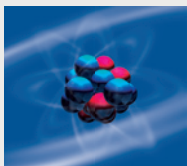


Expert Committee
Nuclear Physics European
Collaboration Committee NuPECC

Expert Committee

Nuclear Physics European Collaboration Committee



Nuclei consist of protons (red) and neutrons (blue), which are each made up of three elementary quarks held together by gluons

What is the Nuclear Physics European Collaboration Committee?

The aim of the Nuclear Physics European Collaboration Committee (NuPECC) is to strengthen collaboration in nuclear science by promoting nuclear physics, and its trans-disciplinary use and application, in collaborative ventures between European research groups, and particularly those from countries linked to the European Science Foundation (ESF). NuPECC encourages the optimal use of a network of complementary facilities across Europe, provides a forum for discussing the provision of future facilities and instrumentation, and advises and makes recommendations to the ESF and other bodies on the development, organisation, and support of European nuclear research, particularly on new projects. The Committee is supported by its subscribing institutions which are, in general, member organisations of the ESF involved in nuclear science and research or research facilities.

NuPECC is an Expert Committee of the European Science Foundation (ESF). The ESF is an independent organisation, owned by 79 Member Organisations among which are funding organisations and research organisations, academies and learned societies from 30 countries. ESF promotes collaboration in research itself, in the funding of research and in science policy activities at the European level.



Accelerator laboratory JYFL,
University of Jyväskylä, Finland



Electron accelerator ELSA, University
of Bonn, Germany



European Centre for Theoretical
Studies in Nuclear Physics and
Related Areas, ECT*, Trento, Italy



Forschungszentrum Jülich, FZJ
(COSY and HPC), Jülich, Germany



Institut de Physique
Nucléaire, IPNO, Orsay, France



Grand Accélérateur National d'Ions
Lourds, GANIL (SPIRAL), Caen, France



NuPECC member countries



FP7 facilities

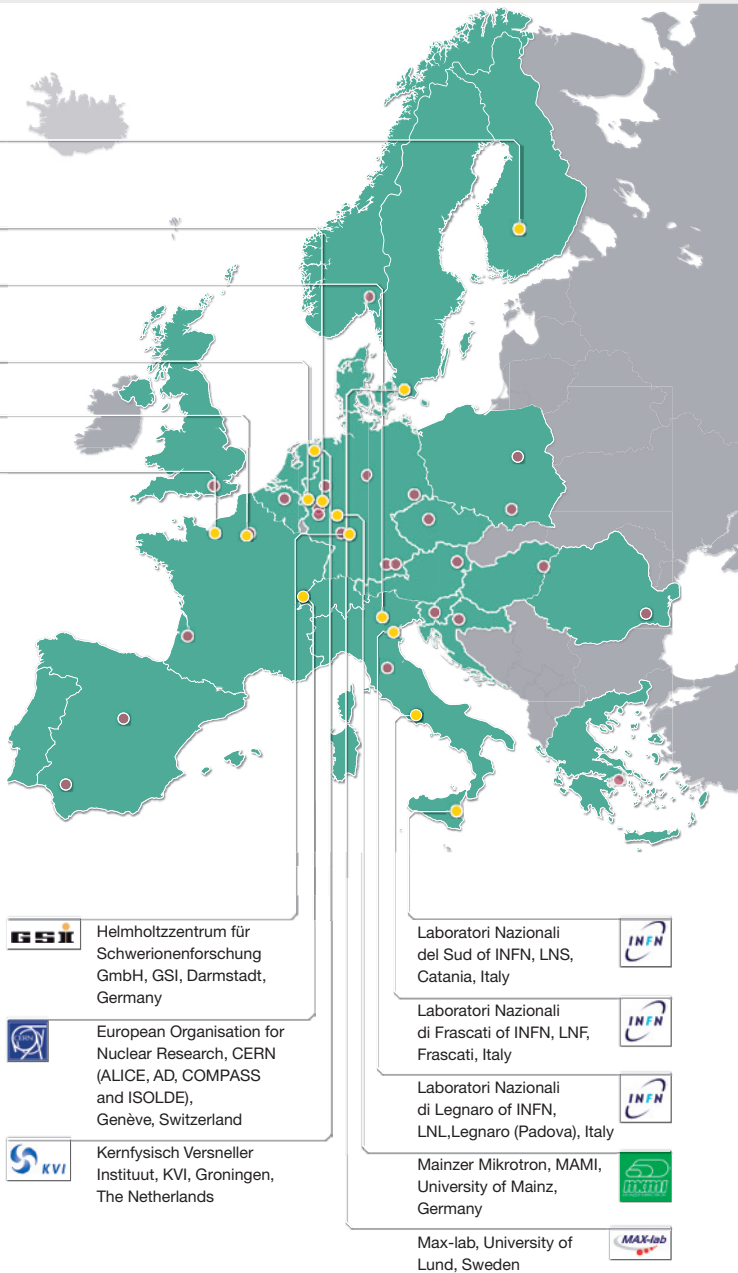


Smaller-scale facilities

NuPECC mission

The Nuclear Physics European Collaboration Committee NuPECC was founded within the community in 1988 and became an expert committee of the ESF in 1990. Member organisations are involved in nuclear science and research, or are nuclear research facilities.

