

# Finding the Real Media Stars: Analysis of Media Coverage of the UK's National Astronomy Meeting

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## Summary

We present an analysis of the level of media coverage of the Royal Astronomical Society's National Astronomy Meeting (NAM) over the period 2005–08.

The study aims to provide quantitative information to assist press officers, both of future NAMs and of other astronomy meetings, in identifying talks that are most likely to achieve high media coverage and to look at whether the distribution of releases can be improved or changed to optimise media attention. We find that the increase in the total number of pieces of coverage exhibits a roughly exponential trend over the period 2005–2008, mainly due to a large increase in online general and specialist science news sites seen to be picking up NAM stories. Print and broadcast coverage have also increased over the period, but show a more complex dependence on the nature of the story and the interest of local media. For all four meetings, approximately 50% of the coverage is derived from the top three releases.

NAM runs over four or five days, from Monday or Tuesday to Friday. The peak of releases issued and the resulting coverage is on Tuesday and Wednesday. However, for this four-year sample, the ratio of pieces of coverage to the number of releases appears to be highest for Monday.

## 1. Introduction

The National Astronomy Meeting (NAM) in the UK is the annual out-of-town meeting of the Royal Astronomical Society (RAS). It has taken place in April each year since 1992 and is hosted by university departments of physics and astronomy around the UK, and, in one case (2003), in the Republic of Ireland. The meeting is the largest annual gathering of astronomers in the UK and covers a wide range of astronomical topics including astrophysics, astronomical technology, cosmology and planetary exploration. Most

years the meetings are held in conjunction with the UK Solar Physics (UKSP) and the Magnetosphere Ionosphere and Solar–Terrestrial (MIST) meetings and the Young Astronomers Meeting (YAM). NAM is sponsored by the university hosting the meeting, the Royal Astronomical Society and the Science and Technology Facilities Council (STFC, formerly PPARC). The largest meeting to date was held at Queen's University Belfast in 2008 and was attended by 650 astronomers<sup>1</sup>.

NAM meeting sessions traditionally run from Tuesday morning to mid-afternoon on Friday, with the Thursday afternoon devoted to the RAS lecture and the conferment of RAS medals, followed by the STFC and UK astronomical community forum. On rare occasions, as in 2007, some sessions are held on the Monday afternoon; this decision depends on the size of the meeting and the capacity of the venue.

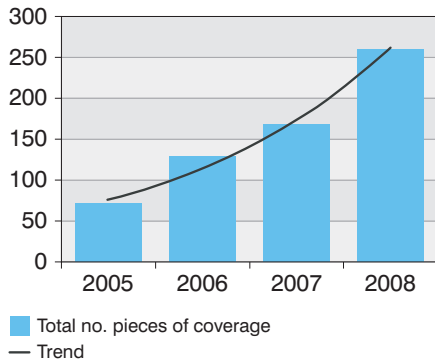


Figure 1. Total number of pieces of coverage resulting in press releases issued by the Royal Astronomical Society for the National Astronomy Meetings in 2005-08. Credit: The authors.

NAM provides an important media opportunity for both the RAS and the UK's astronomical community. Registrations are invited from the UK and global science media; however, in recent years, cuts to travel budgets (and a reluctance to travel to locations far from London) have meant that fewer journalists have attended in person. Each year the RAS press officers select around 20 talks to feature in press releases, which are sent out under embargo the week before the meeting. The embargoes expire at 00:01 local time on the day that the talk is given, aiming to maximise coverage over the week that the meeting takes place. We send the releases directly to an RAS e-mail list covering approximately 300 print, online and broadcast media contacts.

This list includes the press officers from the American Astronomical Society who forward the releases to their own mailing list. We also post the releases on AlphaGalileo, EurekAlert, the RAS website and on an embargoed section of the relevant NAM website.

Prior to the advent of online news aggregator services such as Google News, the ability to measure quantitatively the worldwide media impact from press releases was limited to those organisations with the budget to employ a clippings service. As a charity, the RAS did not have the funds available for this, so our assessment of coverage was limited to a superficial trawl through papers, magazines and online sites, and information from the scientists featured in the releases regarding interviews that they had given.

Some news aggregator services now allow us to follow the spread of a story worldwide, free of charge, over 30 days following the issue of a release. The Google News service came out of beta-testing in January 2006<sup>2</sup> and we have compiled the coverage for meetings held in 2006 onwards using this tool. The coverage for 2005 was compiled by using normal search engines and manu-

ally searching known general news and specialist science news sites.

## 2. Data Selection and Analysis

In total, we have issued 84 releases relating to talks given at National Astronomy Meetings held between 2005 and 2008. We issued 23 releases in 2007 and 24 in 2008. In 2006, only 17 releases were sent out; however, this was a stand-alone NAM, i.e. not held in conjunction with the UKSP and MIST meetings, so the number of abstracts submitted was lower. The 2005 NAM was a combined meeting with UKSP, but not MIST, and we sent out 20 releases.

