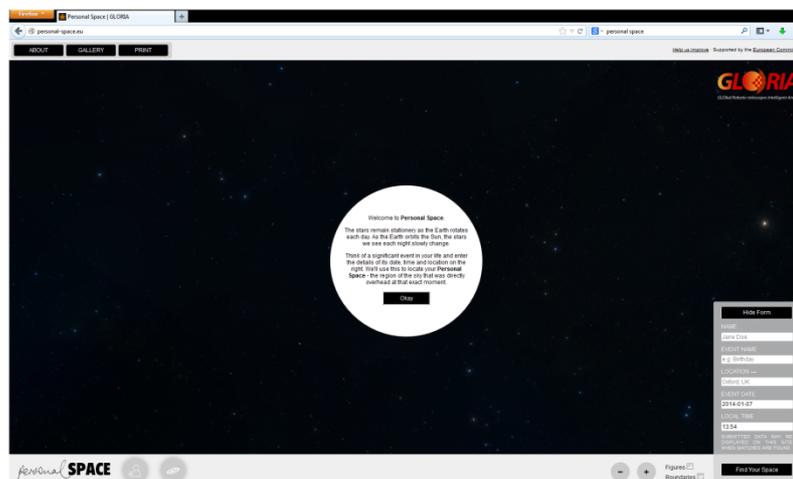
Introduction

The GLORIA project aims to bring astronomy to anyone with an Internet connection, by making a global network of robotic telescopes available for use by the public. But the sky is big – where should you look? What will you find there? Personal Space was designed to provide a starting point for new users of GLORIA. The aims of Personal Space are to:

- Allow people to find a direct and personal connection to the universe by linking significant moments in their own lives to what was observable directly above and/or below them in the sky, at a specific time and place on Earth.
- Raise awareness of the interconnectedness of lived experience, by alerting people when they pass through another person's personal, political or historical personal space.
- Develop understanding of the movement of the earth in time and space by alerting people to the simultaneous physical relationship between the macrocosm of the universe and the microcosm of our own personal experiences.
- Encourage people to learn more about the planets, stars, nebulae and galaxies in the universe by giving them a personal connection from which to start their own explorations.

Basic Operation

Exploring Personal Space is very straightforward. It is a web application, accessible through a browser from the website <http://personal-space.eu>. Follow the link and press 'Okay' when you have read the 'Welcome' window. No login or subscription is necessary.



The stars remain (effectively) stationary as the Earth rotates each day. As the Earth orbits the Sun, the stars we see each night slowly change throughout the year. You are invited to think of a significant event in your (or someone else's) life and enter the details of its date, time and location in the panel on the right. This information is used to locate your **Personal Space** - the region of the sky that was directly overhead at that exact moment from that place.

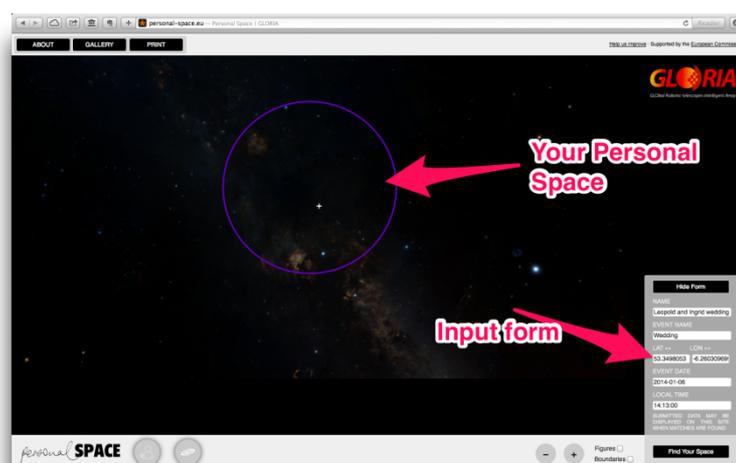
The ABOUT button provides some basic information about the application and its purpose.

To help you to orientate your view of the sky by referring to naked-eye constellation boundaries, you can flag the 'Figures' and 'Boundaries' check-boxes in the bottom panel.

As a start-up we have created a list of interesting historical events. You can view these "Personal Spaces" by clicking on the GALLERY button and selecting the event that attracts your interest. We welcome suggestions for other suitable events here.

