

## EU projects at GSI

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### **FAIR Design Study 'DIRACsecondary-Beams'/FP6 (515873)**

<<http://www.gsi.de/fair/EU-Design-Study/index.html>>

Coordinator: GSI, Darmstadt (Germany)

Project coordinator: J. Eschke

Steering committee: J. Eschke (GSI, chair), H. H. Gutbrod (GSI), W. F. Henning (GSI), P. Gianotti (Frascati), R. Krücken (München), R. Maier (FZJ), B. Franzke (GSI), H. Eickhoff (GSI)

Contact at GSI: J. Eschke, K. Berghöfer

- T1: Management – Management of Design Study, Spokesperson: J. Eschke (GSI)
- T2: PANDA1 – Cherenkov Imaging Detectors, Spokesperson: C. Schwarz (GSI)
- T3: PANDA2 – Silicon Microvertex Detector, Spokesperson: K.-T. Brinkmann (Dresden)
- T4: PANDA3 – Magnet and detector integration, Spokesperson: G. Rosner (Glasgow)
- T5: PANDA4 – Physics Performance, Spokesperson: B. Kopf (Univ. Bochum)
- T6: NUSTAR1 – High-power production targets for fast extracted high-intensity primary beams, Spokesperson: K. Sümmerer (GSI)
- T7: NUSTAR2 – Radiation-resistant large-aperture superferric dipole magnet, Spokesperson: G. Moritz (GSI)
- T8: NUSTAR3 – Large-area beam tracking detectors for fast extracted beams, Spokesperson: B. Sitar (CUB)
- T9: NUSTAR4 – Ion-optical design studies and application, Spokesperson: W. Plass (JLU-PHYSII)
- T10: NUSTAR5 – Design of a superfluid-helium stopping cell, Spokesperson: J. Äystö (JYU)
- T11: HESR1 – RF cavity (CAV), Spokesperson: A. Schnase (FZJ)
- T12: HESR2 – Electron Cooling (EC), Spokesperson: D. Reistad (Uppsala)
- T13: HESR3 – Stochastic Cooling (SC), Spokesperson: H. Stockhorst (FZJ)
- T14: HESR4 – Beam Dynamics and Collective Effects (BD), Spokesperson: O. Boine-Franckenheim (GSI)
- T15: COOLSB1 – Fast stochastic cooling of secondary beams, Spokesperson: F. Nolden (GSI)
- T16: COOLSB2 – Ramped super-ferric dipole magnet for NESR, Spokesperson: G. Moritz (GSI)
- T17: SIS100\_1 – ERDA measurements, Spokesperson: H. Kollmus (GSI)
- T18: SIS100\_2 – Longitudinal feed back system, Spokesperson: H. Klingbeil (GSI)
- T19: SIS100\_3 – Fast high power switches for rf gaps, Spokesperson: P. Hülsmann (GSI)
- T20: SIS100\_4 – High current beam dynamics studies, Spokesperson: O. Boine-Franckenheim (TUD)
- T20: SIS100\_5 – Digital signal analysis electronics for BPMs, Spokesperson: U. Raich (CERN)
- T20: SIS100\_6 – Fast ramped superconducting magnets, Spokesperson: G. Moritz (GSI)

Contributions in this report:

FAIR-ACC-08

FAIR-ACC-11

FAIR-ACC-17

FAIR-ACC-20

FAIR-NUSTAR-SuperFRS-01

FAIR-NUSTAR-SuperFRS-02

FAIR-QCD-PANDA-03

FAIR-QCD-PANDA-04

FAIR-QCD-PANDA-05

### **FAIR Construction 'DIRAC-PHASE 1'/FP6 (515876)**

<<http://www.gsi.de/fair/EU-Construction/index.html>>

Coordinator: GSI, Darmstadt (Germany)

Project coordinator: J. Eschke

Steering committee: J. Eschke (GSI, chair), H. H. Gutbrod (GSI), W. F. Henning (GSI), D. Krämer (GSI), J.-E. Ducret (CEA), H. Ströbele (U-Frankfurt/M.)