For the purposes of this study, we have not included coverage resulting from non-scientific releases relating to the meeting (e.g. media announcements) or additional coverage not relating to one of the releases (e.g. stories resulting from journalists on site attending talks or interviewing scientists not featured in the releases), although we have included releases issued by other organisations but linked to talks at NAM.

Each year, over the period of the conference and in the following days, we have compiled an initial spreadsheet listing, for each release, the date on which any item of coverage appeared, the publication/website/broadcaster, the article/broadcast title and a web link (where appropriate).

For this study, we have classified the coverage by type: whether it has appeared online, in print, on TV or radio and then subdivided those categories into online science news, online general news, online IT news site; broadsheet, tabloid, local newspapers and magazines; regional/web TV and national TV; and finally local radio and national/international radio. The audience for new media is expanding rapidly — in the past two years, we have found that stories are being featured increasingly in blogs and online discussions — so we have also included categories for blogs and podcasts.

We have also tried to classify the coverage by the country hosting the publisher/broadcaster/website, although for online news services the country of origin — and indeed the relevance of this — is not always completely clear.

Where more than one release has been combined into a single story, it is only included in the data for the release that received most attention in that story although the number of times each release is featured as a combined story is noted.

The distribution of releases issued and the resulting coverage over the week of the meeting have significant implications for planning future releases, so we have produced breakdowns of these both for individual years and on average over the four years.

We have also broken down the releases and coverage by subject area to identify the themes most likely to be picked up. In fitting the releases into subject categories, there are some elements of overlap and the focus of the story is not always on the same theme as the session in which the talk is given. In general, we have chosen categories relating to the phenomenon being studied, for example stars or black holes, rather than the method of investigation, such as radio or X-ray astronomy. Exceptions are made in the case of future technology, as in stories on the Extremely Large Telescope (ELT). We have chosen to include separate categories for astronomical technology, which includes releases on the X-ray Slew Survey and ELT, and space technology, which includes releases such as "Smart dust for planetary exploration" and "Small satellites offer PC access for space". This is because the latter examples have an appeal to the IT media that the purely astronomical technology stories may lack.

## 3. Results

Overall, coverage of the NAM has increased with an almost exponential trend (Figure 1) over the period 2005-08. In each year, there have been one or two "top stories" (Figure 2) that have received the most coverage by quite a significant amount, spread across all forms of media outlet, followed by up to six or seven "secondary stories", which have also been reported in a range of online, print and broadcast. Coverage for the remaining ten or so releases appeared mainly on specialist online science or space news sites. For each year, the top three stories account for approximately 50% of the total coverage (see Table 1).

However, a rise in the number of items of coverage alone is not necessarily a reliable indicator that press coverage is improving. Whilst we believe that all coverage is useful, it is clear that some types of coverage have more intrinsic value than others. It is as much of a priority to achieve consistent coverage in key media (e.g. BBC2's *Newsnight*, Radio 4's *Today* programme, national newspapers, magazines such as *New Scientist* and *Nature*'s news section, and prestigious online sites such as the BBC News Online, Space.com) as to expand our audience worldwide via the internet.

Table 1. Breakdown of releases and coverage per year for the three releases resulting in the highest amount of coverage.

Year	Total no. releases	Total no. pieces of coverage	No. pieces of coverage for top story	No. pieces of coverage for 2nd story	No. pieces of coverage for 3rd story	% of total coverage for top story	% of total coverage for top 2 stories	% of total coverage for top 3 stories
2005	20	71	21	7	7	29.58	39.44	49.30
2006	17	127	27	18	15	21.26	35.43	47.24
2007	23	167	38	34	12	22.75	43.11	50.30
2008	23	256	62	53	19	24.22	44.92	52.34

### 3.1 Coverage by Type

The exponential trend in the number of pieces of coverage resulting from NAM releases is largely due to expansion in the online sector. The number of general news websites and the number of science news websites that we have found to be picking up NAM releases have both doubled from 2007 to 2008.

The number of journalists attending has been more or less constant for the period, so we conclude that the physical location of the meeting (Birmingham in 2005, Leicester in 2006, Preston in 2007 and Belfast in 2008) has no significant effect on the media impact of the meeting, except in terms of local coverage. The journalists attending were from BBC News Online and *Astronomy Now*, as well as a handful of freelance writers. The RAS media e-mail list currently comprises 297 e-mail addresses for journalists, agencies, press officers and science communicators worldwide. We receive on average ten requests for additions to the list per year (it

has increased from 258 addresses in 2005 – mostly from UK journalists. Whilst there has been a steady annual increase in the UK coverage, expansion of the mailing list does not explain the exponential increase in coverage worldwide, particularly in the US, India, South-East Asia and Australasia.

