

# SuperWASP: Black Hole Hunters First Results

A detailed illustration of a black hole. At the center is a dark, circular event horizon. Surrounding it is a bright, glowing accretion disk that is tilted and shows complex internal structures. The black hole's gravity is shown bending the light from stars in the background, creating multiple images and arcs of light. The background is a deep blue space filled with numerous small, distant stars.

Adam McMaster  
The Open University

# The Black Hole Hunters Team



Hugh Dickinson



Matthew Middleton



Adam McMaster



Stephen Serjeant

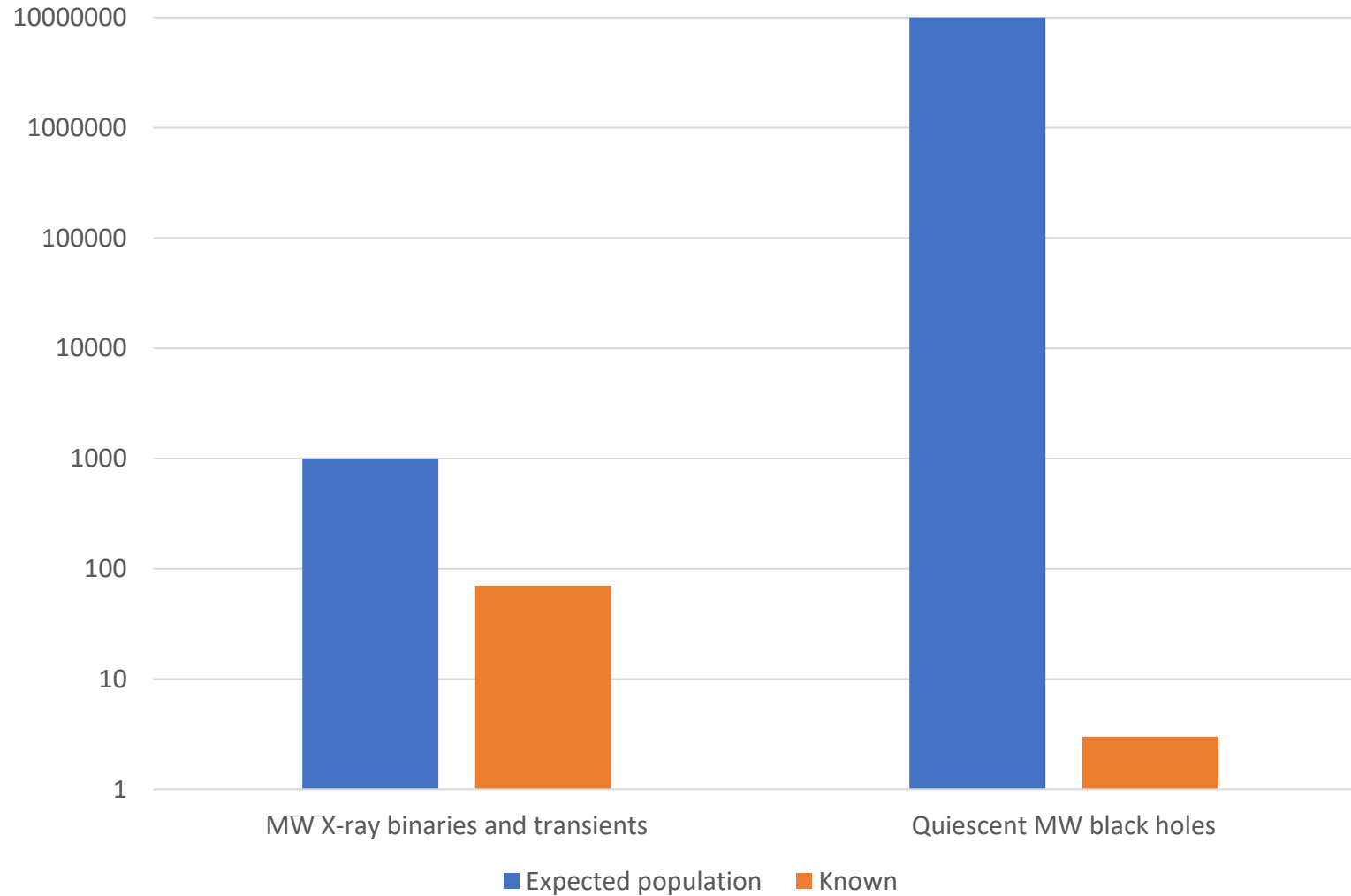


Andrew Norton

