

PAC 2007

Albuquerque Conference Center
June 25 to 29, 2007

Future Construction Projects or Upgrades of Particle Accelerators

6th Edition

Information for Industry
Collaborating in the Field of Particle
Accelerators

Compiled by Christine Petit-Jean-
Genaz, CERN, within the framework of
the JACoW Collaboration

June 2007

Introduction

The European Physical Society Accelerator Group (EPS-AG), organizers of the European Particle Accelerator Conference (EPAC) series of conferences, has for many years contacted major laboratories around the world inviting them to provide information on future accelerator projects and upgrades, to be made available to exhibitors present at the EPAC commercial exhibitions, and to those companies who have indicated their interest.

This information will henceforth be updated yearly and be made available to all exhibitors associated with JACoW accelerator conferences.

The laboratories which have contributed to the preparation of this sixth printed edition prepared in connection with PAC'07 are warmly thanked for their collaboration.

All of the information contained in this booklet is subject to confirmation by the laboratory and/or contact person whose name is entered for each project. This information will be updated regularly at the website

http://epac.web.cern.ch/epac/EPS-AG/FutureAcceleratorProjects/2007_Projects_viewer.asp

All other enquiries may be addressed to the
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CERN

CTF3 *CLIC Test Facility*

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **2001**
Status of Contracting: ***in progress***
Construction scheduled to start: **2001**
Duration of Construction: **2001-2009**
Estimated Project Cost: **51.7 M CHF**
Equipment to be Purchased: ***Accelerating
structures, Vacuum equipment, Klystrons,
Modulators, Beam Diagnostics, e.t.c.***

Project Leader(s): ***Dr. Günther Geschonke***
Affiliation: **CERN**
e-mail: ***Gunther.Geschonke@cern.ch***

Contact Person(s): ***Dr. Hans Braun***
Affiliation: **CERN**
e-mail: ***Hans.Braun@cern.ch***

**SPL (Superconducting Proton Linac)
4 GeV Injector of the future PS2 at
CERN**

Project type: This Project is: **NEW**
A Requirements List is available: **NO**
Approval Date: **~ 2011**
Status of Contracting:
Construction scheduled to start: **~ 2011**
Duration of Construction: **5 years**
Estimated Project Cost: **350 MCHF**
(Material)
Equipment to be Purchased:

Project Leader(s):
Affiliation:
e-mail:

Contact Person(s): **Roland Garoby**
Affiliation: **CERN**
e-mail: **Roland.Garoby@cern.ch**

CERN

CERN SPS (Super Proton Synchrotron) *Increase of beam intensity and injection energy (50 GeV)*

Project type: This Project is: **UPGRADE**

A Requirements List is available: **NO**

Approval Date: **2011**

Status of Contracting:

Construction scheduled to start: **2011**

Duration of Construction: **5 years**

Estimated Project Cost:

Equipment to be Purchased:

Project Leader(s):

Affiliation:

e-mail:

Contact Person(s): **Shaposhnikova**

(Chapochnikova) Elena

Affiliation: **CERN**

e-mail:

Elena.Chapochnikova@cern.ch

CERN

CERN PS2
4 to 50 GeV Synchrotron to replace the
CERN PS

Project type: This Project is: **NEW**
A Requirements List is available: **NO**
Approval Date: **~ 2011**
Status of Contracting:
Construction scheduled to start: **~ 2011**
Duration of Construction: **5 years**
Estimated Project Cost: **300 MCHF**
(Material)
Equipment to be Purchased:

Project Leader(s):
Affiliation:
e-mail:

Contact Person(s): **Michael Benedikt**
Affiliation: **CERN**
e-mail: **Michael.Benedikt@cern.ch**

France

SOLEIL
Synchrotron Radiation Light Source
IR-UV-X

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **July 2000**
Status of Contracting: **Machine**
complete - Beamlines in progress
Construction scheduled to start: **2001 - 2006 (1st**
Phase)
Duration of Construction: **8 years (1st and**
2nd phases)
Estimated Project Cost: **220 M€**
Equipment to be Purchased: **Radiation**
synchrotron experiment and beam line
components

Project Leader(s): **Dr. J.-M. Filhol**
Affiliation: **Synchrotron SOLEIL**
e-mail: **jean-marc.filhol@synchrotron-**
soleil.fr