Without some further research it is therefore difficult to pinpoint the reasons for this dramatic rise; a brief investigation of the “new” sites reporting from NAM releases shows that most of the sites have been established for some time. The most likely explanation is that there has been a surge in sites registering as news sites with Google, in which case sites may well have posted NAM stories in the past that we have not picked up in our search for coverage. Alternative explanations include: that existing news sites have expanded allowing them to cover a broader range of topics including astronomy, that news sites have perceived a growth in interest in astronomy and are therefore more inclined to cover RAS press releases, and/or that sites had a pre-existing interest in

astronomy but have now developed a new route into RAS press releases, e.g. by registering with AlphaGalileo or are starting to pick up stories from other news sites such as BBC Online or Space.com. The technical nature of the top releases in 2007 (“Shields for the Starship Enterprise” and “Smart dust for planetary exploration”) meant that the stories were picked up by online IT news sites, for which most NAM stories do not lie within the sphere of interest. Coverage from this sector reduced to a minimal level in 2008.

It should be noted that many of the non-specialist internet news sites are linked to regional newspapers. As we have not, at this point, been able to access these printed publications and assess how likely it is that the online stories will appear in the print copies, we have not included them in our analysis of the print media. However, it is possible that the print coverage described below is significantly higher worldwide.

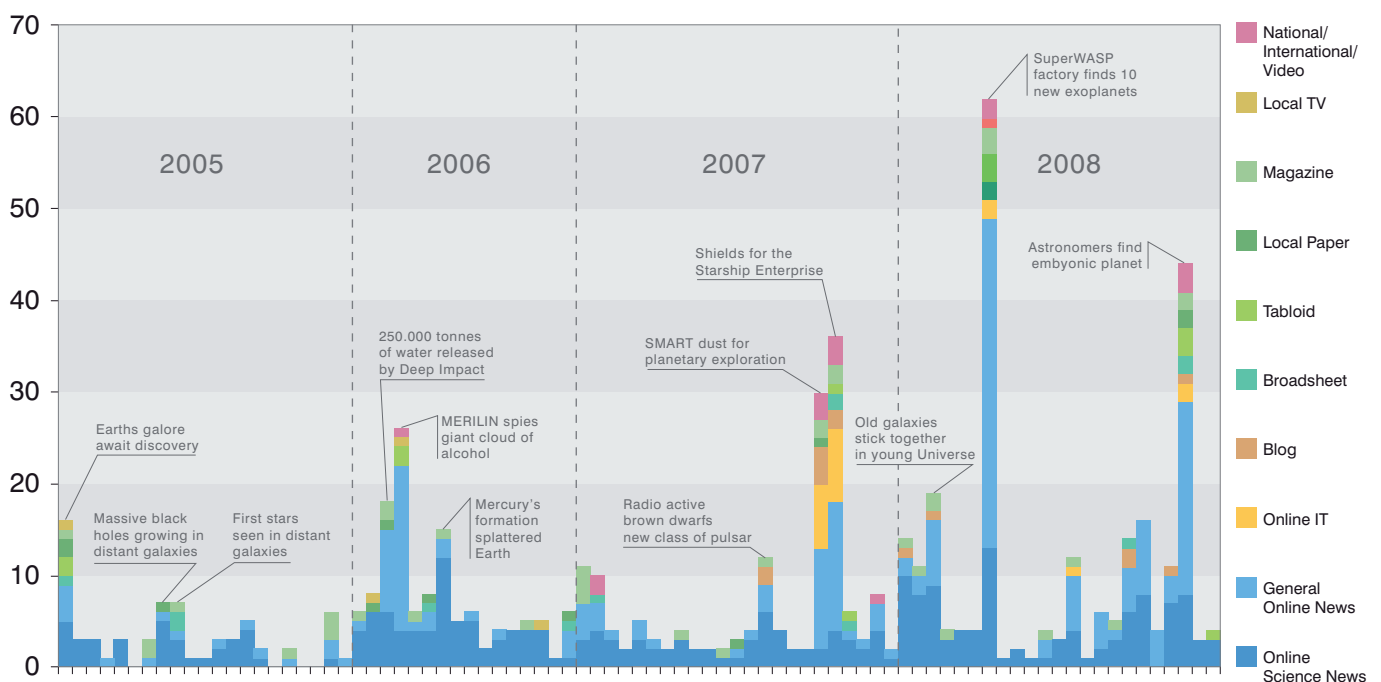


Figure 2. Summary of all coverage for press releases issued in 2005-08, highlighting “top stories” for each year. Credit: The authors.

