ATNF Science

Picture credit: Alex Cherney

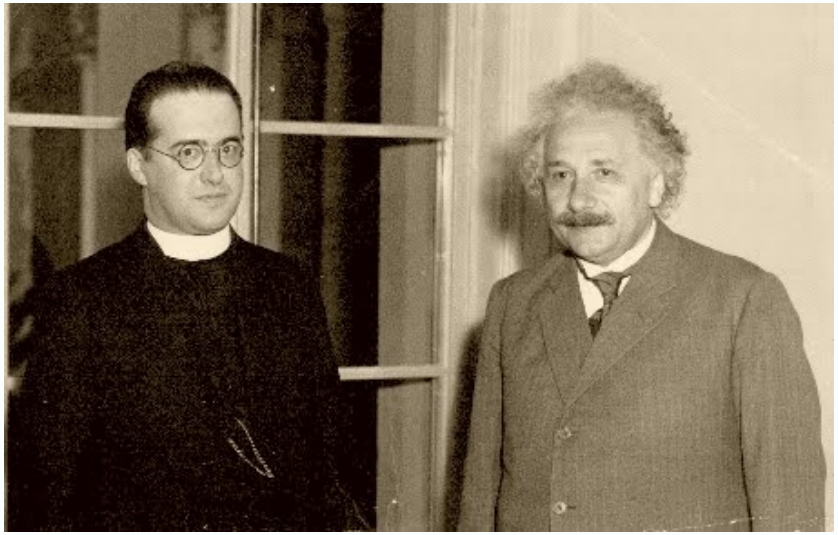
Phil Edwards | Program Director, ATNF Science

20 November 2018

Outline

- Happy Birthday!
- Arrivals and departures
- CASS Publications
- Recent science highlights
- ATNF student program
- Duty Astronomers
- Call for proposals
- TAC bias
- Web pages & ADAPs

Happy Birthday!



