



# PHD IN ASTROPHYSICS AT LEIDEN OBSERVATORY

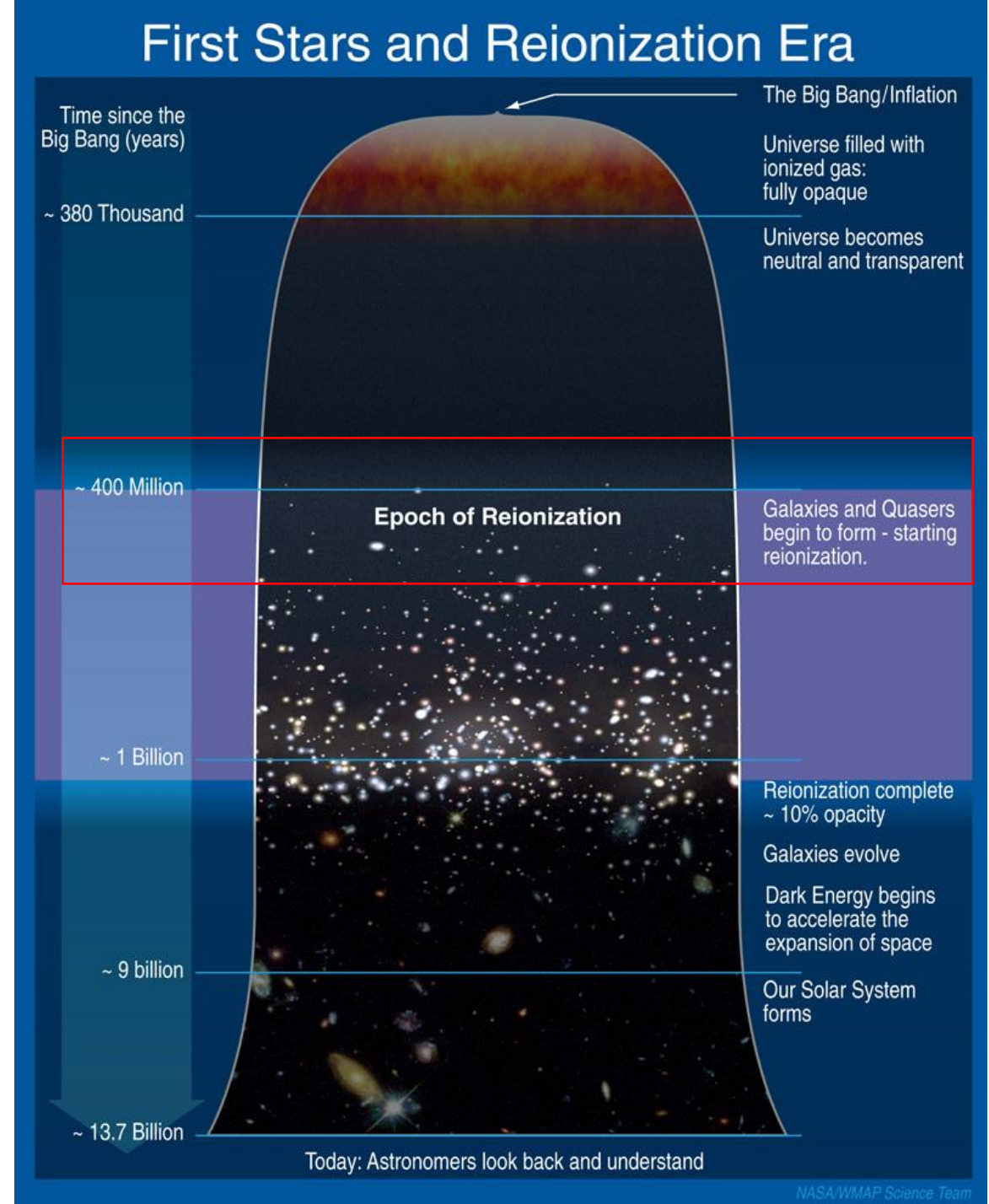
Lucie Rowland





# HOW ARE GALAXIES FORMED IN THE EARLY UNIVERSE?

- Pre-JWST: First galaxies start to form ~400 million years after the Big Bang –such galaxies should be rare, small, and messy
- One year after JWST: Fully-formed galaxies observed just 300 million years after the Big Bang...