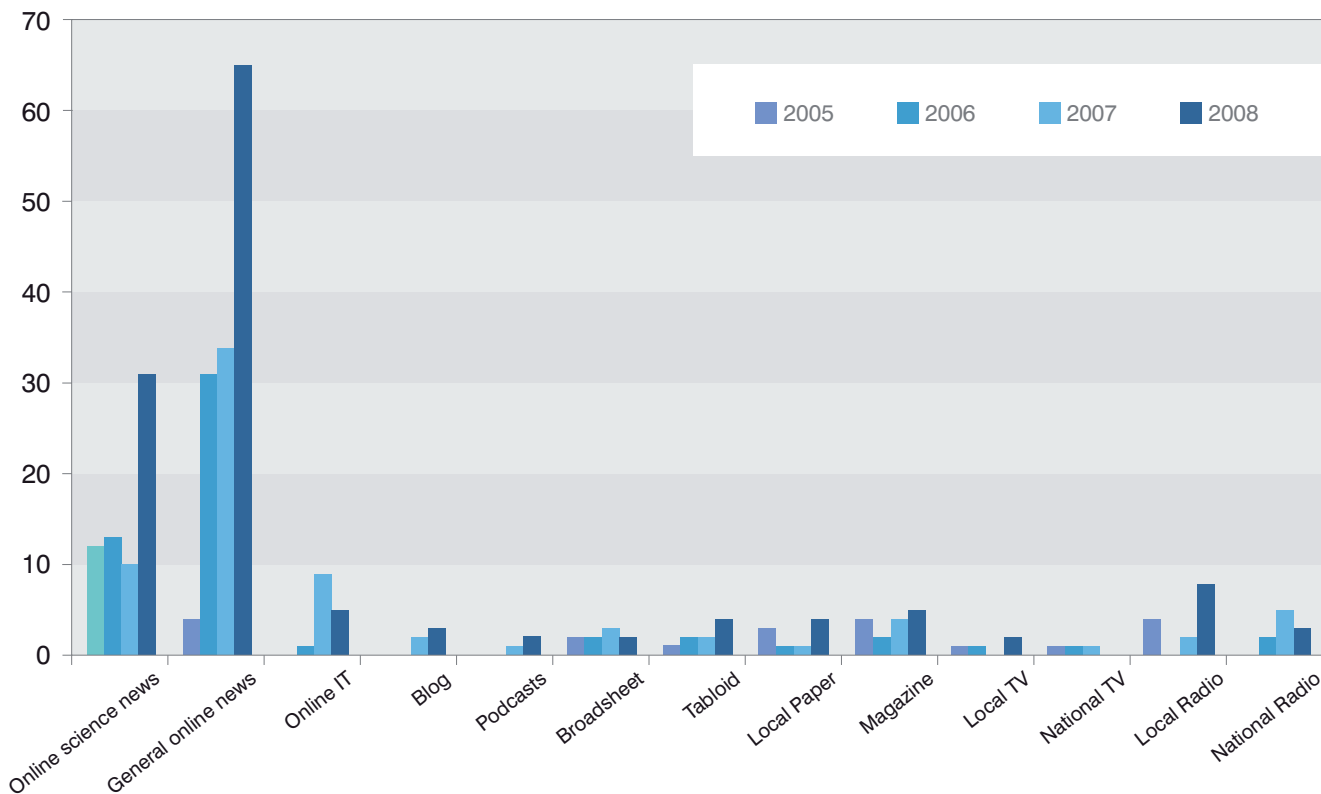


Figure 3. Number of media organisations picking up NAM stories 2005–08 classified by type. Credit: The authors.

Whilst up overall, the trend in print and broadcast media coverage is much less clearly defined and is much more dependent on the nature of the stories. Coverage in the broadsheet newspapers has been roughly stable throughout the period (Table 2) with stories appearing in most of the “serious” UK papers (*The Times*, *The Daily Telegraph*, *The Guardian* and *The Independent*). Tabloid coverage was consistent in 2005–07, with two articles appearing, and increased to four in 2008, which could suggest an upward trend; however, it is worth noting that, in terms of square inches of coverage, the peak fell in 2005 when the *Daily Mail* published a full-page article on exoplanets and the Goldilocks Zone and a full-page

interview the following day with Professor Barrie Jones, who gave the featured talk.

There was particularly good local coverage in 2006 and 2008. Leicester, which hosted the 2006 meeting, is home to the National Space Centre, the UK’s largest space-themed visitor attraction; the *Leicester Mercury* takes pride in both this and the University of Leicester’s Physics and Astronomy Department and has a long tradition of publishing space and astronomy themed stories. The first NAM to be held in Northern Ireland, hosted by Queen’s University Belfast in 2008, had a strong regional identity and attracted a lot of interest from the print, radio and TV sectors of the Northern Irish media, which has the characteristics of a national service elsewhere.

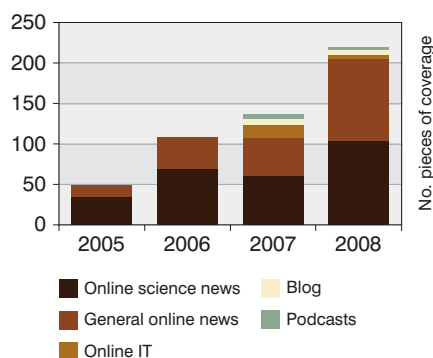


Figure 4. Online news coverage for all stories 2005–08. Credit: The authors.