Contact at GSI: J. Eschke; K. Berghöfer

T1: Management – Management of the CNI, Spokesperson: J. Eschke (GSI)  
 T2: SIS18-1 – Two-harmonic cavity, HITR Spokesperson: P. Hülsmann (GSI)  
 T3: SIS18-2 – UHV vacuum upgrade, Spokesperson: H. Hartmut Reich-Sprenger (GSI)  
 T4: SIS18-3 – Collimator system, Spokesperson: P. Spiller (GSI)  
 T5: SIS18-4 – Injection/extraction upgrade, Spokesperson: U. Bell (GSI)  
 T6: SIS18-5 – Beam profile monitor, Spokesperson: P. Forck (GSI)  
 T7: SIS18-6 – Charge separator, Spokesperson: W. Bath (GSI)  
 T8: HADES1 – Resistive Plate Counter Time of Flight Wall (RPC), Spokesperson: P. Fonte (LIP-Coimbra)  
 T9: HADES2 – Forward Hodoscope (FH), Spokesperson: H. Ströbele (U-Frankfurt/M)  
 T10: HADES3 – Data Acquisition and Trigger upgrade (DAQ/Trigger upgrade), Spokesperson: M. Traxler (GSI)  
 T11: R3B – Superconducting Large Acceptance Dipole, Spokesperson: J.-E. Ducret (CEA)  
 T12: Overall Construction – All other construction tasks within the project duration period, Spokesperson: J. Eschke (GSI)

Contribution in this report:

INSTRUMENTS-METHODS-20

### **EURONS/FP6 (RII3-CT-2004-506065)**

<<http://www.gsi.de/informationen/jofu/EURONS/>>

Coordinator: GSI, Darmstadt (Germany)

Project coordinator: A. C. Müller (IN2P3-IPNO), C. Scheidenberger (GSI, deputy coordinator)

Executive board: P. Butler (CERN), P. Van Duppen (U- Leuven), K.-D. Groß (GSI), S. Harissopoulos (NCSR Demokritos), R. Julin (Univ. Jyväskylä), S. Lenzi (INFN Padova)