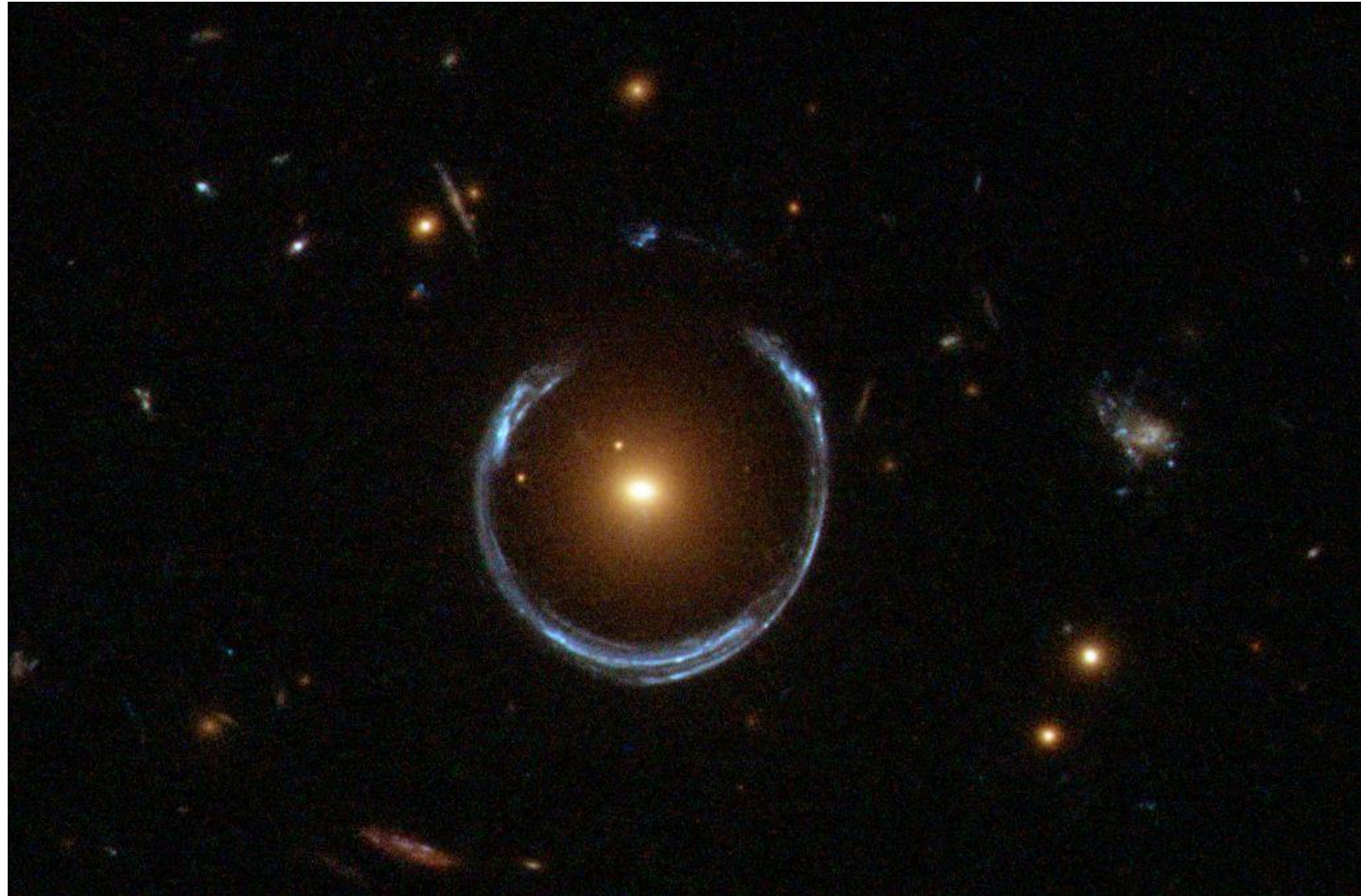


Heidi Thiemann

# The Undiscovered Black Hole Population



# Gravitational Lensing



# Gravitational Microlensing

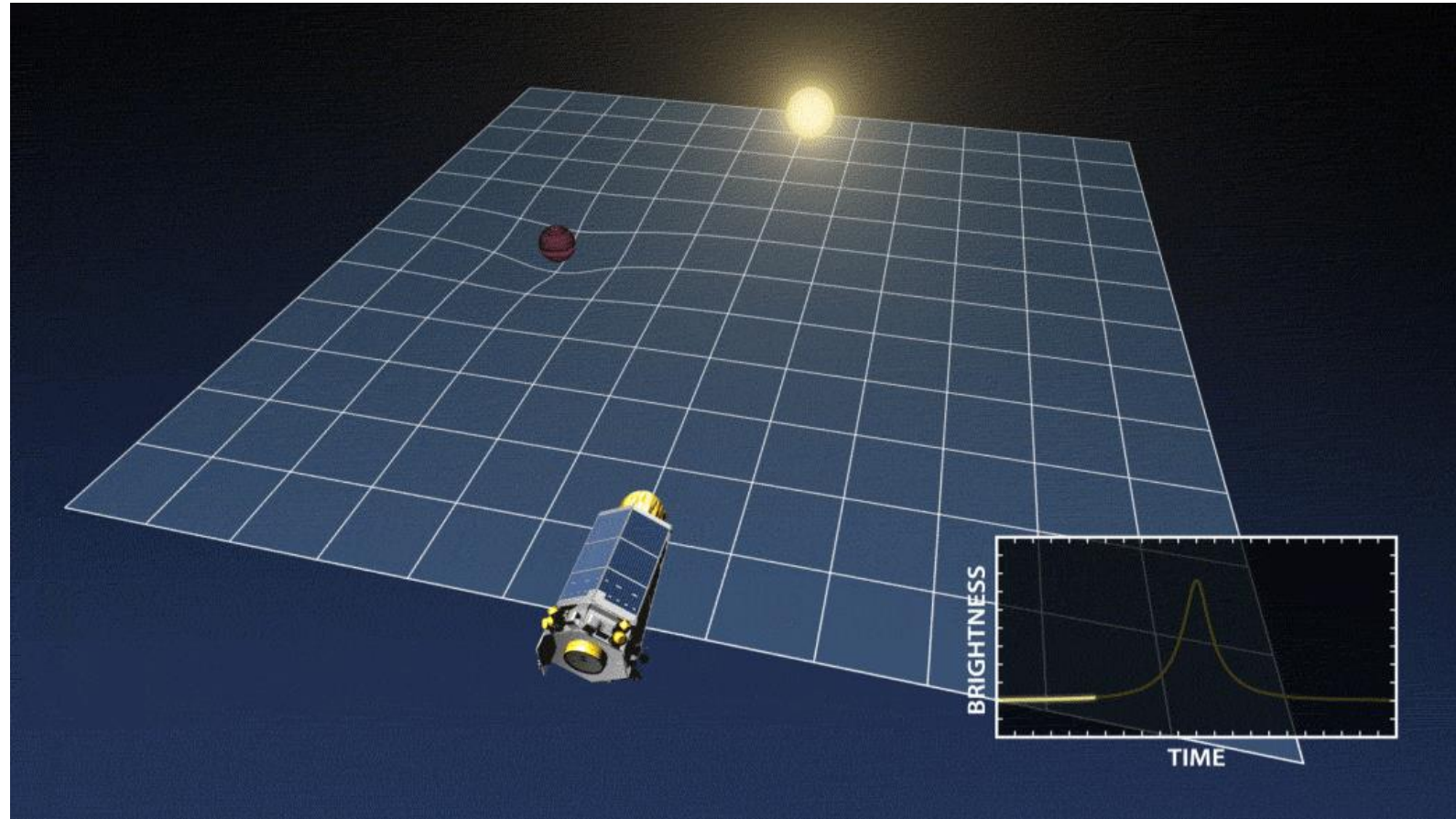
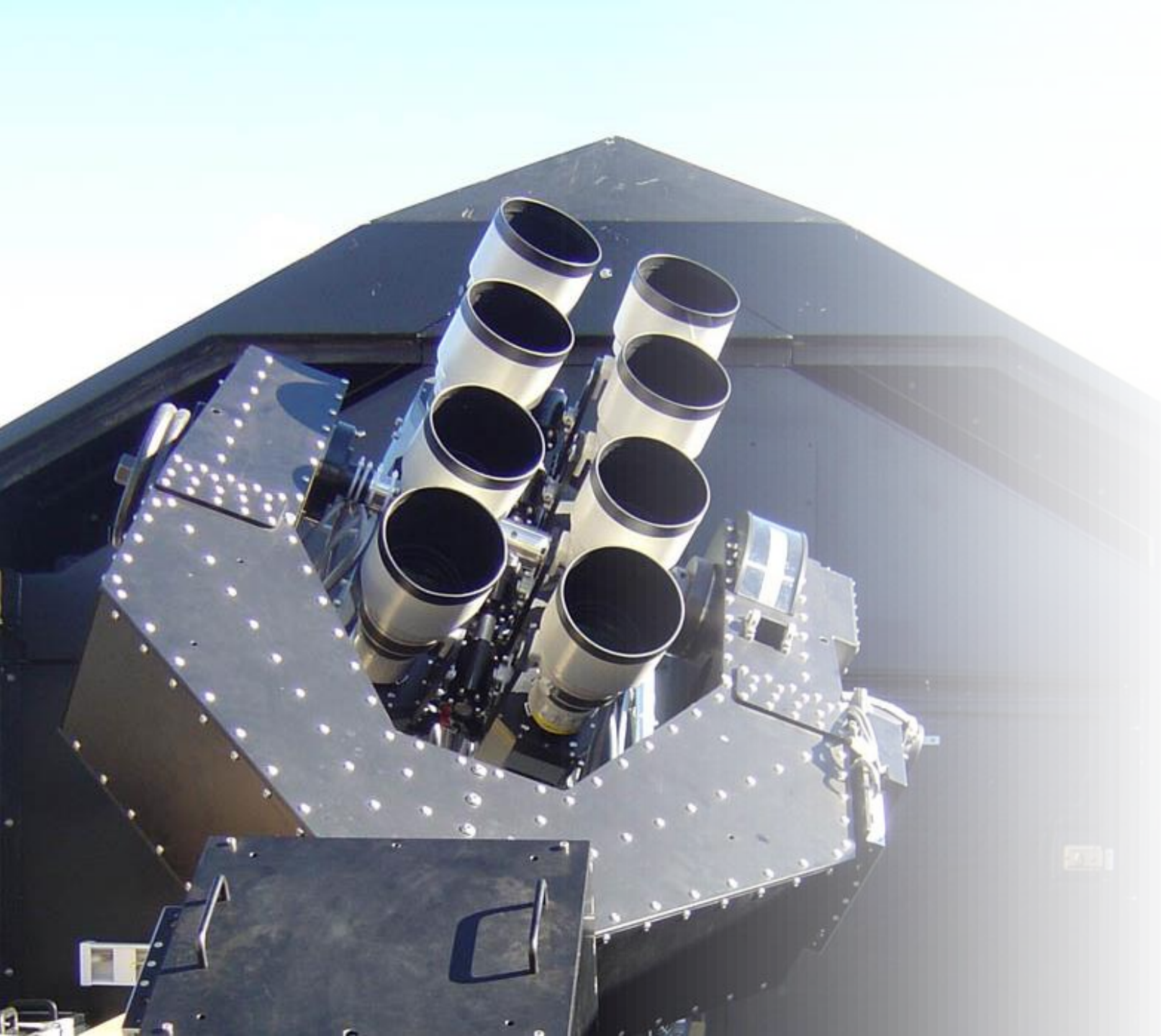