Television coverage reaches potentially the widest audience and we have had reasonably consistent success over the period. *British Satellite News* attended the meeting in 2006 and scientists featured in our releases were interviewed by *Sky News* in 2005 and *BBC News 24* in 2006. In 2007, *Newsnight* closed with a *Hubble* image of galaxies forming in the young Universe. *Newsnight* filmed the STFC and Astronomy Community forum in 2008, but this is not directly related to a release and therefore has not been included in this study.

### 3.2 Coverage by Day

For every NAM in the period 2005–08, most releases were issued on the Tuesday and Wednesday of the week and those days also achieved the peak coverage. Tuesday and Wednesday are the only full days of scientific sessions and, historically, conference organisers have chosen to programme the high-profile sessions mid-week to attract the biggest number of attendees. Unsurprisingly, fewest releases were issued on Mondays, as sessions were only held on Monday afternoon in 2007. In 2008, ESO issued a joint release with NAM on a *Hubble* image of an exploding star in NGC 2397, which was the subject of a talk by Professor Stephen Smartt, one of the NAM Local Organising Committee for 2008. In order to avoid a clash with another release they were issuing later in the week, ESO sent out the release on the Monday and it was the fifth highest ranking story in terms of coverage that year.

Despite the small number of releases issued on Mondays, it is worth noting that the overall ratio of pieces of coverage to number of releases is highest for Monday, with an average of more than nine pieces of coverage per release. This is marginally higher than for Tuesday or Wednesday (Table 2).

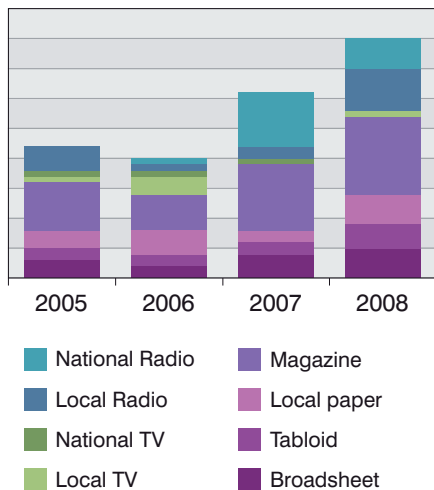


Figure 5. Print and broadcast news coverage for all stories 2005–08. Credit: The authors.

On average, Thursdays has the lowest average for pieces of coverage and, like Friday, has an average ratio of pieces of coverage to releases of 3:1. As the journals *Nature* and

The majority of the coverage is in the US, where most of the online science, space and astronomy news sites are registered. In the past two years, there has been significant growth in the uptake of NAM stories in India, South East Asia and Australasia (Figure 8).

### 3.4 Coverage by Subject Area

Exoplanets and the search for life in the Universe are by far the most successful topics in achieving mass coverage. The ratio of pieces of coverage to releases issued is 31:1, nearly twice that of the next most successful topics (space technology and solar terrestrial, both with a ratio of coverage to releases of 18:1), shown in Figure 9.

Exoplanet stories account for a quarter of all the coverage resulting from NAM releases over the period 2005–08 and the public interest in this topic seems to be insatiable, even when the findings are not particularly new. For instance, at the 2008 conference BBC News Online published a further exoplanet story, about a solar system with Saturn- and Jupiter-like planets, which was picked up in several other places, including

the *Mail on Sunday*. We had chosen not to issue a release on this abstract during our selection process as the finding had already been publicised on 14 February in press releases from the University of Ohio and STFC/Jodrell Bank and this coverage has not been included in the study.

The success of the space technology stories is boosted by coverage from the IT media. The high-ranking solar–terrestrial stories are linked to protecting astronauts from solar storms, so have a human interest element that many astronomical stories lack.

The subject areas that have generated the most releases are stars, a category which includes binaries, supernovae, pulsars and brown dwarfs and has generated 15 releases, and solar science and galaxies (13 releases each). The stars category has a ratio of pieces of coverage to releases of 4:1; galaxies and solar science both have a success ratio of 6:1.

The subjects with the lowest success rate in attracting coverage are astronomy outreach

Table 2. Comparison of number of releases with the number of pieces of coverage generated by day over the period 2005–08.

Day	Number of releases				Total number of releases	Number of pieces of coverage				Total number of pieces of coverage	Ratio no. coverage/ no. releases
	2005	2006	2007	2008		2005	2006	2007	2008		
Monday		0	3	1	4			26	11	37	9.25
Tuesday	6	6	9	8	29	31	73	28	109	241	8.31
Wednesday	6	6	9	12	33	22	36	103	129	290	8.79
Thursday	4	2	1	0	7	10	5	8	0	23	3.29
Friday	4	3	1	2	10	8	13	2	10	33	3.30

*Science* are published on Thursday, there is a lot of competition for science stories at the end of the week and that, together with the smaller number of talks on those days, possibly accounts for the lower success rate.

