

Adam M. Avison

Contact

Room 3.136c
Jodrell Bank Centre for Astrophysics
Alan Turing Building
University of Manchester
Manchester
M13 9PH
Phone: (+44) 07745-544336

e-mail: adam.avison@manchester.ac.uk
web: <http://www.jb.man.ac.uk/~aavison>

Employment

2010-Present **ALMA Support Scientist, Post-Doctoral Research Associate**
UK ALMA Regional Centre Node, Jodrell Bank Centre for Astrophysics,
University of Manchester.

Education

2007-2010 **PhD “Methanol Masers and the Environments of Massive Star Formation”**
Jodrell Bank Centre for Astrophysics, University of Manchester
Supervisor: Dr. G.Fuller - *Submitted September 2010*

2003-2007 **MPhys. (Hons) 2:1, Physics with Astrophysics,**
University of Manchester

Academic Responsibilities

- **ALMA Observation Support Tool:** I maintain and upgrade the ALMA Observation Support Tool, an online ALMA simulator provided by the University of Manchester and used by the international ALMA user community.
- Member of the ALMA Band 2 Science Group for the development in Europe.
- Member of the ALMA Quality Assurance (QA2) team ensuring high quality data delivery to ALMA PIs in Europe.
- Organising committee of ‘UK ALMA community days’ *2010 - Present.*
- Scientific Referee for e-Merlin PATT Time Allocation.

A full list of Publications and Presentations is at the rear of this CV.

Key Skills

Programming	Advanced: Python, Perl, MATLAB. Intermediate: Javascript, L ^A T _E X and HTML. Basic: C++ ,
Astronomical Computing	Experienced with using CASA, MIRIAD, AIPS, STARLINK and scripting these packages. Experienced in data reduction from ALMA, ATCA, Spitzer and e-Merlin.
Observing	Large observing experience having spent time observing with the Parkes, ATCA and Onsala telescopes.

Teaching:

- Summer 2013** Supervised undergraduate summer student working on a public outreach GUI to demonstrate interference. UK ARC Node.
- Summer 2012** Supervised undergraduate summer student working on simulations for the ALMA Band 2 science case. UK ARC Node.
- 2009-2010** Laboratory Demonstrator, Undergraduate Laboratory, University of Manchester
- 2007-2009** Laboratory Demonstrator, Undergraduate Computing and Programming (C/C++), University of Manchester
- 2004-2005** Undergraduate Mentor, 1st Year Undergraduate Project, University of Manchester

Teaching Experience

Administrative Positions & Public Outreach

- **Research Development Ambassador** for JBCA within the School of Physics and Astronomy, University of Manchester. *2012- Present* .
- **Postdoctoral Representative** within JBCA Division. *2011-Present*
- **Internal Seminar Organiser** for the Jodrell Bank Centre for Astrophysics. *2009-2010*
- **Royal Society Summer Science Exhibition 2012:** At the Royal Society's annual and largest public outreach event, I acted as overall co-lead and head of the Manchester group (of the Manchester/Cambridge collaboration) for the "ALMA Observatory" exhibition. The event was attended by over 11,000 people.
- **ALMA outreach events:** Regularly organise and take part in public outreach events at the Manchester Museum of Science and Industry, explaining ALMA and interferometry with interactive demos and a self written touch-screen interferometer simulator.
- **Podcasting:** I have acted as producer, editor and presenter for the "Jodcast", a monthly Astronomy Podcasts produced by members of the Jodrell Bank Centre for Astrophysics. I have been involved with this podcast for the past 4 years.

Professional Memberships

2009-Present: Royal Astronomical Society

2003-Present: Institute of Physics

Interests and Activities

- Music** I am a keen guitar player and have been playing for around 14 years. I enjoy a wide range of music from early blues to more contemporary music.
- Brewing** I have for many years enjoyed making my own fruit and honey based wines, and have in the past couple of years turned my hand to brewing beer as well.
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References

Prof. Gary Fuller
Jodrell Bank Centre for Astrophysics
Alan Turing Building
University of Manchester
M13 9PL
UK
(+44) 0161 306 3653

Dr. Tom Muxlow
Jodrell Bank Centre for Astrophysics
Alan Turing Building
University of Manchester
M13 9PL
UK
(+44) 0161 275 4108