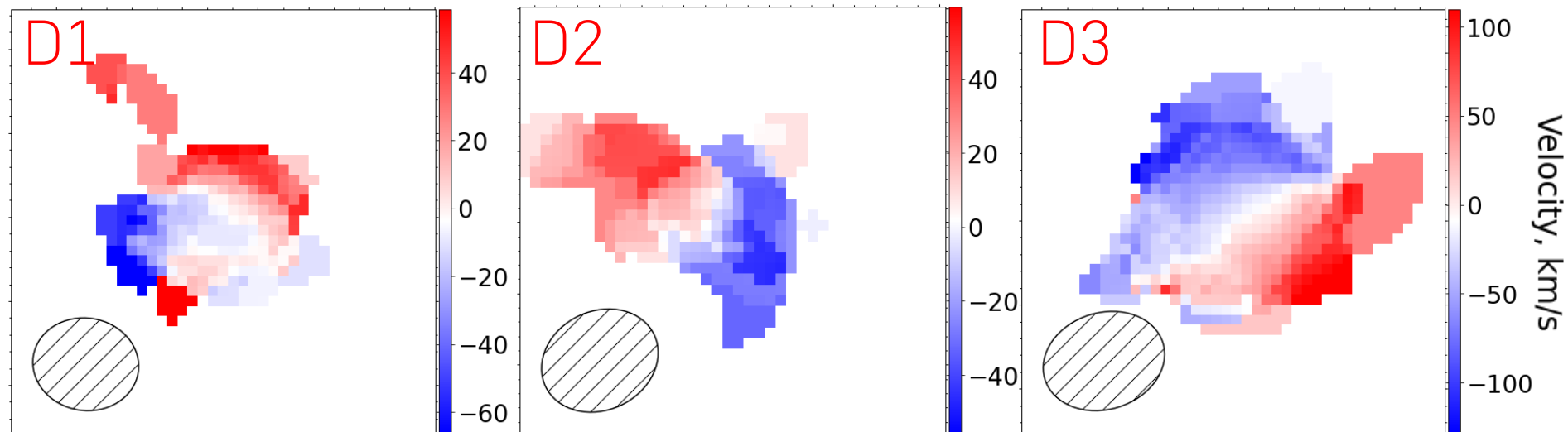
REIONISATION ERA  
BRIGHT EMISSION LINE  
SURVEY - REBELS

- 40 (+12) massive galaxies still forming stars <1 billion years after the Big Bang
- Observed with ALMA, HST, Spitzer
- JWST observations in 2 months!!!