### 3.3 Coverage by Country

There has been a steady increase in UK coverage over the period 2005–08. Coverage in Europe in 2008 was down overall, possibly because AlphaGalileo was offline from the Friday before the meeting until the Tuesday after the meeting closed, so that releases were not posted during this period. However, looking at the Google News results for the previous years, NAM “top stories” are finding their way into high-profile European publications such as *Der Spiegel* and *Le Monde*.

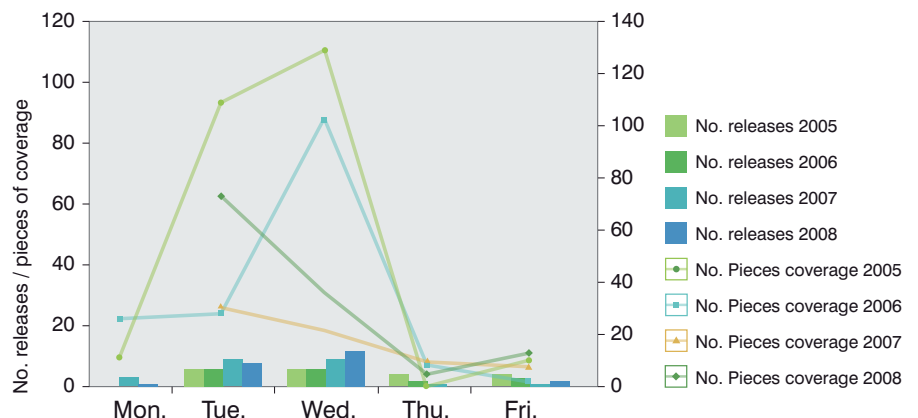


Figure 6. Breakdown of no. releases/pieces of coverage by day for NAM meetings 2005–2008. Credit: The authors.

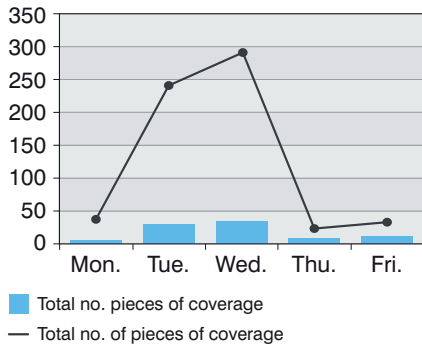


Figure 7. Total no. of releases issued and resulting coverage by day for all NAMs 2005–08. Credit: The authors.

(3:2), groups and clusters of galaxies and gamma-ray bursts (both 5:2).

Planetary science came surprisingly low down the list, below astronomical history. This may be because most years NAM is held the same week as the European Geophysical Union, which attracts many planetary scientists. Good planetary stories also tend to be submitted to the journals *Science* and *Nature* and are therefore subject to their embargoes and cannot be featured in releases prior to publication.

## 4. Discussion

In studying the patterns in coverage over the past four years, certain questions are raised. With 50% of the coverage coming consistently from just three stories, is it worth sending out twenty or so releases? Is there any point in sending out releases on the more “difficult” subjects? Is there a balance to be addressed between quality and quantity?

In answering these questions, we need to look at the aims of the press office for the National Astronomy Meeting. These are to raise the profile of astronomy, and the UK astronomical community in particular, as well as to promote the Royal Astronomical Society and the meeting itself. The priority of these aims depends very much on the audience reached; for instance, in placing an article in the tabloids the emphasis is on generating interest and enthusiasm in astronomy generally rather than making the man in the street more aware of the RAS. For decision makers, the role that the RAS plays in the astronomical community and the prestige in which NAM is held worldwide are equally important. It is also vital for the long-term growth of the meeting that the scientific community recognises that interesting and significant work is being presented at the meeting (and that NAM presents an opportunity to communicate research to the wider public through the media). It is rare that a single story will have the qualities to fulfil all these aims.

For example, despite the public appeal of extrasolar planets and their success in generating coverage in the tabloid media, many of these stories do not represent major leaps forward in our understanding of other solar systems and are therefore not particularly newsworthy in the scientific sense or widely reported in the science media, e.g. *Nature*. Conversely, stories on dark matter or Modified Newtonian Dynamics (MOND) will never reach a large public audience, but may be picked up by *Nature*, *Science NOW* and *New Scientist*.

In sending out around 20 releases, we are able to ensure that the full range of topics presented at NAM is reported by the science and specialist space and astronomy news websites.

Steve Maran and Lynn Cominsky of the AAS, who give us vital assistance in forwarding the releases to their own list, have expressed some concerns about the volume of the NAM releases in such a short space of time. As part-time volunteers, they have limited time and resources and this year have only forwarded a selection of the releases. In future we will ask the AAS to distribute the initial press registration release and the username and password for secure access to the media area of the NAM website, rather than our full suite of releases, as the key priority for the AAS remains their two annual conferences and issues relating to their Society<sup>3</sup>.