Presentations:

- **Constraining the mass of massive protostars in SDC335** *Oral presentation, RAS National Astronomy Meeting, University of Portsmouth, June 2014.*
 - **ALMA and Massive Star Formation** *Oral presentation, Bristol Astronomy Colloquium, Bristol University, February 2014.*
 - **Exploring the kinematics of methanol maser from the Methanol MultiBeam survey** *Poster presented at RAS National Astronomy Meeting, University of St. Andrews, July 2013.*
 - **The ALMA Observation Support Tool: Before Cycle 2** *Oral presentation, EU ARC Retreat, Sabhal Mor Ostaig, Isle of Skye, June 2013.*
 - **Exploring the kinematics of methanol maser from the Methanol MultiBeam survey** *Poster presented at Modern Radio Universe, Bonn, Germany, April 2013.*
 - **The ALMA Observation Support Tool: An Early Science Review** *Poster presented at First Science with ALMA Conference, Puerto Varas, Chile, Dec. 2012.*
 - **Compact Radio Sources & Methanol Maser Kinematics around Massive Young Stars** *Oral presentation, ESO colloquium, ESO Santiago, Chile, Dec. 2012.*
 - **Simulations: New features in the OST** *Oral presentation, EU ARC Retreat, Desenzano, Italy, Feb. 2012.*
 - **The ALMA Observation Support Tool** *Oral presentation, Following the Photons conference, Royal Observatory Edinburgh, Oct. 2011*
 - **Compact HII regions toward Methanol Maser traced sources of Massive Star Formation** *Oral presentation, 41st Young European Radio Astronomers Conference, University of Manchester, July 2011*
 - **Probing Sites of Massive Star Formation: The Methanol MultiBeam Survey** *Oral presentation at RAS National Astronomy Meeting, University of Glasgow, April 2010.*
 - **Spectral Energy Distributions of Methanol Maser and 8GHz Continuum sources in regions of Massive Star Formation** *Oral presentation at RAS National Astronomy Meeting, University of Hertfordshire, April 2009.*
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Publications

Refereed Publications:

My role in as none 1st author papers:

My contribution to paper [2] was the calibration and data reduction of the projects ALMA data. As this project was the first science observation taken with ALMA additional processing was required beyond that provide by ALMA to ensure the data was of the upmost quality for publication.

Papers [7], [8], [11] to [15]. I am, and have been from the commencement of my PhD, a member of the MMB collaboration and contributed to that project and these publication in attending numerous observing runs with both the Parkes and ATCA telescopes, I reduced the MMB ATCA data to confirm/provide positions for the new maser detections in the MMB survey.

Paper [9], the ALMA OST was written and developed initially by I. Heywood with day to day management being my position in this project. Since this paper publication, I have now become responsible for maintenance, improvements and upgrading the OST to ensure it is up-to-date with ALMA's current observing capabilities and continued usefulness.