Image: Wikipedia



# What is SuperWASP?

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The **Wide Angle Search for Planets** –  
a ground-based exoplanet search

Two telescopes (North and South)

# SuperWASP

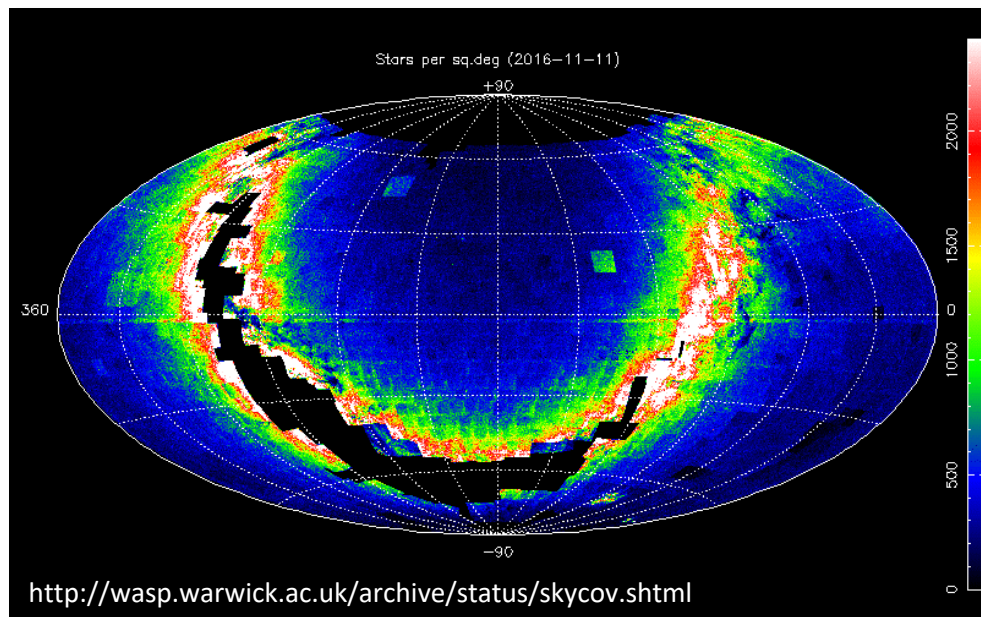
The most successful ground-based exoplanet search

