

CALENDAR OF EVENTS <http://physics.illinois.edu/bluesheet.asp>

Saturday, June 2: Science at the Market: Photonics; 8:00 am to Noon at Lincoln Square Mall's Market at the Square

Wednesday, June 6 Thesis Defense: "Probing Proximity Induced Superconductivity in Nb-Bi₂Se₃ Bilayers with Low-temperature Transport and Josephson Interferometry"; Eric Huemiller 3:30 pm in 222 Loomis

Saturday, June 9: Science at the Market: Carl R. Woese Institute for Genomic Biology (IGB); 8:00 am to Noon at Lincoln Square Mall's Market at the Square

Visitors:

Science at the Market:

Carl R. Woese Institute for Genomic Biology (IGB)

Saturday, June 9, 8:00 Am – 12:00 Pm

Urbana Market at Square, Lincoln Square Urbana, IL

For the 9th year, the U of I is bringing "Science at the Market" on most Saturday mornings to the Farmers Market at Lincoln Square mall in Urbana.

The U of I and other experts will be on hand with demonstrations illustrating the science they represent, and to answer questions from the public about the researchers' discipline.

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12th International Conference on Materials Of Superconductivity and High Temperature Superconductors **M²S2018**

The 12th International Conference on Materials and Mechanisms of Superconductivity and High Temperature Superconductors (M²S-2018) will be held in Beijing International Convention Center, Beijing, China, during August 19-24, 2018 (<http://www.m2s-2018.com/>). It is hosted by National Lab for Superconductivity, Institute of Physics, Chinese Academy of Sciences.

The M²S conference is an international event on superconductors and mechanisms of superconductivity held now every three years. The first conference took place in 1988 in Interlaken in the wake of the discovery of high temperature superconductivity by the Nobel Prize winners Johannes Georg Bednorz and Karl Alexander Müller.

The aim of the M²S Conference is to provide a platform for members of the international superconductivity community to report their latest results, exchange information and ideas, and foster collaborations. The Conference is dedicated to all aspects of basic superconductivity research in materials, mechanisms and phenomena of superconductivity, and its applications.

M²S-2018 is now calling for abstracts.

[The deadline for early-bird registration abstract submission is extended to June 15, 2018.](#)

The Conference Website: <http://www.m2s-2018.com/>

Contact Email: m2s2018@iphy.ac.cn

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Visitors:



The National Academies of Sciences, Engineering, and Medicine sponsors awards for postdoctoral and senior researchers at participating federal laboratories and affiliated institutions.

http://nrc58.nas.edu/RAPLab10/Opportunity/Programs.aspx#utm_source=MDR&utm_medium=Email_Campaign&utm_campaign=MDR_Email_Campaign_RAP_Aug_1_Agencies&utm_content=MDR_Email_Campaign_RAP_Agencies

These awards include generous stipends ranging from \$45,000 - \$80,000 per year for recent Ph.D. recipients, and higher for additional experience. Limited graduate level awards are also available. These awards provide the opportunity for recipients to do independent research in some of the best-equipped and staffed laboratories in the US.

Research opportunities are open to U.S. citizens, permanent residents, and for some of the laboratories, foreign nationals.

Four annual review cycles:

August: Opens June 1; Closes August 1

November: Opens September 1; Closes November 1

February: Opens December 1; Closes February 1

May: Opens March 1; Closes May 1

Applicants should contact prospective Research Adviser(s) at the lab(s) prior to the application deadline to discuss their research interests and funding opportunities.

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Theoretical Computational and Biophysics Group Special Seminar:

Title: Making and Using Chlorophylls

Speaker: Professor Neil Hunter

Friday, June 15, 2018 Beckman 3269 at 10:30 am

Abstract: Chlorophylls are essential cofactors for photosynthesis, which sustains global food chains and oxygen production. Billions of tons of chlorophylls are synthesized annually, yet full understanding of chlorophyll biosynthesis has been hindered by the lack of characterization of the Mg–protoporphyrin IX monomethyl ester oxidative cyclase step, responsible for the distinctive green colour of these pigments. We demonstrate cyclase activity using heterologously expressed enzyme. Next, we assemble a genetic module that encodes the complete chlorophyll biosynthetic pathway and show that it functions in *Escherichia coli*, converting endogenous protoporphyrin IX into chlorophyll *a* and turning *E. coli* cells green. Our results delineate a minimum set of enzymes required to make chlorophyll [1].