Contact at GSI: I. Reinhard; M. Pantea

TA1: Transnational Access to GSI, Darmstadt, Spokesperson: K.-D. Groß (GSI)  
 TA2: Transnational Access to UCL-CRC, Louvain-la-Neuve, Spokesperson: G. Ryckewaert (CRC)  
 TA3: Transnational Access to GANIL, Cean, Spokesperson: S. Gales (GANIL)  
 TA4: Transnational Access to JYU-JYFL, Jyväskylä, Spokesperson: R. Julin (Univ. Jyväskylä)  
 TA5: Transnational Access to INFN-LNL, Legnaro, Spokesperson: E. Fioretto (INFN)  
 TA6: Transnational Access to ECT, Trento, Spokesperson: R. Leonardi (ETC)  
 TA7: Transnational Access to RUG-KVI, Groningen, Spokesperson: M. Koopmans (KVI)  
 TA8: Transnational Access to CERN-ISOLDE, Geneva, Spokesperson: K. Riisager (CERN)  
 N1: MANET – Management Network Spokespersons: A. C. Mueller (IN2P3- IPNO), C. Scheidenberger (GSI)  
 N2: CARINA – Challenges and Advanced Research in Nuclear Astrophysics, Spokesperson: C. Angulo (UCL)  
 N3: GAMMAPOOL – Coordination of the resources for gamma-ray spectroscopy in Europe, Spokesperson: S. Lenzi (INFN Padova)  
 N4: EWON – East-West-Outreach - European Nuclear Physics Network, Spokespersons: S. Harissopoulos (NCSR Demokritos), R. Broda (U-Warsaw)  
 N5: NuPECC – NuPECC Mapping Studies, Spokesperson: S. Körner (NuPECC)  
 N6: PANSI3 – Network for Enhanced Dissemination of Information on Nuclear Research within EURONS, Spokesperson: H. Leeb (AIAU)  
 N7: SHE – Transfermium element synthesis, properties and reactions, Spokesperson: A. Villari (GANIL)  
 N8: TNET – Network to coordinate the Nuclear Structure and Reaction Theory work, Spokesperson: I. Thompson (U-Surrey)  
 JRA1: ACTAR – Active Target Detectors for the Study of Extremely Exotic Nuclei using Direct Reactions, Spokespersons: H. Savajols (GANIL) / P. Roussel-Chomaz (GANIL)  
 JRA2: AGATA – Advanced Gamma Tracking Array, Spokesperson: W. Korten (CEA)  
 JRA3: Charge Breeding – Advanced charge breeding of radioactive ions, Spokesperson: O. Kester (GSI)  
 JRA4: DLEP – Detection of Low Energy Particles from exotic decays, Spokesperson: O. Tengblad (CSIC)  
 JRA5: EXL – Exotic nuclei studied with Light hadronic probes, Spokesperson: N. Kalantar (RUG-KVI)  
 JRA6: INTAG – Instrumentation for Tagging, Spokesperson: P. Butler (CERN)  
 JRA7: ISIBHI – Ion Sources for Intense Beams of Heavy Ions, Spokesperson: G. Ciavola (INFN-LNS)  
 JRA8: LASER – Laser techniques for Exotic nuclei Research, Spokesperson: P. Van Duppen (U- Leuven)  
 JRA9: RHIB – Reactions with High-Intensity Beams of exotic nuclei, Spokesperson: T. Aumann (GSI)  
 JRA10: SAFERIB – European Joint Research Activity on Radiation Protection Issues related to Radioactive Ion Beam Facilities,

Spokesperson: P. Thirolf (LMU)

JRA11: TRAPSPEC – Improvements and developments of ion traps, spectrometers and detectors for low-energy nuclear physics experiments, Spokesperson: N. Severijns (U-Leuven)

GSI participates as partner in TA1, N1, N5, N8, JAR1, JRA2, JRA3, JRA5, JRA6, JRA7, JRA8, JAR9, JA10, and JAR11.

Contributions in this report:

FAIR-APPA-SPARC-06  
 FAIR-APPA-SPARC-09  
 FAIR-NUSTAR-EXL-03  
 FAIR-NUSTAR-LASPEC-02  
 FAIR-NUSTAR-LASPEC-03  
 FAIR-NUSTAR-LASPEC-04  
 FAIR-NUSTAR-R3B-01  
 FAIR-NUSTAR-R3B-02  
 ACC-R+D-05  
 AP-EXP-SPECTROSCOPY-03  
 AP-EXP-SPECTROSCOPY-05  
 AP-EXP-SPECTROSCOPY-07  
 AP-EXP-SPECTROSCOPY-08  
 AP-EXP-SPECTROSCOPY-09  
 AP-METHODS-09  
 NUSTAR-SHE-PHYS-01  
 NUSTAR-SHE-PHYS-02  
 NUSTAR-SHE-PHYS-03  
 NUSTAR-SHE-PHYS-04  
 RAD-BIOPHYSICS-16

#### **HADRONPHYSICS/FP6 (RII3-CT-2004-506078)**

<<http://hadronphysics.infn.it/>>

Coordinator: INFN Frascati (Italy)

Project coordinator: C. Guaraldo (LNF-INFN)

Management board: M. Anselmino (INFN), T. Johansson (Univ. Uppsala), H. Koch (Univ. Bochum), L. Riccati (INFN), G. Rosner (Univ. Glasgow), R. Simon (GSI)