Two telescopes: North in La Palma, South in South Africa

Operated from 2004 - 2016

Photometric lightcurves of ~31 million stars

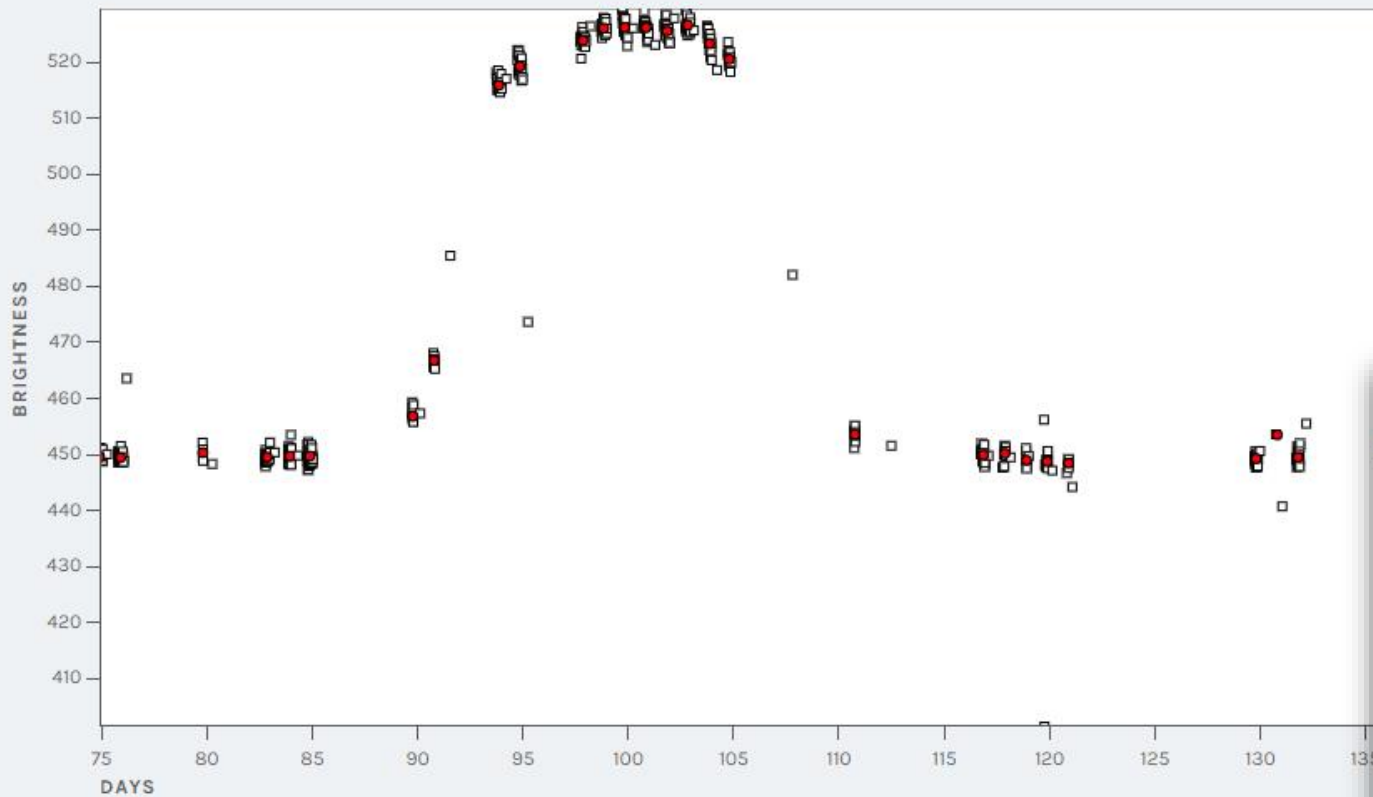
The data can be used for other things. We're looking for variable stars and black holes.