Arrivals and departures

ATNF Science has recently farewelled

- Dane Kleiner
- Lisa Harvey-Smith
- Robin Wark

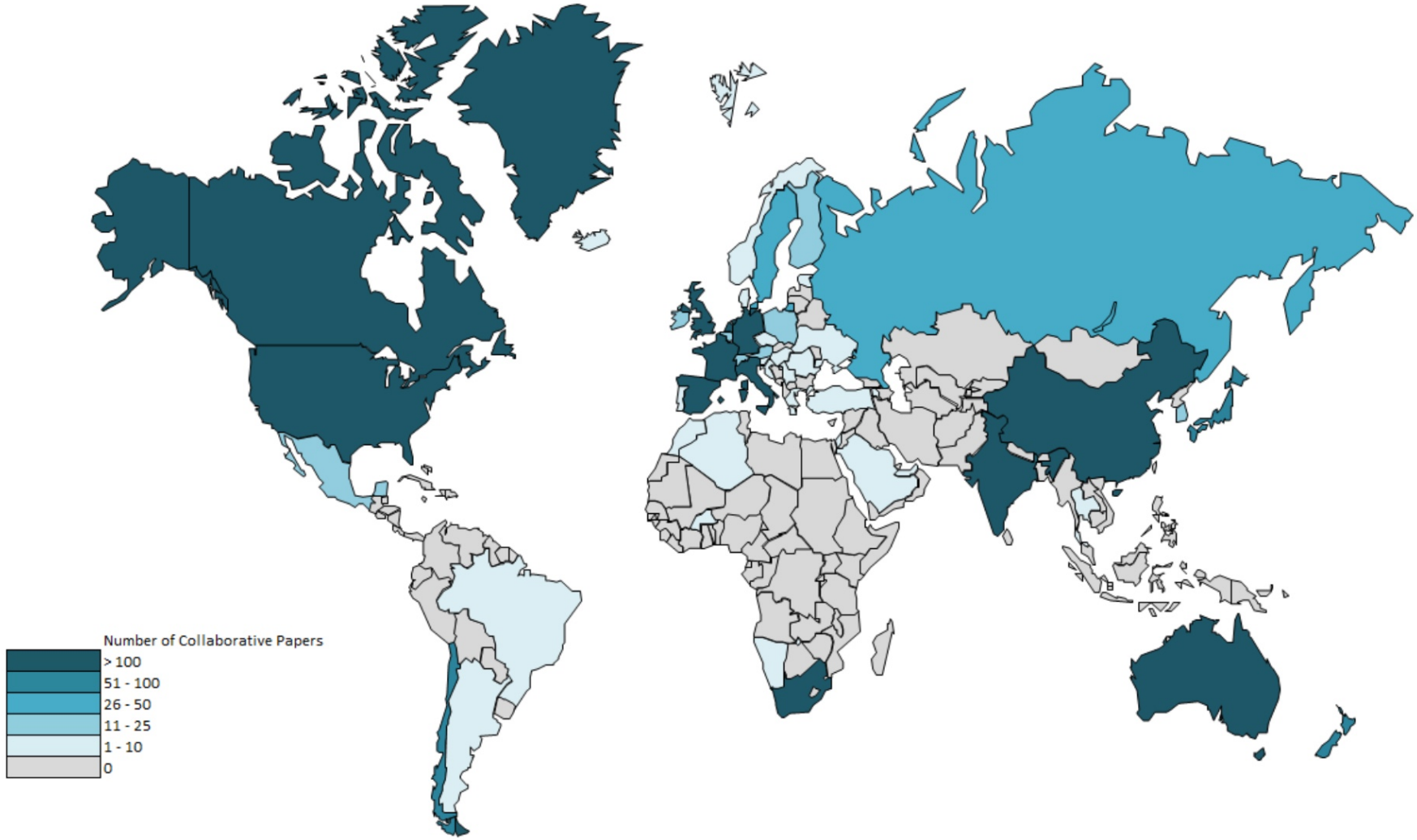
and has welcomed

- Elaine Sadler
- Xiang Zhang
- Tessa Vernstrom
- Shi Dai
- Charlotte Sobey

CASS publications

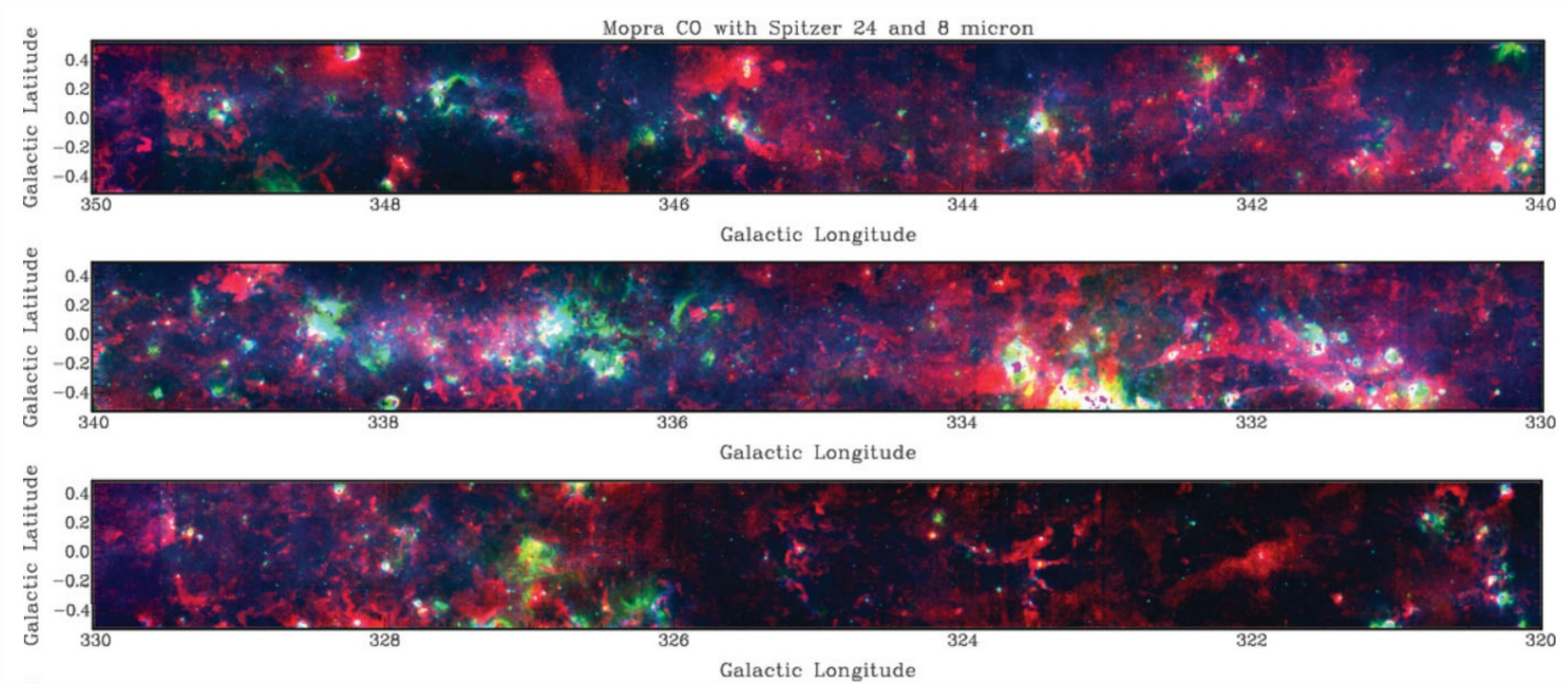
- In 2017 CASS staff produced 5.0% of CSIRO's total output in the year.
- CASS research (2013—2017) is cited 54% more than the world average, 22% more than the Australian average and 4% more than the CSIRO average.
- 3.2% of the Business Unit's publications are in the top 1% of research globally (ahead of the CSIRO average of 2.8%)
- Almost 90% of publications appear in the top quartile of Impact Factors, compared to 39% for the global average of all journals and 58% for CSIRO as a whole.
- 80% of CASS papers involved international collaboration, while 61% involved domestic collaboration, cf. 56% international and 63% domestic for CSIRO overall.

