

The Big Bang



First Big Bang of the year and my first chance to play the big-wig editor. I'll be taking over from Eoin year and you can help make my job easier. If you have any articles you want in the Big Bang or have anything to say about physics and astronomy (or science in general) just contact me by email

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John

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The Year to Come

The President's Welcome

Firstly I'd like to welcome all our new members, and welcome back all of our old ones too! We have a really exciting year planned out for all of you between talks, workshops, debates, trips, projects, including our new project on robotics. After our success in being awarded best physics society in the UK and Ireland by Nexus last year, I really feel we have a lot to live up to this year! Hopefully you will all enjoy our varied talks series (with topics ranging from space systems engineering and archaeoastronomy to Einstein's brain and geophysics) and will take part in



our interesting and topical debates, some planned ones for this year are STEORN and their claims of free energy, the demotion of Pluto, and science and religion.

As most of you know, we have a trip to the Armagh planetarium and observatory coming up on Friday 20th October which will be a good chance for us all to get to know each other and learn a bit about astronomy as well. With any luck, we will be arranging some more astronomy and observing related trips around Ireland during the year. And considering the success of our trip to London last year, which was thoroughly enjoyed by all, we have a few ideas in the pipeline for another big trip this year. The projects we will be running this year are rocketry, telescope rebuilding, IFAS observing challenges (for which you'll get a nice shiny certificate!), and our new one on robotics.

I'd also like to mention that our honorary president for the year is Professor Heffernan of the Mathematical physics department, which means he will be giving us our final talk of the year, which will be on some aspect of Chaos Theory.

Well that's really all I have to say, I hope you all have a good year with Astro2. We're always open to suggestions so feel free to contact any of us at astro2@minds.nuim.ie and check out our website - www.minds.nuim.ie/~astro2 for details of upcoming events.

See you all on Tuesday nights at 6.30 p.m. for debates or workshops, and at 7.30 p.m. for our talks!

Sarah Kennelly

News from the Society

The New Comitee

President – Sarah Kennelly
Vice president – Thomas Kelly
Secretary – Eilish Byrne
Treasurer – Alice Mooney
PRO – John Kirwan
Projects – Marcus Beirne
Librarian – Sinéad Connolly
Events – Kate Arthurs
Equipments- Bart Busschots
Web master – Eoin Butler
First year reps- Ciara Mc Manus and Mike Campion.

Tuesdays
JH4

Upcoming talks for this semester

10th Oct - Dave McDonald – Science in amateur astronomy
17th Oct - Prof Evert Meurs, DIAS - High Energy Astrophysics
7th Nov - Dr. Mathioudakis, Queens university – Solar Physics
12th –19th Nov – Science Week!!!!
21st Nov - Dr. Colin Brown, NUIG – Geophysics and Plate
Tectonics
28th Nov - Dr. Gianmarco Radice, Glasgow university – Aerospace
and Space Systems Engineering
5th Dec - Dr. Peter Gallagher, TCD – Space Weather

Of course we'll be having workshops, discussions and debates before each talk. (lookout for Bart's intro to astronomy workshop, and our epic science vs. religion debates.

We'll also be running projects throughout the year such as rocketry and robotics(aka robotry). Marcus is our projects officer this year and he's basically just dying to get a chance to play with robots so make you sure you let him know if you'd like to be involved in any of these. You can contact him at – icanseemyhousefromhere@hotmail.com .

*“All our science,
measured against
reality, is primitive
and childlike – and yet
it is the most precious
thing we have.”
Albert Einstein*

The World of Physics

University of Reading Closes Physics Department

Eoin Butler

The University of Reading announced at the end of September that it will not be accepting any new physics first-years. This is happening with a view to close the department altogether by 2010. The University has cited the “current funding context” as the main cause since in order to save the department - they stated that they “would need to invest in a way that is not feasible in the current climate”. However, of the last few years, physics at Reading has attracted external funding in excess of £5 million. £300,000 of this was spent on refurbishing the undergraduate laboratories.