# SuperWASP: Black Hole Hunters

SUPERWASP: BLACK HOLE HUNTERS

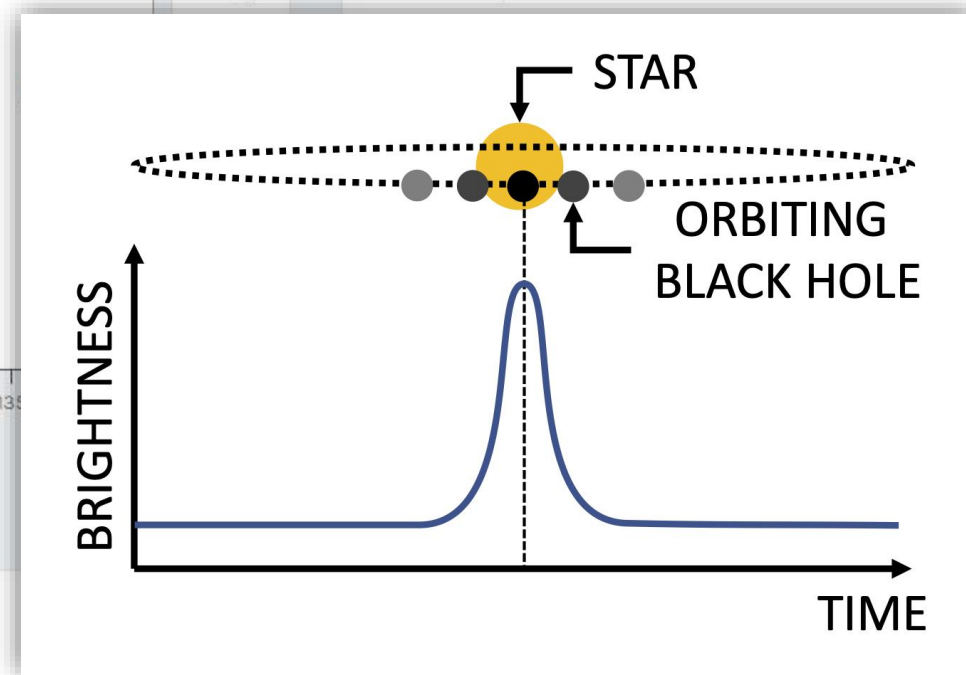


TASK

TUTORIAL

Can you see a sharp peak in the graph that might be a hidden black hole?

Look for **symmetrical** peak-like features in the light curve containing **four or more red circles**. If you see a feature that fits the description, then answer "Yes". Otherwise, answer "No".



① SUBJECT INFO    ❤️ ADD TO FAVORITES    ≡ ADD TO COLLECTIONS



## Finished for the day?

Your answers are saved for the research team while you're working. See the project stats and return to the SuperWASP: Black Hole Hunters home page.