As three exoplanet stories, three releases on *Hinode* results and two releases on the UK Infrared Telescope (UKIRT) results were, on several occasions, combined by journalists into three stories, we also need to ensure that

we are not sending out too many releases on one subject at the expense of another.

In the past, we have issued releases that combine information on several talks, but this requires additional time. For practical reasons, NAM is a fixture of the universities’ spring break and, in three of the past four years, Easter has fallen in the fortnight before the meeting. The abstract deadline tends to be a month before the meeting and we have to allow time for the abstracts to be collated, so usually we have three weeks to contact authors and write the releases. When Easter falls in this period and many of the authors are away on holiday, this is a very tight timescale. In 2008, several authors only made contact at the end of the week before the meeting and there was therefore no time to assess similarities and produce combined releases. As this appears to be an important issue, we need to work with future conference organisers to ensure an early abstract deadline, particularly when there are holidays in the run-up period to the meeting.

As a final point, although not directly linked to coverage, we noted with interest that nearly 20% of the releases issued had lead authors who were PhD students. NAM has traditionally had a large attendance by young scientists and it is often the first opportunity that they have to present their work at this scale of meeting. We believe that the experience of working on a press release about their research at such an early stage of their career should assist these young scientists in understanding the importance of communicating their work and finding the right level at which to pitch information. This must have benefits for astronomy communication in the future.

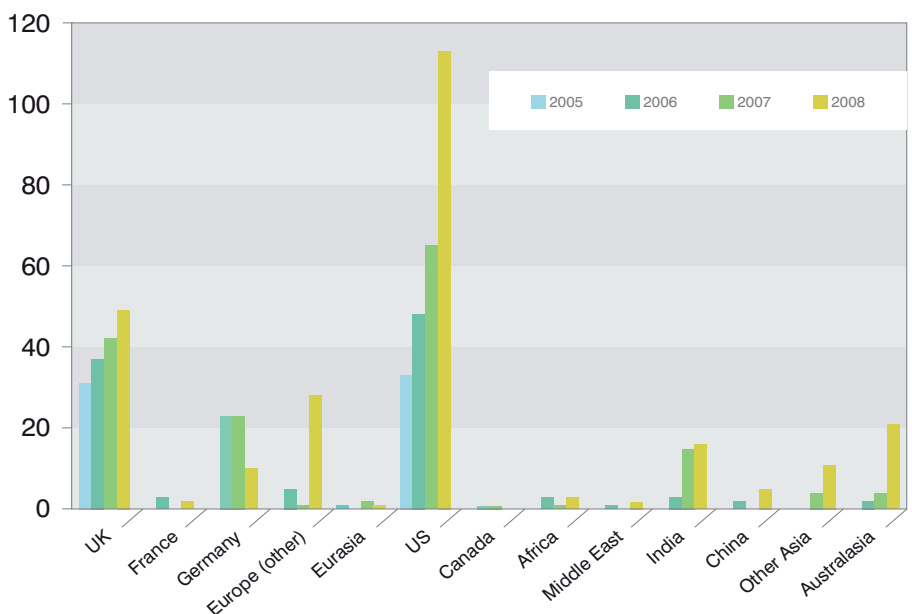


Figure 8. Total number of pieces of coverage by region for period 2005–08. Credit: The authors.