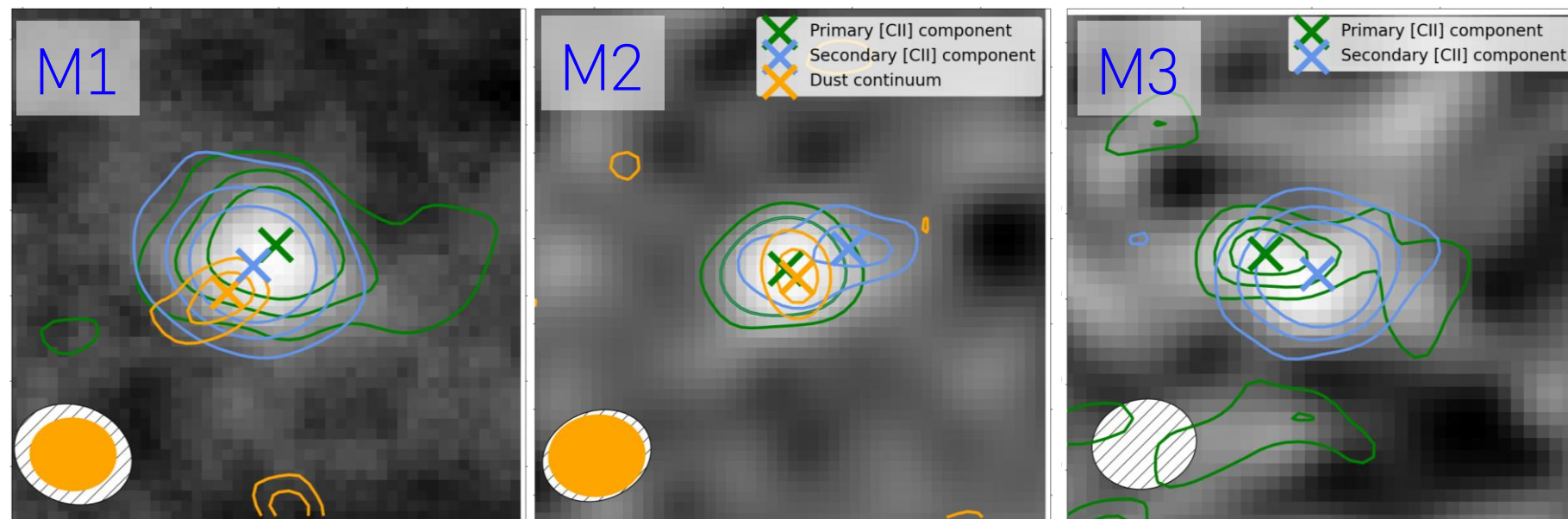


**REBELS**

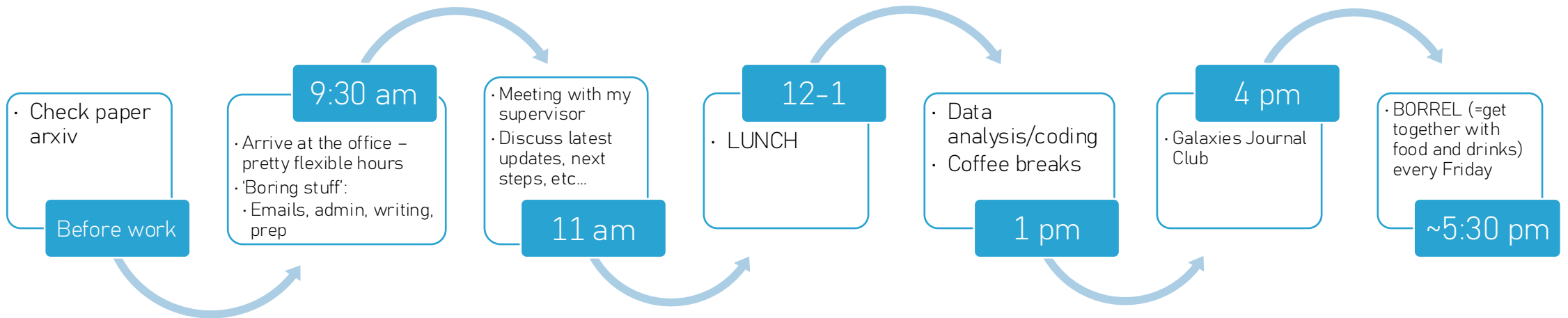
# ROTATING DISK CANDIDATES:



# MERGER CANDIDATES:



# A DAY IN THE LIFE...



# ASTRONOMER



What my friends think I do



What my mom thinks I do



What society thinks I do



What the university thinks I do



What I think I do



What I really do



# GENERAL INFO FOR LEIDEN PHDS

- RESEARCH THESE WHEN APPLYING!
- Fully-funded for 4 years (extensions are possible)
- Separate travel budget for at least one 'big' conference/observing trip and 2-3 'small' conferences a year
- Separate budget for computers, equipment, etc...
- Requirement to publish 4 research papers in peer-reviewed scientific journals
- No courses or exams necessary
- Teaching assistant duties for one semester a year
- VISA, moving and relocation admin/costs are all handled by the University – all I needed to do was find an apartment!

