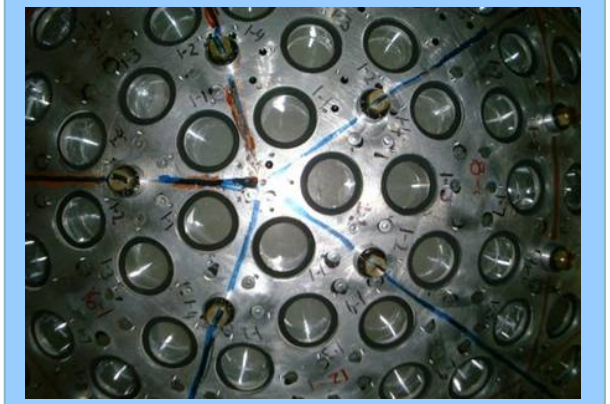
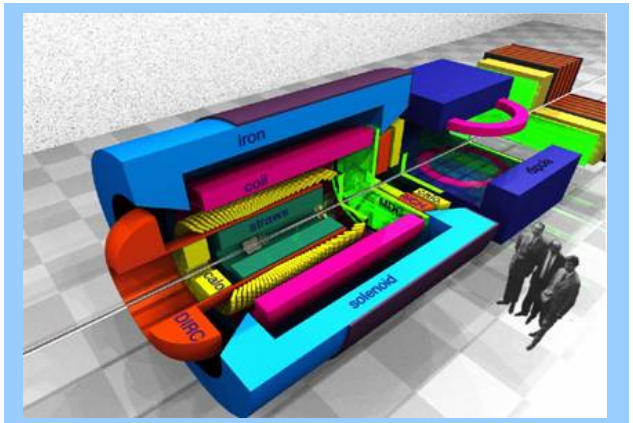
The study of gluonic excitations: The phenomenon of confinement of quarks in hadrons is one of the most spectacular predictions of QCD, unlike anything seen before. It is also the basic feature of QCD that drives all of nuclear physics, from the masses of protons, neutrons and pions to the nucleon-nucleon interaction. New types of hadronic matter are predicted to exist such as exotic hybrid mesons and particles that consist of gluons only (glueballs). We search for them. (Jlab, FAIR)

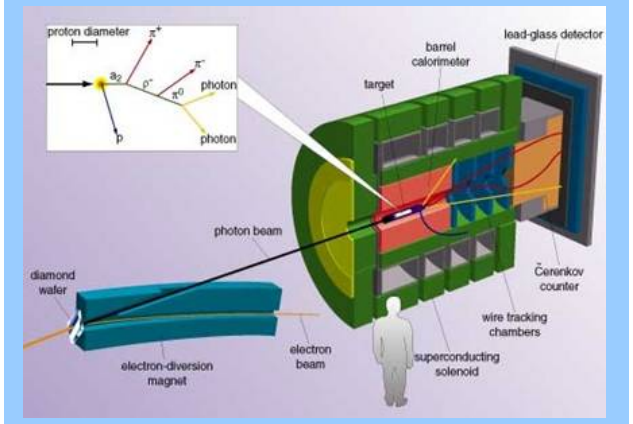
Medical physics applications: Many cancer therapies involve the use of particle beams and sophisticated detectors. Measurements of the dose likely to be received by patients can be accurately modeled if data are available from nuclear reaction experiments. (MAXLAB)



The Crystal Ball detector during assembly, MAMI, Mainz, Germany



PANDA detector at the Future Research Facility FAIR, Darmsatdt,Germany



GlueX detector at the Future Hall D in Jefferson Laboratory (Jlab), USA

Recent students from our group have found employment in a variety of jobs in the UK and worldwide, including IT, the financial service industry, medical physics and further research. They have all benefited from skills learned during their PhD: computing, data acquisition and analysis, experimental simulation and project management. Interested? Contact us.

University of Glasgow

University of Glasgow
Nuclear Physics Group

Contact details:

Nuclear Physics Group,
Department of Physics and Astronomy,
Kelvin Building
University of Glasgow,
Glasgow G12 8QQ.

Head of Group:
Professor Guenther Rosner

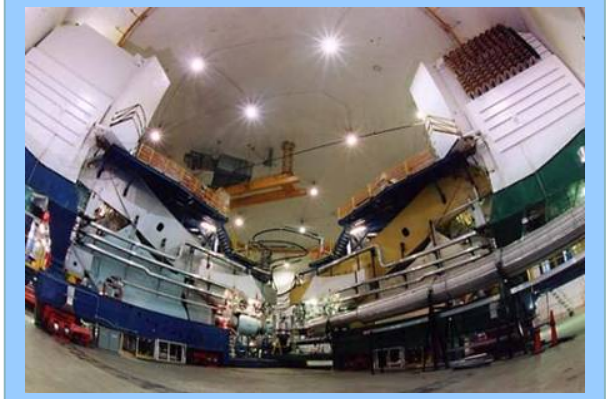
Email: g.rosner@physics.gla.ac.uk
Tel: +44 (0)141-330-4709
Fax: +44 (0)141-330-5299

Web: http://nuclear.gla.ac.uk/

SUPA

Current research programmes.

The study of hadron properties:
In order to construct a full theory of the nuclei, one needs to understand the properties of the constituents. Nucleons and their resonances have several properties, such as electromagnetic form-factors and spin structure which need to be understood at a basic level.
(Jlab, MAMI, DESY)



Hall A at Jefferson Laboratory, Virginia, USA

The study of Nucleon-Nucleon correlations: Experiments are carried out to study the short-range interaction of nucleons in nuclei. This research bridges the gap between the fundamental QCD theory of strong interactions and the more traditional view of nuclei where nucleons and mesons are the constituents.
(Jlab, MAMI)

The University of Glasgow's Nuclear Physics Group studies the most fundamental properties of matter: particles, nuclei and the strong nuclear force that binds them together.

If you would like to take part in nuclear and hadron physics research at the highest international level, travel overseas to research facilities and conferences, develop the latest detector and GRID technologies for use in experiments or medical applications and study novel techniques for analysing data and interpreting results, join us!

Our group is currently involved in experimental programmes at:

- FAIR@GSI, Darmstadt, Germany
- Jefferson Lab (Jlab), Virginia, USA
- MAMI, Mainz, Germany
- MAXLAB, Lund, Sweden
- DESY, Hamburg, Germany

Locations where our group is doing research

University of Glasgow

University of Glasgow
Nuclear Physics Group

SUPA

DESY

MAMI
MAINZER MIKROTRON

panda

MAX-lab

Jefferson Lab