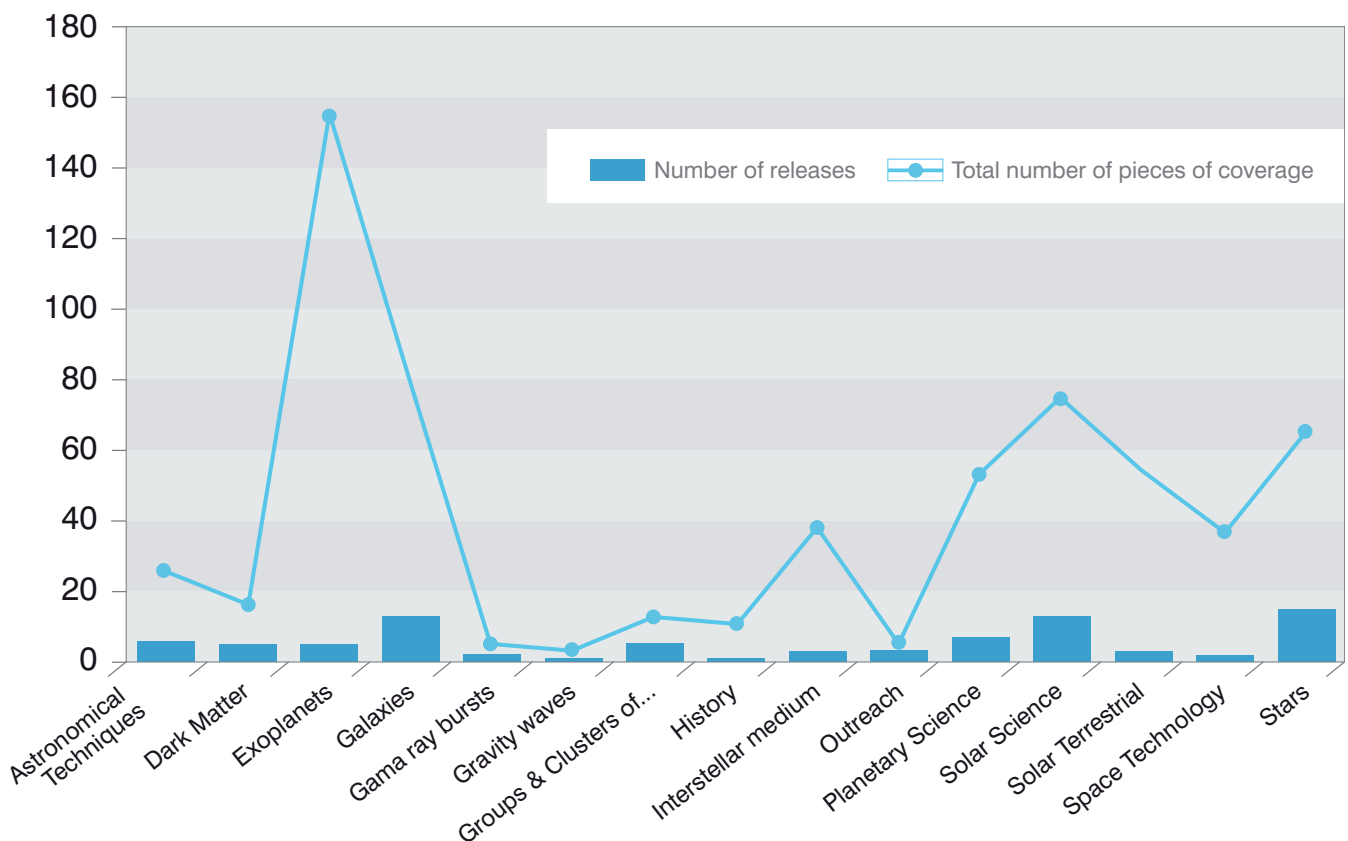


Figure 9. Average number releases and pieces of coverage by subject area over the period 2005–08. Credit: The authors.

## 5. Conclusions

In the period 2005–08 NAM press releases have resulted in consistent coverage in key publications and we are reaching an increasing audience via the internet on both general and specialist science news sites.

Although our findings result from an analysis of media coverage of NAM, we believe that the themes and trends may apply to other astronomy meetings. We have therefore formulated the following general conclusions:

- With half the coverage being generated by three releases, it is important to make sure prior to the meeting that the scientists featured in the “top” stories are fully prepared for the potential media attention and the time that they may need to spend in talking to journalists.
- Stories about exoplanets and the search for life in the Universe are by far the most successful in attracting coverage. Other topics of high media interest are solar terrestrial relations and space technology. However, press officers should produce a range of releases to represent the wider spread of research presented at the meeting.

- Stories on similar themes should be consolidated into a single combined release. If public holidays fall in the run-up to the meeting, an earlier abstract deadline should be set to give press officers time to carry out this work.
- AlphaGalileo and the AAS provide important dissemination services; however, their manpower is limited. Press officers should appreciate this and provide embargoed material as far in advance of the meeting as possible.
- Particular effort should be made to find stories that relate to the first day of the meeting week, even if few sessions are scheduled, as the tentative results of this four-year sample suggest that they have a higher chance of being picked up than stories issued at the end of the week.

## Notes

1. Royal Astronomical Society: [www.ras.org.uk](http://www.ras.org.uk)
2. Bharat, K., 2006, Googleblog, <http://googleblog.blogspot.com/2006/01/and-now-news.html>, retrieved on 11 June 2008
3. Maran, S, Cominsky, L, Marschall A, 2002, [http://www.nist.gov/public\\_affairs/Posters/astronomical.htm](http://www.nist.gov/public_affairs/Posters/astronomical.htm), retrieved on 11 June 2008

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## Biographies

**Anita Heward** is a freelance science communicator. From 2004–2005 she worked as press officer for the Royal Astronomical Society and she continues to act as press officer for the annual RAS National Astronomy Meeting. She also leads press activities for the annual European Planetary Science Congress, organised by the European Planetology Network (EuroPlaNet) in association with the European Geosciences Union. Between 2002 and 2007, she coordinated “UK goes to the Planets”, a campaign to publicise the UK’s contribution to the exploration of the Solar System and currently works on outreach activities for Europlanet.

**Robert Massey** is Press and Policy Officer at the Royal Astronomical Society, where he works to raise the profile of astronomy with the public at large. Robert started his career with a PhD from Manchester University and then worked for several years as a teacher in a further education college. From 1998 to 2006 he was Public Astronomer at the Royal Observatory Greenwich.