Figure 6 – World Map of Astronomy & Space Science Business Unit Publication Collaboration



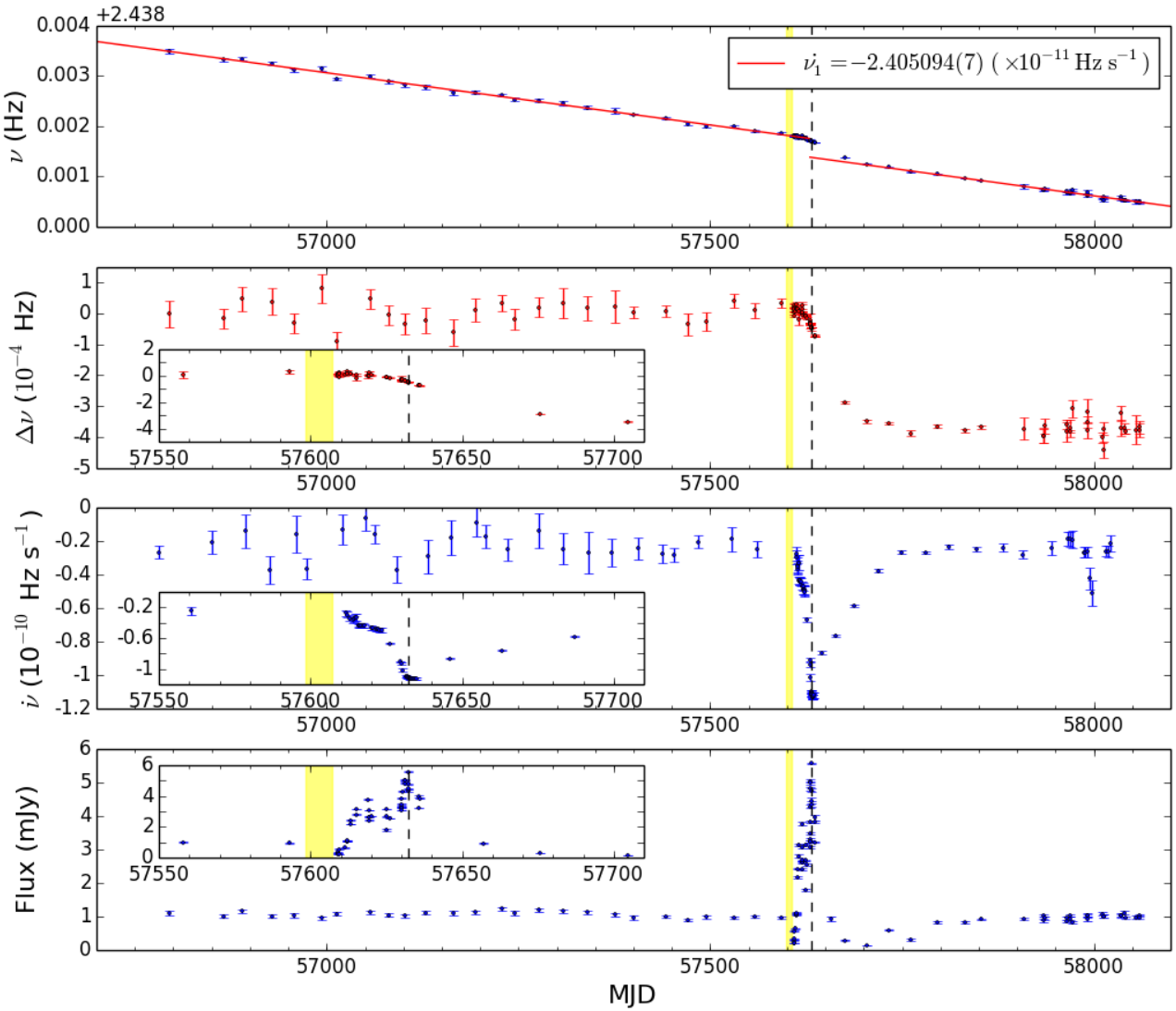
Data Source: Australia NCR Database (May 2018); Articles, Reviews & Proceedings Papers, 2013-17