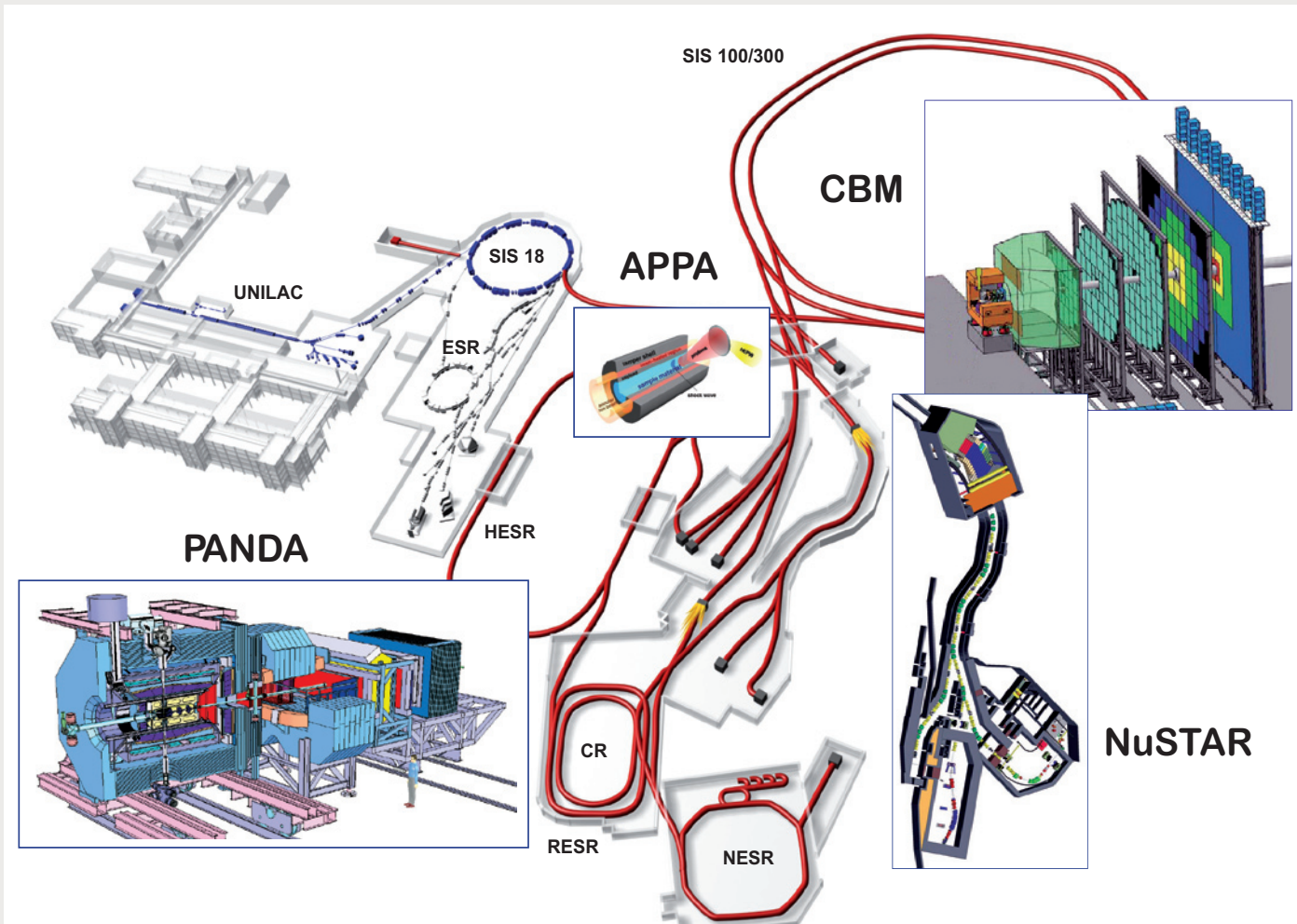
Its mission is to strengthen European collaboration in nuclear science by promoting nuclear physics and its use across many different research fields, as well as facilitating collaborative ventures between research groups within Europe. Nuclear science gets to the heart of matter and is important from a fundamental scientific perspective as well as in technology, medicine, and power generation.



Current Nuclear
Research Facilities
in Europe.