🌓 SWITCH TO DARK THEME

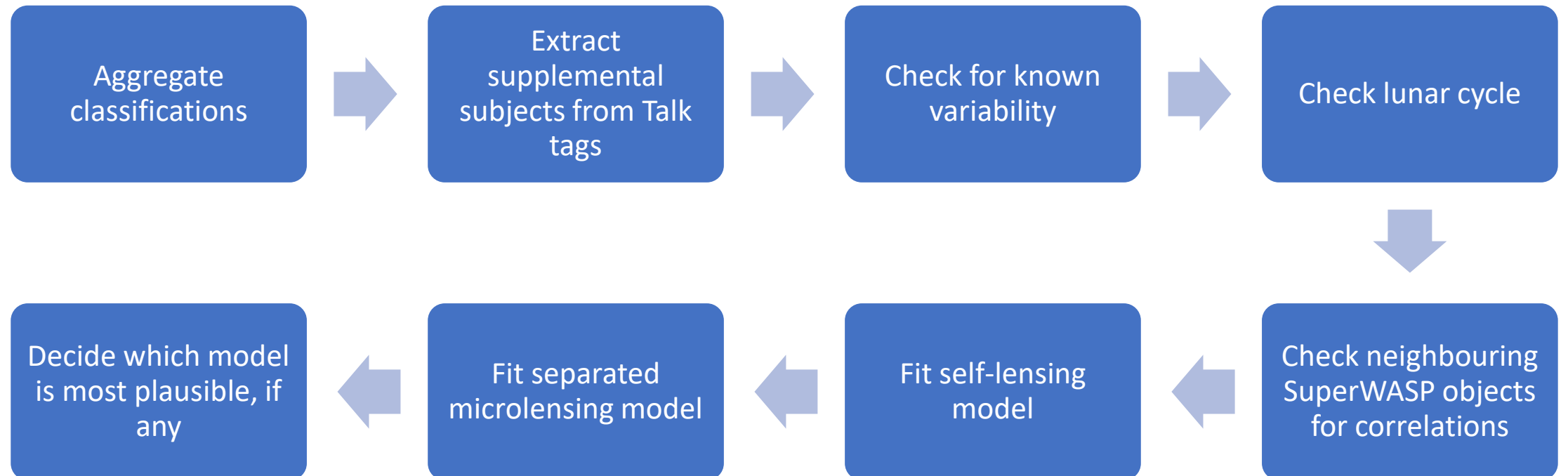


5,652 volunteers

2.1 million classifications

208,700 completed subjects

# How we extract candidates from the Zooniverse

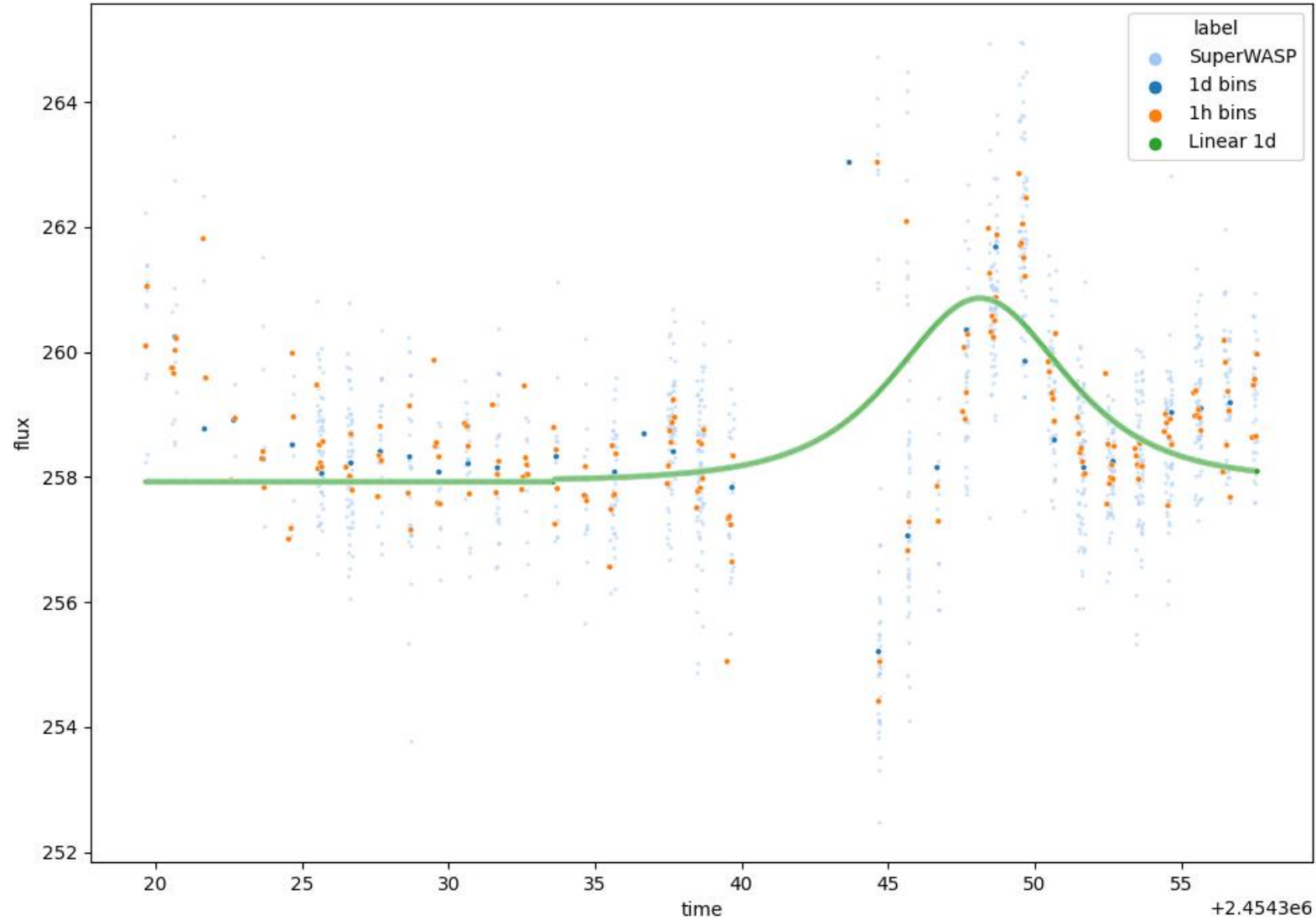


1,000+ candidates from Zooniverse

70 candidates after manual review

... but we still need to fit these to our lensing model!

# An example candidate



# What's next

- Finishing candidate vetting and modelling process
- Paper with first candidates in 2023
- Follow-up project using TESS data in planning

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[superwasp.org/get-involved](https://superwasp.org/get-involved)



@BlackHoleHunter