Mopra CO Survey DR3 – Braiding et al.



50 sq. deg. covering 300 < l < 350 degrees.
0.6 arcmin spatial resolution and 0.1 km/s spectral resolution,
109--115 GHz transitions of 12CO, 13CO, C18O, and C17O.

PSR J1119-6127 – Dai et al.



The geometric distance and binary orbit of PSR B1259-63 – Miller-Jones et al.

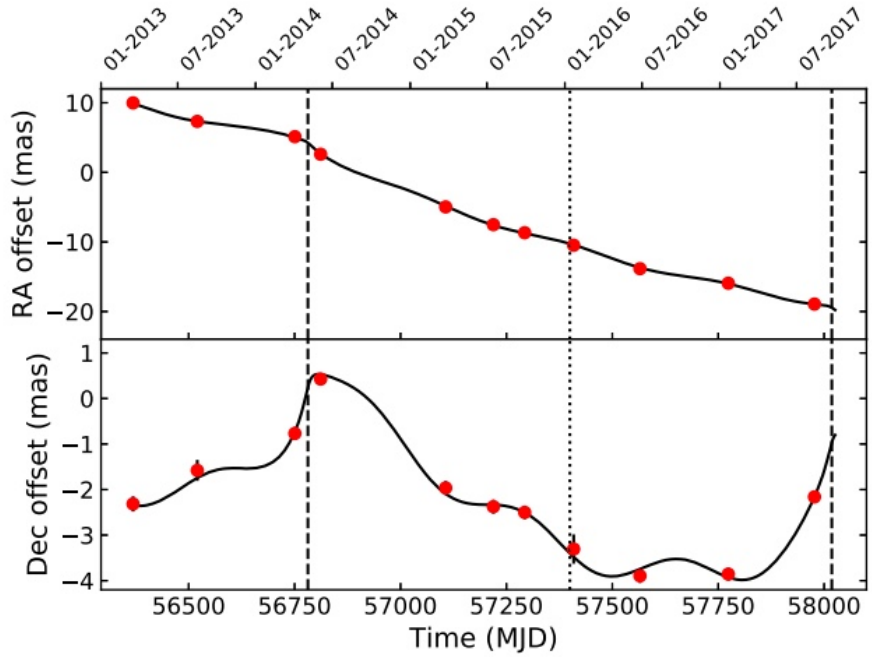
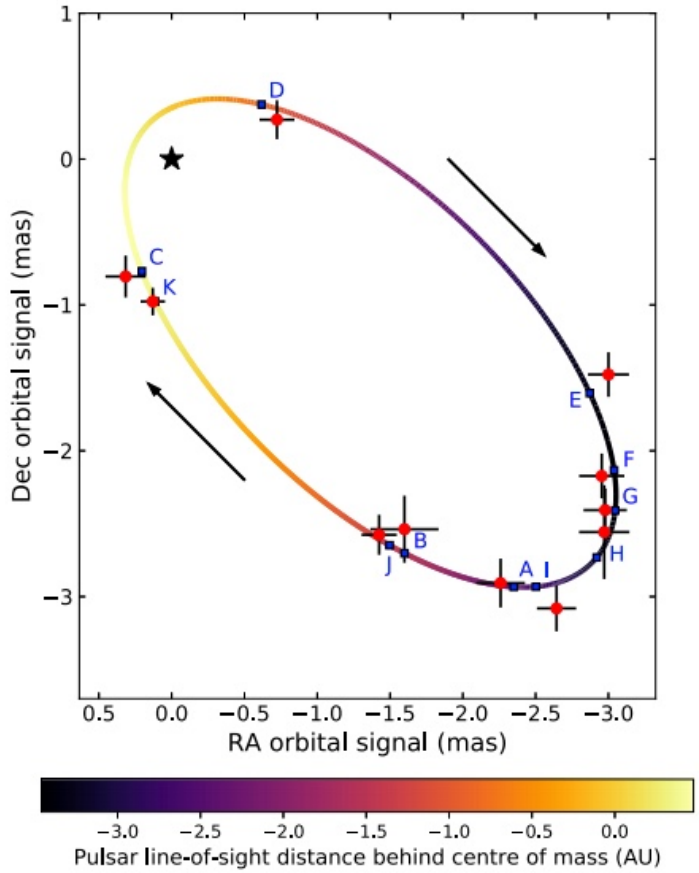
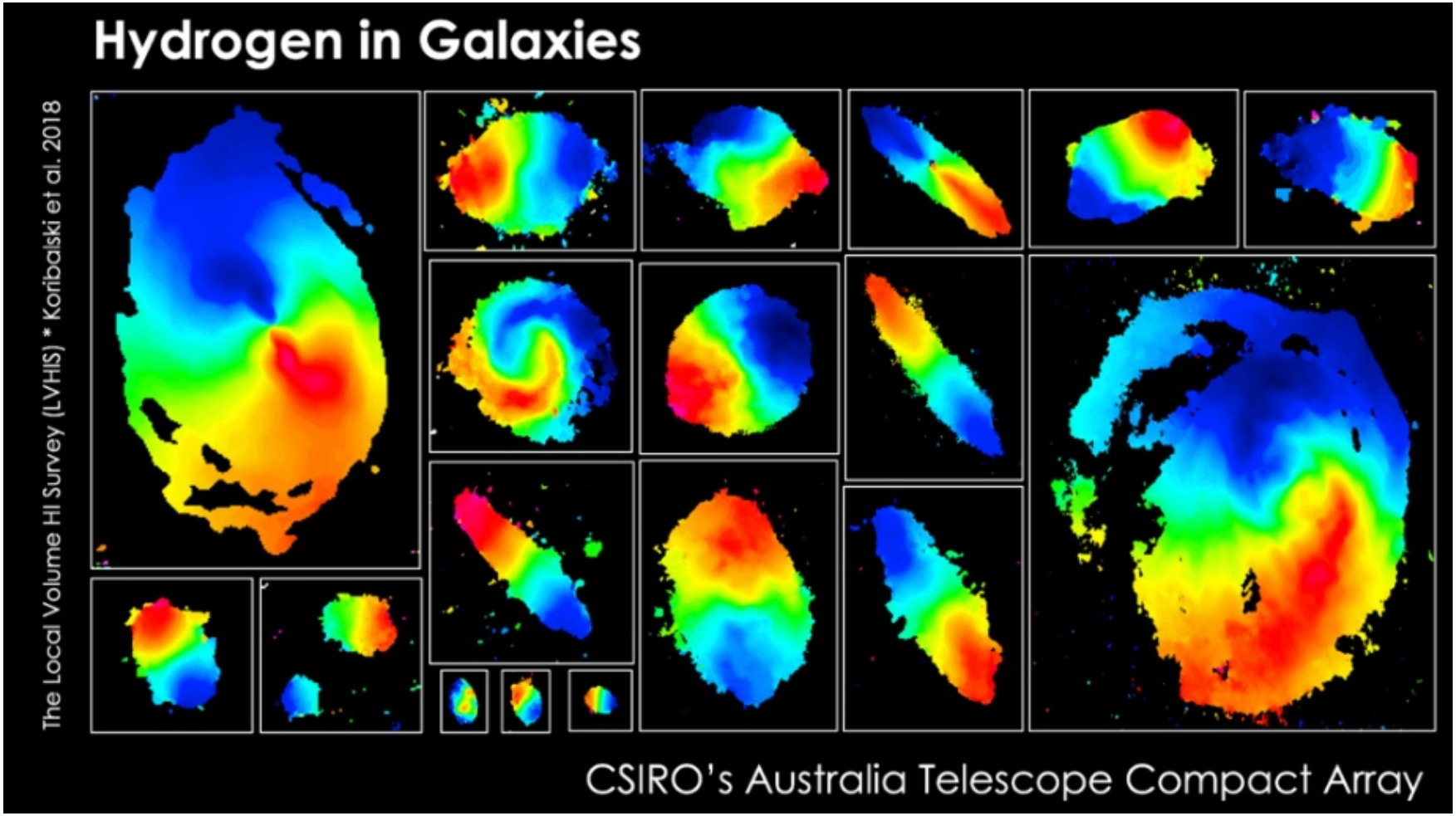