The recently founded 1B euros Facility for Antiproton and Ion Research, FAIR, to be built at the GSI site in Darmstadt, Germany, in the next six years. PANDA, NuSTAR, CBM and

APPA are large-scale experiments that will explore the nature of strongly interacting matter, the behaviour of atoms and plasmas, and fundamental interactions.



Nuclear physicists attending the NuPECC LRP2010 Forward Look Consensus Meeting in Madrid, June 2010.



Main activities

Nuclear Physics Forward Look LRP2010

The goal of the Nuclear Physics Forward Look LRP2010 is to bring together the entire nuclear physics community in Europe to formulate a coherent plan of how best to develop the field in the next decade and beyond.

Objectives

- Review the status of the field in Europe and put it into the worldwide context.
- Formulate recommendations for developing the science and its applications.
- Agree upon an action plan and suggest a roadmap for the upgrade of existing, or the construction of new, large-scale facilities.
- Synchronise its objectives with EU FP7 ERAnet “NuPNET”.

International Collaboration

NuPECC interacts closely with the corresponding organisations in the US, NSAC (Nuclear Science Advisory Committee), and in Asia, ANPhA (Asian Nuclear Physics Association), and is actively involved in the world-wide discussion to promote the field in IUPAP WG.9 and the OECD Global Science Forum.

Nuclear Physics News International

Through its quarterly magazine, NuPECC provides an important forum for discussing nuclear physics.

Integrated Infrastructure Initiatives

European funding has been received in various projects in FP6, such as EURONS and HadronPhysics as well as several design studies, e.g. the FAIR Design Study and EURISOL, and continuations in FP7 are under way.

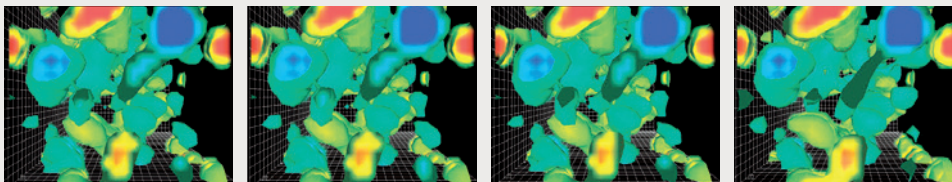
FAIR and SPIRAL 2

In Darmstadt, Germany, FAIR (Facility for Antiproton and Ion Research) will help scientists better understand the properties of “hadronic matter”, the protons and neutrons composed of quarks and bound together by the strong force, which make up 99.9 percent of the visible mass of the universe.

SPIRAL2, a new particle accelerator in Caen, France, meanwhile, will investigate heavy and superheavy elements and will lead to a better understanding of nuclear matter.

NuPECC membership

- **Guenther Rosner** (Chair)
School of Physics & Astronomy,
University of Glasgow, United Kingdom
- **Gabriele-Elisabeth Körner**
(Scientific Secretary),
Physikdepartment E12, Technische
Universität München, Garching,
Germany
- **Faiçal Azaiez**,
IPN Orsay, France
- **Maria José Borge**,
Insto. Estructura de la Materia, CSIC,
Madrid, Spain
- **Angela Bracco**,
INFN and University of Milano, Milan,
Italy
- **Gheorghe Cata-Danil**,
“Horia Hulubei” National Institute
of Physics and Nuclear Engineering
(NIPNE), Bucharest, Romania
- **Philippe Chomaz**,
IRFU, CEA, Gif/Yvette, France
- **Roman Čaplar**,
Division of Experimental Physics,
Rudjer Bošković Institute, Zagreb,
Croatia
- **Jan Dobes**,
Nuclear Physics Institute, Academy
of Sciences of the Czech Republic,
Rez (Prague), Czech Republic
- **Ana Maria Eiró**,
Centro de Física Nuclear da
Universidade de Lisboa, Portugal
- **Jens Jørgen Gaardhøje**,
Niels Bohr Institute, Copenhagen,
Denmark
- **Sotirios Harissopulos**,
National Centre for Scientific Research
“Demokritos”, Athens, Greece
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Université Libre de Bruxelles, Belgium
- **Tord Johansson**,
Department of Physics and Astronomy,
Uppsala University, Sweden
- **Ari Jokinen**, Department of Physics,
University of Jyväskylä, Finland
- **Klaus Jungmann**,
K.V.I., University of Groningen,
Netherlands
- **Bernd Krusche**,
Department of Physics,
University of Basel, Switzerland
- **Eugenio Nappi**,
INFN, Sezione di Bari, Italy
- **Paul Nolan**,
Oliver Lodge Laboratory, University
of Liverpool, United Kingdom
- **Thomas Peitzmann**,
Buys Ballot Laboratorium, Utrecht,
The Netherlands
- **Achim Richter**,
European Center for Theoretical
Studies in Nuclear Physics and Related
Areas, Trento, Italy
- **Dieter Röhrich**,
Institut for fysik og teknologi,
University of Bergen, Norway
- **Christelle Roy**,
IPHC, Strasbourg, France
- **Horst Stöcker**,
Gesellschaft für Schwerionenforschung
(GSI), Darmstadt, Germany
- **Hans Ströher**,
Institut für Kernphysik,
Forschungszentrum Jülich, Germany
- **Jan Styczen**,
The Henryk Niewodniczanski, Institute
of Nuclear Physics, Polish Academy
of Sciences, Cracow, Poland
- **Jochen Wambach**,
Institute for Nuclear Physics,
Technische Hochschule, Darmstadt,
Germany
- **Eberhard Widmann**,
Stefan Meyer Institute for Subatomic
Physics, University of Vienna, Austria
- **György Wolf**,
RMKI.KFKI, Budapest, Hungary



