

If you have any enquiries or any news or events you would like covering in a future newsletter please contact Victoria Webster on:

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Thank you and we hope you enjoyed this issue.

# PHYSICS DEPARTMENT NEWSLETTER

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## Dates for your diary

- UCAS Visits, 1st & 15th December 2010

## Winter Graduation

The winter graduation ceremonies are due to take place on Monday 20th December for physics graduates. You can join in with the celebrations by watching the ceremony live on the web cam in the departments coffee room.



## Innovation Fellowship Award



Dr. Gerry Swallowe, Prof. Feo Kusmartsev, Daniel Elford and Luke Chalmers have won an Innovation Fellowship Award. The Innovation Fellowship programme is a collaborative programme operating across all nine East Midlands HEIs: De Montfort University, University of Derby, University of Leicester, University of Lincoln, Loughborough University, University of Northampton, University of Nottingham, Nottingham Trent University and Bishop Grosseteste University College, Lincoln. It is jointly funded by the East Midlands Development Agency and the European Regional Development Fund.

The grant is an early-stage finance opportunity to facilitate and encourage the commercialisation of their patented sound attenuating technology. It will enable them to undertake a range of activities including: 'proof of concept'; development of robust IP, business planning, market appraisal work and to engage potential commercial partners and end users.



Dr Gerry Swallowe



Prof Feo Kusmartsev



Daniel Elford



Luke Chalmers

Congratulations to all the physics students who will be graduating at this ceremony and we wish you luck in your future career path. Don't forget if you are one of those graduating to come along to the department after the ceremony to celebrate with the staff.



## Well Done Hanaa



We would like to congratulate PhD student Hanaa Hassan on winning the major Golden Award in Applied Science for her paper: 'New Discovery in Nano-electronic System Spontaneous Moving Semifluxon' at the recently held Saudi International Conference SIC04, in Manchester on 30th and 31st July 2010

Congratulations Hanaa, keep up the good work.

## Invited Lectures

Professor Sasha Alexandrov gave invited lectures at the 23rd General Conference of the Condensed Matter Division of the European Physical Society (Warsaw, Poland) in August and September 2010, at the International Conference on Superconductivity and Magnetism (Antalya, Turkey) April and May 2010 and at the American Physical Society (APS) March Meeting (Portland, US, 2010) on the key pairing interaction in cuprate and related high-temperature superconductors.

densed matter physics. Prof. Alexandrov presented recent theoretical results, which in conjunction with a great number of experimental observations provide the definite answer to this fundamental question. He proposed that the true origin of high-temperature superconductivity is found in a proper combination of strong electron-electron correlations with a significant finite-range EPI so that low energy quasi-particles are small mobile polarons and small bipolarons in high-temperature superconductors.

More details can be found at:

<http://cmd23.ipj.gov.pl/>  
<http://www.icsm2010.org/>  
[http://meetings.aps.org/Meeting/MAR10/APS\\_epitome](http://meetings.aps.org/Meeting/MAR10/APS_epitome).



## Poster Prize



Congratulations to Gyuzyal Kassymzhan who recently received the Highly Commended Prize in the Summer Research Project Studentship Competition for her poster 'Semi-superconducting Metamaterials'. Well done Gyuzyal.

## EPSRC Grant Awarded



Dr Joseph Betours

Congratulations to Dr Joseph Betours on being awarded an EPSRC Grant.

The grant for the value of £283,758 which has been awarded over a three year period is in support of his research on strongly correlated quantum systems. For further information

please visit: <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=EP/H049797/1>

## Official Observatory Opening

Now the observatory is up, the 16 inch Meade telescope installed, the security fence is in place and other telescopic equipment has been purchased, we are ready for an official observatory opening. This is due to be held on Wednesday 13th October and is open to staff and postgraduates only at this time.

The evening will start with a welcome from the Head of Department, Prof Feo Kusmartsev and will be followed by talks and demonstrations from Phil Sutton, a member of the technical staff and Michael Pierpoint, a PhD student. Dependent upon the weather, everyone will have the opportunity to have a go with the equipment. Failing this, there will be detailed information and images available to show what the equipment can do.



Refreshments and nibbles will be provided so if you would like to attend please contact Victoria Webster at [v.j.webster@lboro.ac.uk](mailto:v.j.webster@lboro.ac.uk).



## Studentship Competition

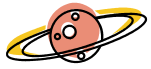
Congratulations to Andy Prudom who recently received the Highly Commended Prize in the Summer Research Project Studentship Competition for his poster 'Performance of Multi-Component Polymer Nanocomposites at High Strain Rates for Lightweight Armour Applications'. Well done Andy.