As an illustration of chlorophyll function, we studied the bacteriochlorophyll *b*-based reaction centre light-harvesting 1 (RC-LH1) complex from the phototrophic bacterium *Blastochloris viridis*. The cryo-EM structure of this complex at 2.9 Å resolution reveals the structural basis for absorption of infrared light, and the molecular mechanism of quinone migration across the LH1 complex [2].

[1] Chen, G.E., Canniffe, D.P., Barnett, S.F.H., Hollingshead, S., Brindley, A.A., Vasilev, C., Bryant, D.A. and Hunter, C.N. (2018) Complete enzyme set for chlorophyll biosynthesis in *Escherichia coli*. *Science Advances* 4, eaaq1407.

[2] Qian, P., Siebert, C.A., Wang, P., Canniffe, D.P. and Hunter, C.N. (2018) Cryo-EM structure of the *Blastochloris viridis* RC-LH1 complex at 2.9 Å. *Nature* 556, 203-208.

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Job Opportunity

Postdoctoral Position in the Theory of the Surfaces of Amorphous Materials School of Chemistry, University of Sydney

A Postdoctoral Position is currently available under the supervision of Professor Peter Harrowell in the School of Chemistry at the University of Sydney to work on the theoretical and computational studies of the morphology and stability of the surfaces of amorphous solids. This project will include the study of dissolution and precipitation processes from these surfaces.

The appointment will be for 2 years and will start by October 2018.

Applicants require a PhD in Chemistry, Physics or a related discipline with proven research experience in statistical mechanics and computer simulation of condensed matter.

Further details can be obtained from Peter Harrowell. Interested applicants should send a CV and the contact details of 3 referees to Peter Harrowell at peter.harrowell@sydney.edu.au

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Job Opportunity

Postdoc (3 years) and PhD positions – Scaling of Urban Forms and Environmental Impacts – Luxembourg

In the frame of the interdisciplinary project SCALE-IT-UP (Scaling of the Environmental Impacts of Transport and Urban Patterns) funded by the FNR (Fonds National de la Recherche in Luxembourg), we are looking for a postdoc (3 years) and a PhD student to work at the Luxembourg Institute of Socio-Economic Research (LISER) and at the University of Luxembourg.

The project is led by a geographer (Geoffrey Caruso, professor at the University of Luxembourg and LISER) and a physicist (Rémi Lemoy, postdoc at the University of Luxembourg), and will combine approaches from both disciplines to analyse statistically large spatial datasets regarding urban areas and their environmental impacts. The project aims to study hundreds of cities and uncover new urban scaling laws.

The details of the Post-Doc position are here:

<https://jobs.liser.lu/jobs/detail/post-doc-researcher-intra-urban-forms-and-scaling-laws-ref-scale-it-up-m-f-84>

And the details regarding the PhD position are here:

<http://emea3.mrted.ly/1urjr>

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Job Opportunity

Postdoctoral Research Associates in Condensed Matter Theory and Modelling of 2D Materials National Graphene Institute, University of Manchester

Applications are invited for 4 Postdoctoral posts in condensed matter theory to study two-dimensional materials and their heterostructures, and to model nanodevices based on such materials. We seek theorists with an active interest in low-dimensional materials theoretical nanoelectronics, strongly correlated quantum systems, or quantum optics, as well as skills in field-theory methods, or in ab initio modelling.

The terms of these appointments will vary, depending on the experience and expertise of the candidates, ranging from 12 to 30 months. The posts will be based at the National Graphene Institute and co-funded by European Research Council, EPSRC, and Lloyd Register Foundation. The starting dates for these appointments are expected to be between early August and the end of October 2018.

For enquiries, contact Prof Vladimir Fal'ko, who will supervise the involved research projects [email: vladimir.falko@manchester.ac.uk; telephone: +44 (0)161 306 1459].

Application forms (HR REF: S&E-09896) and further particulars are on www.jobs.manchester.ac.uk/displayjob.aspx?jobid=15475

The closing date for applications is **1 July, 2018**.

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Science at the Market:

Phenotypic Plasticity - Parkland Natural Sciences

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Urbana Market at Square, Lincoln Square Urbana, IL

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