Example

You would like to give your friends a beautiful astronomical image of their Personal Space to celebrate their wedding that took place on 6th of January 2014 at 14:13 local time in Dublin. You type 'Leopold and Ingrid's wedding' into the NAME field and type 'Wedding' for EVENT NAME. Then enter longitude (LON) and latitude (LAT), or simply type in the name of the place and Google Maps will assist you in finding its exact coordinates. You then modify the date (EVENT DATE) and time (LOCAL TIME) of the event. For simplicity, the times are considered as local so you don't have to worry about converting them to different time zones. Once you are happy with the information entered, click the 'Find Your Space' button. This will submit the information to the server and the browser will return an image of the patch of sky overhead at that time and place.

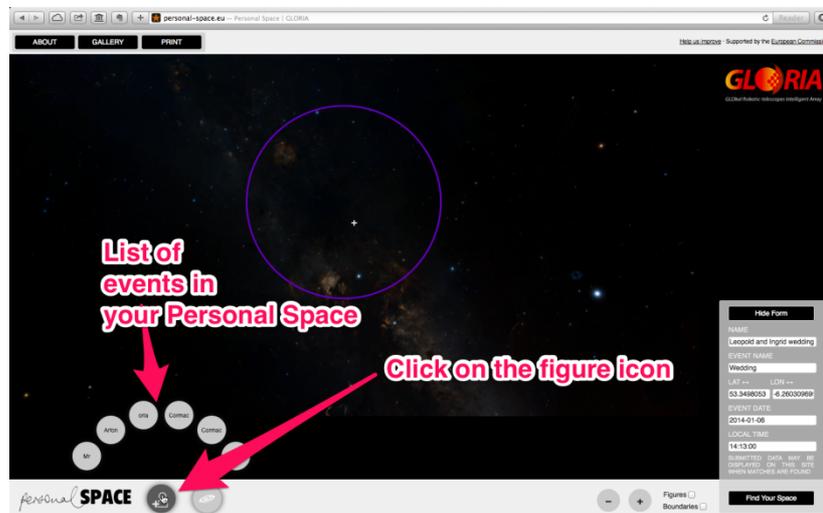


Further Exploration

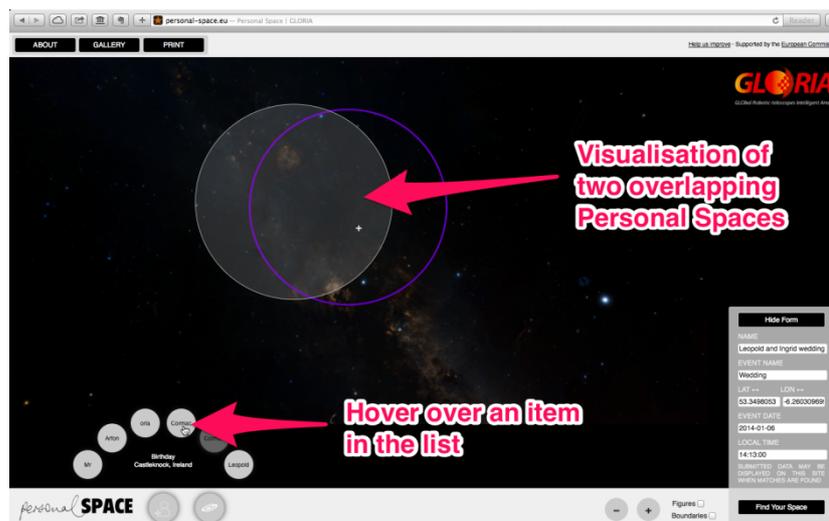
The tool also allows you to explore the universe within or around your Personal Space. The image displayed is taken by the Digital Sky Survey¹. It is a composition of many

images obtained by different telescopes to give you the most visually appealing result.