The Institute of Physics has reacted critically to the decision, highlighting contradictions between the UK government’s stated policy of promoting lab-based sciences, and this latest development. The IOP chief executive, Robert Kirby-Harris spoke out in a press release: “Contrary to many reports, physics is not a declining discipline; undergraduate numbers have increased over the last few years - although not in line with the overall increase in university student numbers. Measures are in place to try to increase further student numbers and there is some evidence that they are starting to work - closing a department now

would seem to be short-sighted and sends out the wrong messages”.

Over the last week, the students at Reading have organised protests. They gathered last week, complete with banners and masks of the University Vice-Chancellor outside a meeting of the University’s senate. The president of the Reading Physics Society, Simon Stacey, said “No one has given us any reasons as to why the department is closing. We’re here today to ask for an explanation of their decision and to try and get the vice-chancellor to change his mind about the closure. I was hoping to go on to do a PhD at Reading after I graduate this year. Now I’m not sure if I will be able to do that.”

Reading University’s physics department is almost certainly not the only department in trouble. However, departments are not likely to announce any troubles for fear of scaring away talented staff and further worsening the problem. Postgrads in particular are not going to apply to a department they perceive to be hanging by a thread. Developments such as these are doubtless of concern to the physicists-in-training of Astro2, so hopefully, we will see the trend changing in future years.



Physics students protesting at Reading

4th Year Astrophysicists go to France.

Marcus Beirne

Five final year students, and an equal number of lecturers set out on an intrepid voyage, to gaze long at the skies over the Haût Provence. We arrived at l'Observatoire d'Haût Provence without problem and got settled in for our longest day. In order to acclimatise ourselves to the astronomer's body clock we stayed awake all night, until the next morning, kept busy by planning our next couple of nights observing, and getting to grips with the imaging software.

Our first night of observing on the 1.2m Newton focus telescope was a record night for the entire observatory. With a seeing of 1.8 arcseconds (the lower the better, and considering the absolute best the observatory usually gets is 2 arcseconds many bottles of champagne were opened!!), the images we got that night were the best we could hope for! Unfortunately, the other nights didn't go so well...

On the second night on the 1.2m we managed to get some data, but lo and behold the bane of astronomers everywhere came to thwart our plans: Cumulous Occasionatus (only appears when you try to do observing). With moderate cloud cover the tracking camera would not work for long exposures, so only short exposures could be taken. So much of our time was spent carting cups of tea up the mountain to those who could take images, or absorbing as much information as we could from their library (bearing in mind that we were all sleep deprived, this wasn't that much). One thing which always sparked a conversation was the food.

Unfortunately those conversations tended to happen at the dinner table, and be something like "what type of meat is this?" "Is this a stomach, or a tentacle, or a squid's head??" and "Why do I have a small, whole bird on my plate?" That said, the food was delicious, and drinking wine with every meal was definitely welcomed (albeit a bit odd, but not as odd as getting up for "breakfast", but having dinner)!

The final 2 nights of observing were spent on the 1.5m Coudé focus telescope (an impressive sight to see, especially as it rotates directly over your head in the control room, to pass over a platform with barely an inch between it's multi-million euro frame and the concrete floor!) But alas, our efforts yet again were in vain, and due to thick cloud coverage on the first night barely any spectra could be taken. The second night was so cloudy that the technician, Didier, couldn't even open the dome for fear of rain! However, all was not lost, as we did get to celebrate our beloved President Sarah's 20th birthday (wishing her a happy birthday three different times – Irish time, Universal time, and French time. Then again in the morning for good measure!!).

All in all, the trip was amazing! While we didn't get much in the way of data, it was an excellent experience, which all of us learned a lot from (including the fact that in France they have HUGE spiders, which carry their young on their backs, and are invulnerable to stones *shudders*!!). You do learn a lot from hands-on observing, and we were all surprised by how much of 2nd Year instrumentation we still knew!

***societies.nui
m.ie/astro2***