1. **12.2-GHz methanol maser Methanol Multibeam follow-up catalogue - II. Longitude range 186°-330°**
Breen, S. L.; Ellingsen, S. P.; Caswell, J. L.; Green, J. A.; Voronkov, M. A.; *Avison, A.*; Fuller, G. A.; Quinn, L. J.; Titmarsh, A. MNRAS 438, 3368-3382
2. **Global collapse of molecular clouds as a formation mechanism for the most massive stars**
Peretto, N. ; Fuller, G. A.; Duarte-Cabral, A.; *Avison, A.*; Hennebelle, P.; Pineda, J. E.; André, P.; Bontemps, S.; Motte, F.; Schneider, N.; Molinari, S. Astronomy & Astrophysics, Volume 555, id.A112, 10 pp.
3. **The mid-infrared environments of 6.7 GHz methanol masers from the Methanol Multi-Beam Survey**
Gallaway, M.; Thompson, M. A.; Lucas, P. W.; Fuller, G. A.; Caswell, J. L.; Green, J. A.; Voronkov, M. A.; Breen, S. L.; Quinn, L.; Ellingsen, S. P.; *Avison, A.*; Ward-Thompson, D.; Cox, J. MNRAS, 430, 808-821
4. **A graphical tool for demonstrating the techniques of radio interferometry**
Avison, A. and George, S.J. European Journal of Physics, Vol. 34 Issue 1. pp. 7 (2013).
5. **12.2-GHz methanol maser Methanol Multibeam follow-up catalogue - II. Longitude range 186°-330°**
Breen, S. L.; Ellingsen, S. P.; Caswell, J. L.; Green, J. A.; Voronkov, M. A.; Fuller, G. A.; Quinn, L. J.; *Avison, A.* MNRAS 426, 2189-2207
6. **12.2-GHz methanol maser Methanol Multibeam follow-up catalogue - I. Longitude range 330°-0°**
Breen, S. L.; Ellingsen, S. P.; Caswell, J. L.; Green, J. A.; Voronkov, M. A.; Fuller, G. A.; Quinn, L. J.; *Avison, A.* MNRAS 421, 1703-1735
7. **The 6-GHz methanol multibeam maser catalogue - IV. Galactic Longitudes 186° - 330° including the Orion-Monoceros region**
Green, J. A.; Caswell, J. L.; Fuller, G. A.; *Avison, A.*; Breen, S. L.; Ellingsen, S. P.; Gray, M. D.; Pestalozzi, M. R.; Quinn, L.; Thompson, M. A.; Voronkov, M. A. MNRAS 420, 3108-3125.
8. **The 6-GHz methanol multibeam maser catalogue - III. Galactic Longitudes 330° to 345°**
Caswell, J. L.; Fuller, G. A.; Green, J. A.; *Avison, A.*; Breen, S. L.; Ellingsen, S. P.; Gray, M. D.; Pestalozzi, M. R.; Quinn, L.; Thompson, M. A.; Voronkov, M. A. MNRAS 417, 1964-1995.
9. **The ALMA Observation Support Tool**
Heywood, I; *Avison, A.*; Williams, C.J. to appear in the proceedings of Astronomy with Megastructures: Joint Science with the E-ELT and SKA.
10. **Statistical Properties of 12.2 GHz Methanol Masers Associated with a Complete Sample of 6.7 GHz Methanol Masers**
Breen, S. L.; Ellingsen, S. P.; Caswell, J. L.; Green, J. A.; Fuller, G. A.; Voronkov, M. A.; Quinn, L. J.; *Avison, A.* ApJ 733, 80.
11. **Major Structures of the Inner Galaxy Delineated by 6.7 GHz Methanol Masers**
Green, J. A.; Caswell, J. L.; McClure-Griffiths, N. M.; *Avison, A.*; Breen, S. L.; Burton, M. G.; Ellingsen, S. P.; Fuller, G. A.; Gray, M. D.; Pestalozzi, M.; Thompson, M. A.; Voronkov, M. A. ApJ, 773, id. 27, 17 pp.
12. **The 6-GHz methanol multibeam maser catalogue - II. Galactic Longitudes 6° to 20°**
Green, J. A.; Caswell, J. L.; Fuller, G. A.; *Avison, A.*; Breen, S. L.; Ellingsen, S. P.; Gray, M. D.; Pestalozzi, M. R.; Quinn, L.; Thompson, M. A.; Voronkov, M. A. MNRAS, 426, 2189-2207.
13. **The 6-GHz methanol multibeam maser catalogue - I. Galactic Centre region, longitudes 345° to 6°**
Caswell, J. L.; Fuller, G. A.; Green, J. A.; *Avison, A.*; Breen, S. L.; Brooks, K. J.; Burton, M. G.; Chrysostomou, A.; Cox, J.; Diamond, P. J. et. al. MNRAS 404, 1029-1060.
14. **Star-formation masers in the Magellanic Clouds: A multibeam survey with new detections and maser abundance estimates**
Green, J. A.; Caswell, J. L.; Fuller, G. A.; *Avison, A.*; Breen, S. L.; Brooks, K.; Burton, M. G.; Chrysostomou, A.; Cox, J.; Diamond, P. J. et. al. IAU Symposium 256, 227-232.

15. **The 6-GHz multibeam maser survey - I. Techniques**

Green, J. A.; Caswell, J. L.; Fuller, G. A.; *Avison, A.*; Breen, S. L.; Brooks, K.; Burton, M. G.; Chrysostomou, A.; Cox, J.; Diamond, P. J. et al. MNRAS 392, 783-794.