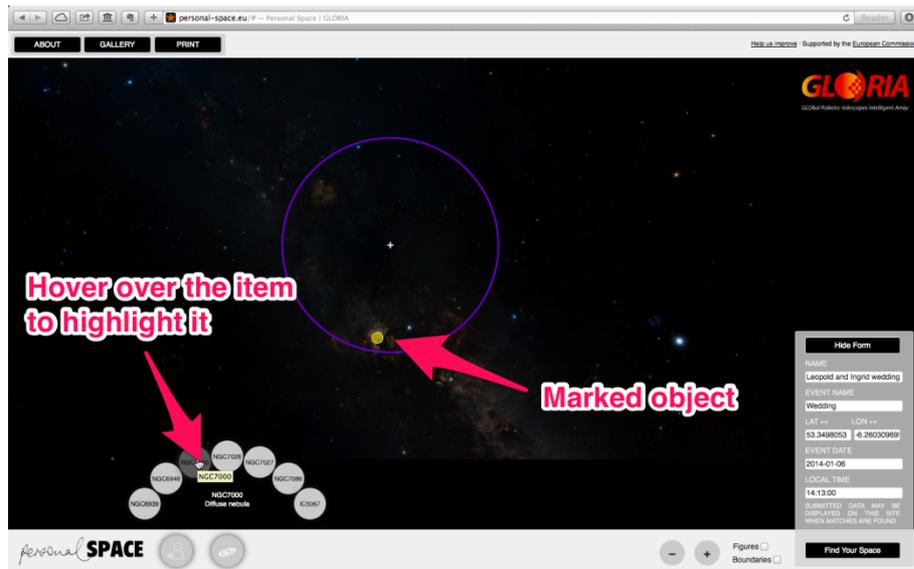
You can find out if there are any other Personal Spaces which intersect your own (including Gallery events). Place your mouse pointer over the person icon in the bottom panel and the list of events intersecting your Personal Space pops up.



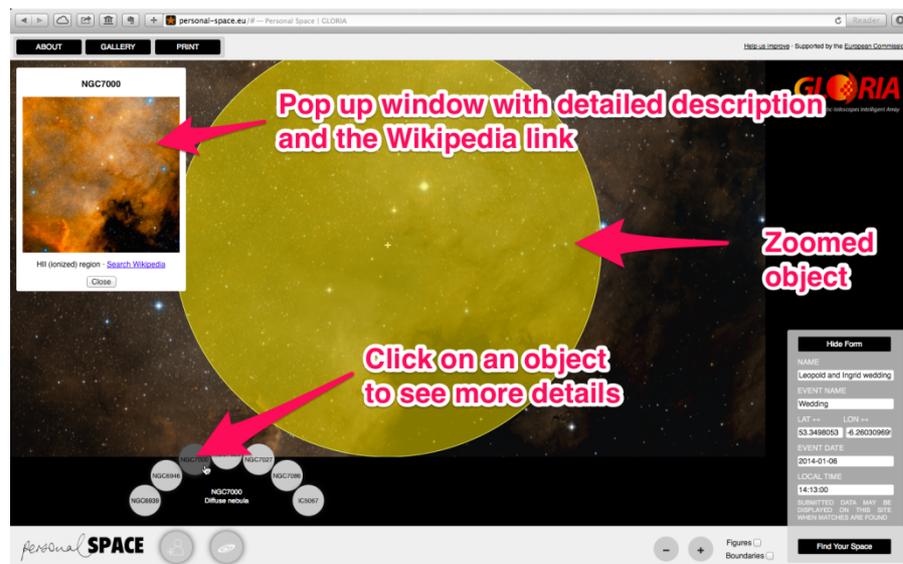
Hovering on any of them allows you to see the overlap.



If you want to find out about the deep-sky objects in the image, hover the mouse pointer over the galaxy icon on the bottom panel. The circles show the names of the celestial objects in the image. Move your mouse to one of them, let's say the marvellous diffuse nebula NGC 7000, and a yellow semi-transparent circle will show you which object in your Personal Space it is.



To get a better view, you can use the '+' and '-' buttons on the bottom panel to zoom in or out. Alternatively, you can drag the image with a mouse, or scroll gently up/down with the mouse pointer inside the sky map pane to see the source in greater detail.



If you click on the item in the list of objects in your Personal Space, the application will focus on that object, centre it, zoom it and display a window with even another image accompanied by a short description. If you are eager to learn even more, just follow the link to the related page on Wikipedia or close the window to return to Personal Space to discover another object.

Saving your Space

You can save your image by just clicking on the PRINT button in the upper bar and printing it as a pdf file (or printing it directly).

We hope you enjoy exploring Personal Space.

Frequently Asked Questions

Q: I want to observe one of those beautiful looking objects on my own with a real telescope. What should I do?

A: We are just about to add this feature, providing a nearly one-click request to observe a selected target with one of the robotic telescopes in the GLORIA network.

Q: I found a bug or the application does not work as expected.

A: Please submit the bug by following the link in the top right corner of the Personal Space window.

ⁱ The Digitized Sky Surveys were produced at the Space Telescope Science Institute under U.S. Government grant NAG W-2166. The images of these surveys are based on photographic data obtained using the Oschin Schmidt Telescope on Palomar Mountain and the UK Schmidt Telescope.