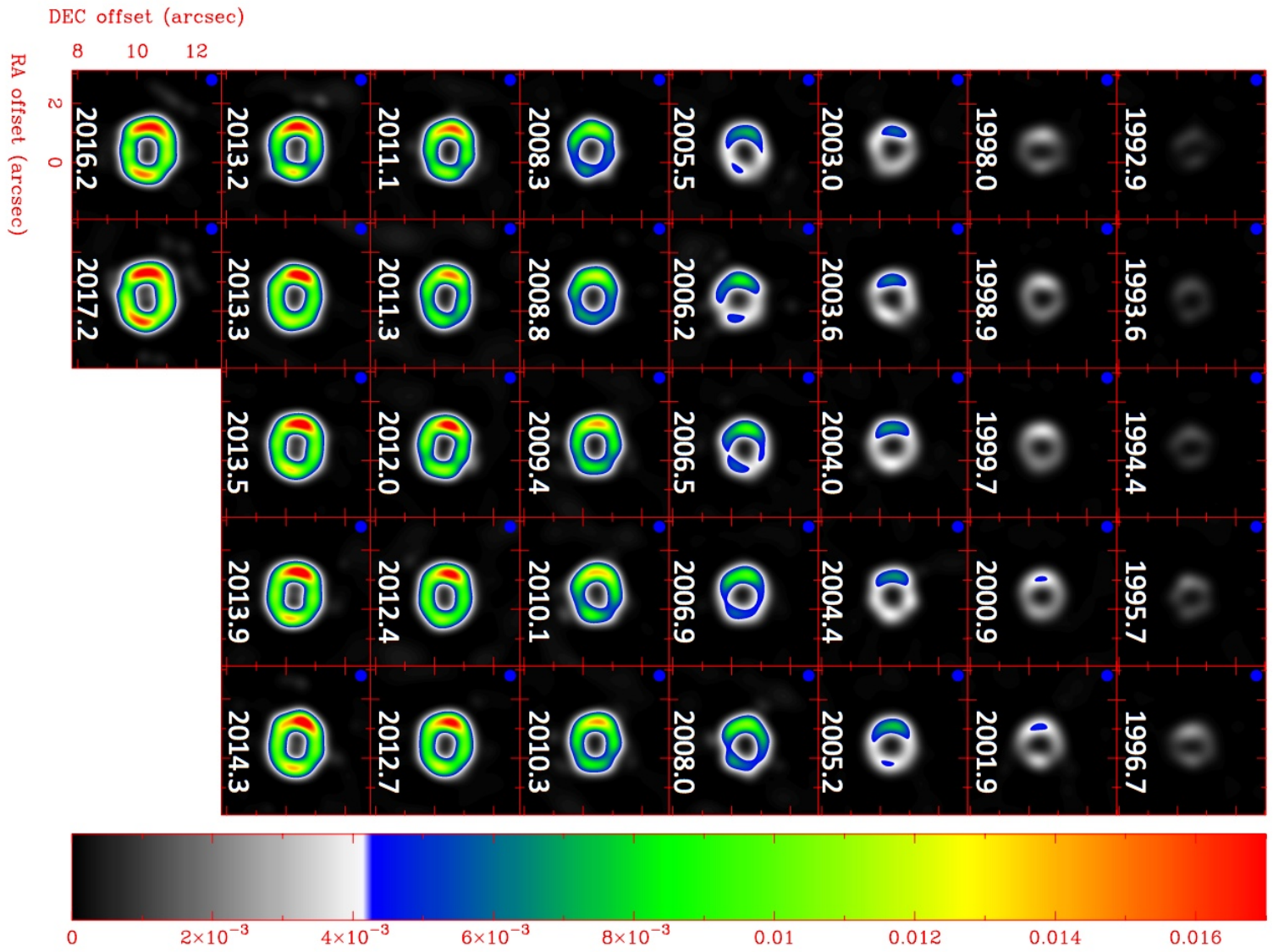
Figure 2. Motion of PSR B1259−63 on the sky over time, in both R.A. (top) and Dec. (bottom). The black line shows our best-fitting astrometric solution. The dashed and dotted vertical lines show the epochs of periastron and apastron, respectively. Our observations sample over one full orbital period, with three of the observations taken close to periastron.