# APPLICATION PROCESS

## Search for a position

- University/Institute websites
- Astronomers: AAS  
<https://jobregister.aas.org/jobs/current>

## Application

- Generic form, academic transcript, CV
- Masters abstract
- Personal statement/cover letter
- Reference letters

## Interviews

- 10-20 minute presentation on a research project
- Individual interviews

# ADVICE AND TIPS: LOOKING FOR A POSITION

- It's just as important to choose the supervisor, team and institute as the project itself!
- University websites, and AAS:  
<https://jobregister.aas.org/jobs/current>
- Think about funding, requirements, length of time, location...
- Deadlines can really vary, especially between the UK and other countries so KEEP A LIST OF DEADLINES – start checking in the summer
- Send out emails to research groups/professors!



# AAS Job Register

Find and post astronomy related jobs!



 search this site

[AAS Home](#) | [AAS Job Register Home](#) | [Member Directory](#)

## Jobs

- [Current Job Ads](#)
- [Query Job Ads](#)
- [Archived Job Ads](#)
- [Log In To Post Job Ad](#)
- [Create Job Poster Account](#)

 search this site

## AAS Employment and Career Pages

- [How to Post a Job Ad](#)
- [AAS Publication Policy](#)
- [DEI Annotated Resource List for Hiring](#)

## Current Job Ads

- **Faculty Positions (visiting & non-tenure)** — Time limited position at a university or college. Includes teaching responsibility.
- **Faculty Positions (tenure & tenure-track)** — Permanent (or leading to a permanent) position at a university or college. Includes teaching responsibility.
- **Pre-doctoral/Graduate Positions** — Typically associated with a Fellowship or other source of funding to support those seeking a degree from an institution of higher education. May also include funding opportunities for exchange programs or other professional development.
- **Post-doctoral Positions & Fellowships** — Typically located at a university, college or government lab. Allows recipient to pursue independent research or research support for a specific science program defined by the employer. Is limited to a pre-determined period of time. Usually does not include teaching responsibilities.
- **Science Engineering** — Instrument design and development, software development, IT system support, and other project related responsibilities. Open-ended duration of employment.
- **Science Management** — Runs projects and programs at universities, government or private industry. Open-ended employment.
- **Scientific/Technical Staff** — Includes researchers at science centers, government labs, university, or private industry. May include both user support or project related work and time for individual research. Open-ended duration of employment. Usually does not include teaching. May or may not require PhD.
- **Other** — Any position that does not seem to fit.

# ADVICE AND TIPS: APPLICATIONS

- It's better to write 3 well-thought-out, personalised applications, than 10 that are copied-and-pasted
- My aim was to apply for 6 positions that I really liked, but it depends on your own preferences and time management
- PERSONALISE. Why are you interested in this project/institute/research group?
- Speak to your current professors, supervisors or PhDs in your department – academia is a small world, someone will know all about the research group/supervisor you're applying to
- MYTH: you can only apply to projects you already have experience in... 100% not true!

# MORE GENERAL ADVICE

- If you're in your first or second year and thinking about doing a PhD, look into summer research internships – often offered by Universities, for students in their penultimate year
- Useful websites for astronomy:
  - <https://astrophysicsgirl.wordpress.com/internships/>
  - <https://www.astrokatie.com/solicited-advice>
- Look at 'bites' to help understand research papers. You can also submit a 'bite' about your own undergraduate research – this is great for your CV, writing practise and for exposure!
  - <https://astrobites.org/about/>
  - <https://sciencebites.org/sciencebites-sites-galaxy/>
  - Lots of different fields: sciencebites, chembites, immunobites, geobites, qubytes...



QUESTIONS??

Email: [lucierowland@outlook.com](mailto:lucierowland@outlook.com)