Project coordinator at GSI: R. Simon

A1: Transnational Access to INFN-LNF, Spokesperson: C. Guaraldo (INFN)  
 A2: Transnational Access to DESY-HERMES, Spokesperson: E.-C. Aschenauer (DESY)  
 A3: Transnational Access to FZJ-COSY, Spokesperson: D. Grzonka (FZJ)  
 A4: Transnational Access to FZJ-NIC/ZAM, Spokesperson: N. Attig (FZJ)  
 A6: Transnational Access to MAMI, Spokesperson: T. Walcher (Univ. Mainz)  
 A7: Transnational Access to ZIB, Spokesperson: H. Stueben (ZIB)  
 A8: Transnational Access to LU-MAXLAB, Spokesperson: B. Schroeder (Lund Univ.)  
 A9: Transnational Access to UU-TSL, Spokesperson: C. Eckström (Uppsala Univ.)  
 N1: CBMnet – Compressed Baryonic Matter, Spokesperson: P. Senger (GSI)  
 N2: ComHP – Computational (Lattice) Hadron Physics, Spokesperson: G. Schierholz (DESY)  
 N3: DIMUONnet – Dimuon physics in heavy-ion collisions at LHC, Spokesperson: E. Vercellin (INFN)  
 N4: EtaMesonNet – Production and Decay of Mesons and Resonances, Spokesperson: B. Höstad (Uppsala Univ.)  
 N5: HadronTh – Structure and Dynamics of Hadrons, Spokesperson: U.-G. Meissner (Univ. Bonn)  
 N6: SIM – Strongly Interacting Matter in Ultrarelativistic Heavy-Ion Collision, Spokesperson: J. Aichelin (CNRS)  
 N7: TRANSVERSITY – Exploring the Unknown Transverse Spin Structure of the Nucleon, Spokesperson: E. DeSanctis (INFN)  
 JRA1: FutureDAQ – Future Data Acquisition System, Spokesperson: W. F. J. Müller (GSI)  
 JRA2: FastEM Calorimeters – Fast Compact EM Calorimeters, Spokesperson: R. Novotny (Univ. Gießen)  
 JRA3: EuroTag – European Tagged Photon Facilities, Spokesperson: K. Livingston (Univ. of Glasgow)  
 JRA4: Gas Detectors – High Speed Gas Detectors with Integrated Electronics, Spokesperson: J. Wessels (Univ. Münster)  
 JRA5: GPD - Generalised Parton Distributions, Spokesperson: R. Kaiser (Univ. of Glasgow)

JRA6: HyperGamma – High Luminosity Hypernuclear Gamma-Spectroscopy, Spokesperson: A. Feliciello (INFN)  
JRA7: Internal Targets – High Luminosity Internal Targets for Storage Rings, Spokesperson: H. Orth (GSI)  
JRA8: Polarized Targets – Polarized Nucleon Targets for Europe, Spokesperson: W. Meyer (Univ. Bochum)  
JRA9: RICH Detectors – Ring Imaging Cherenkov Counters for Particle Identification, Spokesperson: S. Dalla Torre (INFN)  
JRA10: SIDDHARTA – Silicon Drift Detectors for X-ray Spectroscopy, Spokesperson: V. Lucherini (INFN)  
JRA11: NoRHDia – Novel Radiation Hard CVD - Diamond Detectors, Spokesperson: E. Berdermann (GSI)  
JRA12: ATOF – Advanced TOF Detection Systems, Spokesperson: N. Hermann (Univ. Heidelberg)

GSI participates as partner in A5, N1, JRA1, JRA2, JRA4, JRA6, JRA7, JRA11, and JRA12.