Collaborations of theorists use lattice QCD to model quark-gluon interactions on powerful supercomputers.
D. Leinweber / CSSM / University of Adelaide

NuPECC funding organisations

- **Österreichische Akademie der Wissenschaften (ÖAW)**
Austrian Academy of Sciences, Austria
- **Fonds de la Recherche Scientifique (FNRS)**
Fund for Scientific Research, Belgium
- **Fonds voor Wetenschappelijk Onderzoek-Vlaanderen (FWO)**
Research Foundation Flanders, Belgium
- **Institute Rudjer Boskovic**, Croatia
- **Akademie věd České republiky (ASCR)**
Academy of Sciences of the Czech Republic, Czech Republic
- **Grantová agentura České republiky (GAČR)**
Czech Science Foundation, Czech Republic
- **Det Frie Forskningsråd – Natur og Univers (FNU)**
The Danish Council for Independent Research – Natural Sciences, Denmark
- **Suomen Akatemia/Finlands Akademi**
Academy of Finland, Finland
- **Commissariat à l'Énergie Atomique/ Direction des Sciences de la Matière (CEA/DSM)**
Materials Sciences Division of the Atomic Energy Commission, France
- **Centre National de la Recherche Scientifique (CNRS)**
National Centre for Scientific Research, France
- **Deutsche Forschungsgemeinschaft (DFG)**
German Research Foundation, Germany
- **Helmholtz-Gemeinschaft Deutscher Forschungszentren (HGF)**
Helmholtz Association of German Research Centres, Germany
- **Institute of Nuclear Physics, National centre for Scientific Research “Demokritos” (NCSR)**, Greece
- **Magyar Tudományos Akadémia (MTA)**
Hungarian Academy of Sciences, Hungary
- **Országos Tudományos Kutatási Alapprogramok (OTKA)**
Hungarian Scientific Research Fund, Hungary
- **Istituto Nazionale di Fisica Nucleare (INFN)**
National Institute for Nuclear Physics, Italy
- **Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO)**
Netherlands Organisation for Scientific Research, The Netherlands
- **Norges Forskningsråd**
Research Council of Norway, Norway
- **Polska Akademia Nauk (PAN)**
Polish Academy of Sciences, Poland
- **Fundação para a Ciência e a Tecnologia (FCT)**
Foundation for Science and Technology, Portugal
- **Consejo Superior de Investigaciones Científicas (CSIC)**
Council for Scientific Research, Spain
- **Comisión Interministerial de Ciencia y Tecnología (CICYT/MICINN)**
Interministerial Committee on Science and Technology, Spain
- **Vetenskapsrådet (VR)**
Swedish Research Council, Sweden
- **Schweizerischer Nationalfonds (SNF)**
Swiss National Science Foundation, Switzerland
- **Science and Technology Facilities Council (STFC)**, United Kingdom

European Organisation:

- **European Centre for Theoretical Studies in Nuclear Physics and Related Areas (ECT)**, Trento, Italy

Contact details

Professor Guenther Rosner

NuPECC Chair

Email: g.rosner@physics.gla.ac.uk

Dr Gabriele-Elisabeth Körner

NuPECC Scientific Secretary

Tel: +49 89 28 91 22 93

Email: Sissy.Koerner@ph.tum.de

Mr Neil Williams

Head of the ESF Physical
and Engineering Sciences Unit

Tel: +33 (0)3 88 76 71 43

Email: nwilliams@esf.org

Ms Catherine Werner

Administrator

Tel: +33 (0)3 88 76 71 28

Email: cwerner@esf.org

**Nuclear Physics European
Collaboration Committee
(NuPECC)**

Physical and Engineering Sciences Unit

European Science Foundation

1 quai Lezay-Marnésia • BP 90015

67080 Strasbourg cedex • France

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