The Local Volume H I Survey (LVHIS) – Koribalski et al.



Evolution of SN1987A – Cendes et al.



Student program

- 32 students from Australian and international universities
- Rob Hollow is the new ATNF student co-ordinator
- Dealing with changes to CSIRO bureaucracy in how students are recognized and line managed
- Will be keeping more regular contact with co-supervised students, University co-supervisors, and ATNF co-supervisors
- Data reduction workshop was held 6—10 August at Marsfield
- 2018 Radio School was held 1—6 October in Geraldton

- ATNF 2018/19 Vacation students start next week

ICRAR/CASS Radio School

Duty Astronomers

- Considering the 2017OCT, 2018APR, 2018OCT semesters (~78 weeks):
- 47 people had been DA at least once
- 11 of these were CASS staff
- 13 of these were CASS postdocs
- 16 of these were co-supervised students
- 7 of these were from other institutions
- Special mentions to Jane Kaczmarek and George Heald!

Call for Proposals

Call for Proposals for 2019APR was released last week:

http://www.atnf.csiro.au/observers/apply/avail.html

Proposal deadline is 5pm AEDT Friday December 14th.

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TAC bias?

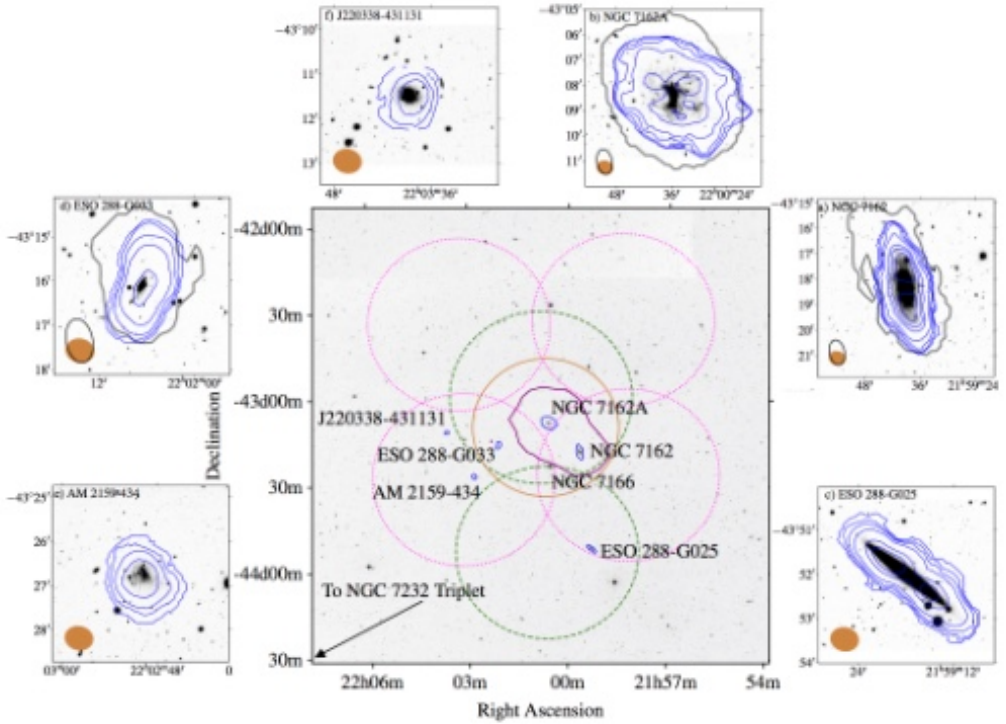
- Urry (2015, Nature **528**, 471) notes that senior women are systematically less successful than their male counterparts in proposals for HST time. "*This is striking because almost all Hubble proposals are written by large teams that include both men and women, so the quality of the text does not depend on the gender of the principal investigator.*"
- Hayley has looked at 2018OCT proposals to see whether there is any evidence of unconscious bias.
- There were 34 proposals with female PI, 88 with male PI.
  By facility: ATCA= 21/45, Parkes= 11/33, LBA= 2/10
- There is no significant difference in distribution of grades for male-led vs female-led proposals.