## Welcome

We would like to welcome all new students to the department and hope you enjoy your time with us. Remember that we operate an open door policy so were always here for you if you have any queries or questions.

Our intake numbers for this year have been the highest we have had for a few years. With 6 new MSC students, 18 Foundation Year students and 73 new first year students, we will all have our hands full this year.





# Observatory Update



The above picture was taken using the DSLR camera on a tripod. It was set up to take 30 second exposures for over an hour. The images were then combined together to show the movement of the stars

The image on the left is of Jupiter which was taken with the department's DSLR camera attached to the Meade 16" Telescope with a Barlow lens in place.

Both of these pictures were taken by the department's technician, Phil Sutton on Friday 24th September.



## Tennis Champ



Dr Boris Chesca, a member of Greenfields Tennis Club recently took part in their annual Club Championship. Boris played in and won the men's singles game, the men's doubles and the mixed doubles, along with wife which they won after a tie break situation.



Dr Boris Chesca

Wow Boris, you were on a winning streak that day. Well done.



## Queens Award for Postgraduate

One of our postgraduate students, Andy Prudom who has been a Scout Leader for many years, was recently recognised for his achievement by being presented with the Queen's Scout Award.

This is the highest honour a person can achieve in Scouting and it is well deserved. Andy is the assistant district commissioner for Beaver Scouts and was presented with the award at a recent barbecue and activities day for volunteers at the Oaks-in-Charnwood Campsite which was attended by the Mayor. Well done Andy.



Andy Prudom

## Welcome Back

We would like to welcome back to the department Michael Pierpoint, Andrew Caruana, Satpal Matharu, Gyuzyal Kasymzhan & James Allen. They all return to the department after achieving their degree this summer to start a PhD.

And finally welcome back to Emma Hemsley who is returning to do an MSc after achieving her degree.

It's good to have you all back & we wish you well in your studies.

## Congratulations

Congratulations to Alan Wu on completing his PhD. Alan will graduate in the winter graduation ceremony on the 20th December.



Alan Wu

We wish you all the luck for the future and hope you have a happy working career.

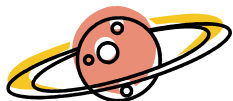


## Grant Awarded

Congratulations to Dr Klaus Neumann on being awarded a grant from the Science and Technology Facilities Council for his research on Neutron Experiments on FePt.



Dr Klaus Neumann



# Observatory Update



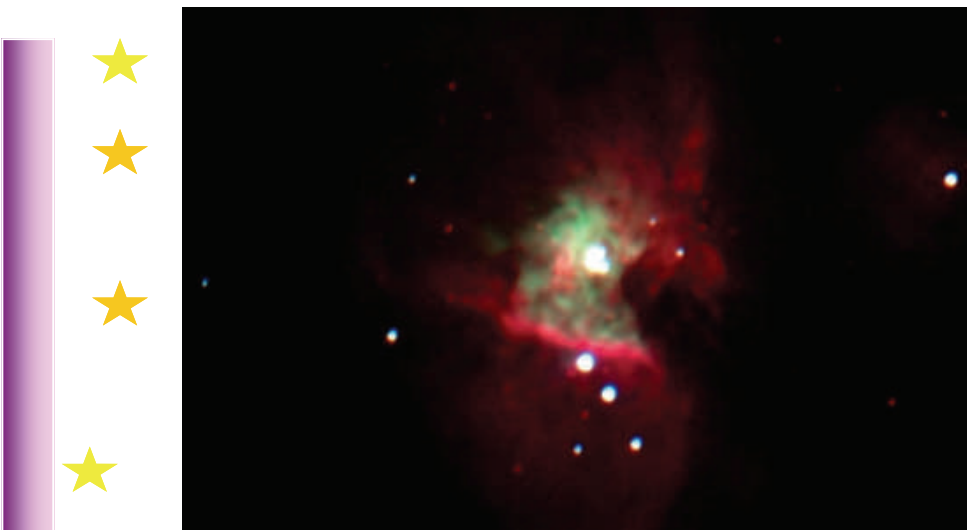
Since the last newsletter, PhD student Michael Pierpoint has taken the first deep sky images from the departments observatory. They were captured using the Meade LX200-ACF 16" Telescope together with the Canon DSLR camera.



The picture to the left is a globular cluster within the constellation, Hercules (ISO 1600, 5 minute exposure).



The picture to the left is a ring nebula within the constellation Lyra (ISO 1600, 5 minute exposure).



The picture above is the Orion Nebula (ISO 800, 5 minute exposure).



The picture to the left is the Andromeda Galaxy (ISO 1600, 15 minute exposure).



The picture to the right is a Planetary (Dumbbell) Nebula within the constellation Vulpecula. (ISO 1600, 8 minute exposure).