Contributions in this report:

FAIR-QCD-CBM-01  
FAIR-QCD-CBM-02  
FAIR-QCD-CBM-04  
FAIR-QCD-CBM-05  
FAIR-QCD-CBM-07  
FAIR-QCD-CBM-09  
FAIR-QCD-CBM-12  
FAIR-QCD-CBM-14  
FAIR-QCD-PANDA-06  
FAIR-QCD-PANDA-07  
INSTRUMENTS-METHODS-08  
INSTRUMENTS-METHODS-09  
INSTRUMENTS-METHODS-14  
INSTRUMENTS-METHODS-18  
INSTRUMENTS-METHODS-19  
INSTRUMENTS-METHODS-20  
NQMA-EXPERIMENTS-03  
NQMA-EXPERIMENTS-05  
NQMA-THEORY-04  
NQMA-THEORY-05

**CARE/FP6 (RII3-CT-2003-506395)**

<<http://esgard.lal.in2p3.fr/Project/Activities/Current/>>

Coordinator: CEA Saclay (France)  
Project coordinator: R. Aleksan (CEA)  
Project coordinator at GSI: B. Franzke  
Contact at GSI: L. Groening

GSI participates as partner in N2, N3, and JAR3.

Contributions in this report:

ACC-R+D-06  
FAIR-ACC-04

**EGEE/FP6 (INFISO-RI-508833)**

<<http://public.eu-egee.org/>>

Coordinator: CERN (Switzerland)  
Project coordinator: B. Jones (CERN), D. Kranzlmüller (CERN)  
Project coordinator at GSI: P. Malzacher

Contact at GSI: P. Malzacher

**Laserlab/FP6 (RII3-CT-2003-506350)**

<<http://www.laserlab-europe.net>>

Coordinator: Forschungsverbund Berlin (Germany)

Project coordinator: W. Sandner (Berlin)  
 Project coordinator at GSI: H.-J. Kluge  
 Contact at GSI: T. Kühl

**EUROTeV/FP6 (011899 RIDS)**

<<http://www.eurotev.org>>  
 Coordinator: DESY, Hamburg (Germany)  
 Project coordinator: E. Elsen (DESY)  
 Project coordinator at GSI: H. Eickhoff  
 Contact at GSI: P. Schütt

Contribution in this report:  
 FAIR-ACC-22

**Cellion/FP6 (MRTN-CT-2003-503923)**

Network of Excellence  
 <<http://cellion.ifj.edu.pl>>  
 Project coordinator: Z. Stachura (PAN)  
 Contact at GSI: B. Fischer

Contribution in this report:  
 MATERIALS-15

**HITRAP/FP5 (HPRI-CT-2001-50036)**

<<http://www-linux.gsi.de/~hitrap>>  
 Coordinator: GSI Darmstadt (Germany)  
 Project coordinator: H.-J. Kluge  
 Contact at GSI: T. Beier

Contributions in this report:  
 AP-METHODS-01  
 AP-METHODS-02  
 AP-METHODS-03  
 AP-METHODS-08

**NIPNET/FP5 (HPRI-CT-2001-50034)**

<<http://www.kvi.nl/~trimp/web/html/nipnet.html>>  
 Coordinator: KVI (Netherland)  
 Project coordinator: H. Wilschut (KVI)  
 Project coordinator at GSI: H.-J. Kluge  
 Contact at GSI: M. Block

Contribution in this report:  
 AP-EXP-SPECTROSCOPY-06

**EURISOL-Design Study/FP6 (515768 RIDS)**

<<http://www.eurisol.org>>  
 Coordinator: INFN-LNL (Italy)  
 Project coordinator: G. Fortuna (INFN-LNL)  
 Project coordinator at GSI: K.-H. Schmidt  
 Contact at GSI: A. Kelic

Contributions in this report:  
 FAIR-ACC-26  
 NUSTAR-EXOTIC-BEAMS-06  
 AP-METHODS-05

**EUROTRANS/FP6 (516520 F16W)**

<<http://nuclear-server.fzk.de/eurotrans/>>  
 Coordinator: FZK, Karlsruhe (Germany)  
 Project coordinator: J. U. Knebel (NUCLEAR)  
 Project coordinator at GSI: K.-H. Schmidt  
 Contact at GSI: A. Kelic

**EURATOM-Fellowships FISA2004/FP6 (012985 F16W)  
 and RESPA2004/FP6 (516352 F16W)**

Project coordinator: K.-H. Schmidt  
 Contact at GSI: A. Kelic