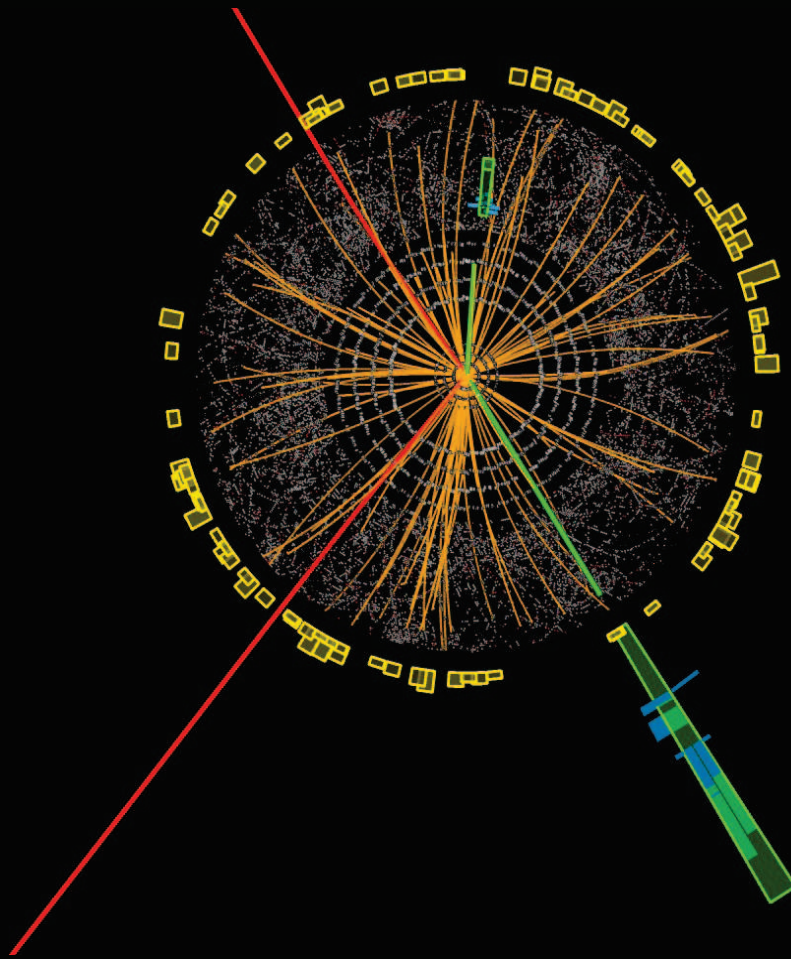


IPPP Newsletter 2014



The Institute for
Particle Physics Phenomenology

Awards

Fellow of the Royal Society

Professor Nigel Glover joins pioneers of the Internet, of computing, climate modelling and virtual surgery in the latest group of eminent scientists elected to the Royal Society, which was founded in the 17th Century to recognise, promote and support excellence in science and to encourage the development and its use for the benefit of humanity.



The Society draws together many of the world's most distinguished scientists, engineers and doctors. Professor Glover, who joins several other Durham University academics among the Society's fellows, said: "It is a great honour to have my contributions to particle physics recognised by the Royal Society. It has been a lot of hard work but also a lot of fun to discover more about the workings of the Universe at the most fundamental level. I have been extremely fortunate to have worked with an outstanding group of postgraduate students and colleagues, and to have benefited from the fantastic environment within the IPPP."

Professor Glover adding his signature to a list of outstanding scientists including Newton. He is the second FRS (besides Em. Prof. Alan Martin) currently researching at the IPPP.

Occhialini Prize

Professor Silvia Pascoli has been awarded with the Occhialini Prize in 2013.

The award is given for her "major contributions to the study of, and leadership in, the field of neutrino phenomenology". The Occhialini Medal was instituted in 2007 to honour the memory of the physicist Giuseppe Occhialini and is presented jointly by the Institute of Physics and the Società Italiana di Fisica.



Royal Society Wolfson Research Merit Award

Professor Valya Khoze holds currently the Royal Society Wolfson Research Merit Award.

The WRMA scheme is to attract to and retain in the UK outstanding scientists in all areas of life and physical sciences.



IUPAP Young Scientists Award

Dr. Claude Duhr has received the Young Scientist award from the International Union of Pure and Applied Physics.

ERC High Precision Simulation of Particle Collisions at the LHC (MCatNNLO)

In 2013 Prof. Nigel Glover has been awarded an ERC Advanced Grant which started in 2014.

McCatNNLO aims to make more precise predictions for physical observables at the LHC and other particle collider experiments, thereby leading to a more precise extraction of fundamental physics parameters, such as the couplings of the Higgs boson to other fundamental particles.

ERC Neutrinos: a different portal to new physics Beyond the Standard Model (NuMass)

In 2013 Prof. Silvia Pascoli has been awarded an ERC Consolidator Grant which started in 2014.

The NuMass project focuses on new physics at low energy scales, below the one reachable at the LHC. This approach is complementary to the energy frontier in the search for new physics beyond the Standard Model. The underlying idea is that new particles could be hidden not because they are too heavy but because, although light, they interact too weakly with ordinary matter. Neutrinos are by far the least understood of the standard fermions: if new particles are indeed at low scales, below the electroweak one, a likely scenario is that they couple more strongly to neutrinos than to other standard particles, e.g. quarks. The NuMass project will use neutrinos as a portal into new physics and will combine theory, phenomenology and cosmology, from proposing theoretical models to testing their signatures and understanding their cosmological consequences.

EU Initial Training Networks:

- **Higgsstools** (10 teams from 37 Universities and Institutes, coordinated by Nigel Glover)
The research goal of HiggsTools is the investigation of electroweak symmetry breaking. The main aim of the project is to provide excellent initial training to young researchers.
- **Mcnet** (8 leading research centres)
Mcnet is dedicated to developing and supporting general-purpose Monte Carlo event generators throughout the LHC era and beyond, and providing training of a wide selection of its user base, particularly through funded short-term 'residencies' and Annual Schools.
- **LHCphenonet** (12 teams, UK contribution coordinated by Daniel Maitre)
LHCphenonet performs advanced particle phenomenology in the LHC era.
- **Invisibles** (7 European and 7 non-European partners)
Invisibles focuses on Neutrino and Dark Matter phenomenology and their connection. Experimental and theoretical aspects are also encompassed.

Miscellaneous



Honorary Doctoral Award for Prof. Peter Higgs

Newcastle born Peter Higgs received 2013 a honorary doctoral award from Durham University and later on the Nobel Prize.

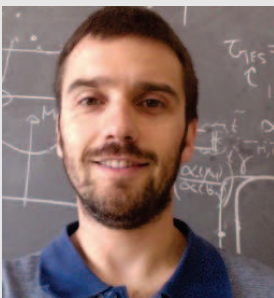
New Building

Plans for a new £10 million landmark building to house IPPP and ICC from 2016 on took another step forward with a £3.35 million donation from Sir Peter Ogden and a £1.5 million gift from the Wolfson Foundation.



New academic staff appointments 2014:

Dr. Brian Batell is coming from the University of Chicago. His research is focused on particle physics beyond the Standard Model, in particular non-standard models of electroweak symmetry breaking and dark matter, and their experimental and observational implications.



Dr. David Cerdeno is coming from Autónoma University of Madrid (UAM). His research focuses on the phenomenological aspects of Particle Physics, Astroparticle Physics and Cosmology.



The annual **Stirling lecture** was held in 2013 by John Ellis and in 2014 by Jim Al-Khalili.