ATNF WWW pages

- The ATNF web pages had a major refresh ~6 years ago
- Keeping all pages up to date is a big task!
- Aim is to have all pages with “Last updated” and “Page maintained by” information
- Advice is welcomed from ATUC on pages that are missing, broken, hard to find, …

ATNF Daily Astronomy Picture

20th of November 2018



WALLABY Early Science results

by Tristan Reynolds

Reynolds et al. have presented Widefield ASKAP L-band Legacy All-sky Blind Survey (WALLABY) early science results from the Australian Square Kilometre Array Pathfinder (ASKAP) observations of the NGC 7162 galaxy group. They detect six galaxies in the neutral hydrogen (H I) 21-cm line, expanding the NGC 7162 group membership from four to seven galaxies. The figure above shows a Digitized Sky Survey optical image with

http://www.atnf.csiro.au/ATNF-DailyImage/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Scientists discover new 'pinwheel' star system

Finding raises new questions about 'star deaths'

NEW YORK UNIVERSITY

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An international team of scientists has discovered a new, massive star system--one that also challenges existing theories of how large stars eventually die.

"This system is likely the first of its kind ever discovered in our own galaxy," says Benjamin Pope, a NASA Sagan fellow at New York University's Center for Cosmology and Particle Physics and one of the researchers.

Specifically, the scientists detected a gamma-ray burst progenitor system--a type of supernova that blasts out an extremely powerful and narrow jet of plasma and which is thought to occur only in distant galaxies.

"It was not expected such a system would be found in our galaxy--only in younger galaxies much further away," adds Pope. "Given its brightness, it is surprising it was not discovered a lot sooner."

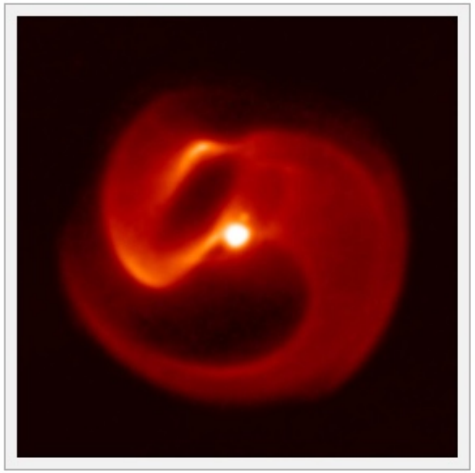

IMAGE: THIS IS AN IMAGE OF APEP CAPTURED AT 8 MICRONS IN THE THERMAL INFRARED WITH THE VISIR CAMERA ON THE EUROPEAN SOUTHERN OBSERVATORY'S VLT TELESCOPE, MT PARANAL, CHILE. view more ›

CREDIT: UNIVERSITY OF SYDNEY/EUROPEAN SOUTHERN OBSERVATORY

We acknowledge the Wajarri Yamatji people as the traditional owners of the Murchison Radio Observatory site.

Thank you

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