Contact Person(s): **Dr. J.-M. Filhol**
Affiliation: **Synchrotron SOLEIL**
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soleil.fr

SPIRAL 2

***Radioactive Ion Beam (RIB) physics and
related applications at GANIL for the
understanding of the nature of matter***

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **23 May 2005**
Status of Contracting: **In progress**
Construction scheduled to start: **2005**
Duration of Construction: **2005-2011**
Estimated Project Cost: **130.2 M €**
Equipment to be Purchased: **Superconducting
linac technology, cryogenic plant, vacuum
equipment, magnets, RF tubes, solid states
amplifiers, Beam Dignostics, etc.**

Project Leader(s): **Marcel JACQUEMET**
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e-mail: **jacquemet@ganil.fr**

Contact Person(s): **Thomas JUNQUERA**
Affiliation: **IPN-Orsay**
e-mail: **junquera@ipno.in2p3.fr**

Germany

Facility for Antiproton and Ion Research FAIR

***Two-stage heavy ion synchrotron
synchrotron SIS100/300, Super Fragment
Separator, Storage Rings CR, RESR,
NESR and HESR for rare isotope ion and
antiproton beams , proton linac, FLAIR,
fixed target experiments***

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **February 2003**
Status of Contracting: **under way**
Construction scheduled to start: **2009**
Duration of Construction: **5**
Estimated Project Cost:
Equipment to be Purchased: **S.c. magnets (cos
theta and superferric), n.c. magnets, MA and
ferrite loaded RF systems, s.c. septa, UHV
systems, beam instrumentation, power
converters, electron and stochastic cooling
systems, cryogenics, detectors, electronics and
control systems**

Project Leader(s): **Dieter Krämer**
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Schwerionenforschung GSI**
e-mail: **D.Kraemer@gsi.de**

Contact Person(s): **Dieter Krämer**
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Schwerionenforschung GSI**
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Germany

SIS18 upgrade

***Upgrade for high intensity, low charge
state heavy ion operation and short cycle
times***

Project type: This Project is: **UPGRADE**

A Requirements List is available: **YES**

Approval Date: **2005**

Status of Contracting: **under way**

Construction scheduled to start: **2006**

Duration of Construction: **3**

Estimated Project Cost:

Equipment to be Purchased: **MA or ferrite
loaded RF system, UHV systems, electrostatic
septa, n.c. magnets, collimators, beam
instrumentation**

Project Leader(s): **Peter Spiller**

Affiliation: **Gesellschaft fuer**

Schwerionenforschung

e-mail: **P.Spiller@gsi.de**

Contact Person(s): **Hartmut Eickhoff**

Affiliation: **Gesellschaft fuer**

Schwerionenforschung

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Germany

European XFEL
Free electron laser user facility, 20 GeV
superconducting electron linac + 5
undulator/photon beam lines

Project type: This Project is: **NEW**

A Requirements List is available: **YES**

Approval Date:

Status of Contracting:

Construction scheduled to start: **Jan 2007**

Duration of Construction: **6.5 Years**

Estimated Project Cost: **974 MEUR**

Equipment to be Purchased: **superconducting
linac technology, RF systems, cryogenics &
other technical infrastructure, vacuum &
magnets systems, undulators, photon beam line
components**

Project Leader(s): **M. Altarelli, R. Brinkmann**

Affiliation: **European XFEL project team
& DESY**

e-mail: **reinhard.brinkmann@desy.de**

Contact Person(s): **Reinhard Brinkmann**

Affiliation: **DESY**

e-mail: **reinhard.brinkmann@desy.de**

Germany

PETRA III <i>Synchrotron Radiation Source</i>
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Project type: This Project is: **UPGRADE**
A Requirements List is available: **NO**
Approval Date: **May 2005**
Status of Contracting: **In progress**
Construction scheduled to start: **July 2007**
Duration of Construction: **2 years**
Estimated Project Cost: **225 M€**
Equipment to be Purchased: **Power supplies,
beam line components, equipment for
experiments**

Project Leader(s): **Edgar Weckert and Klaus
Balewski**
Affiliation: **DESY**
e-mail: **edgar.weckert@desy.de;
klaus.balewski@desy.de**

Contact Person(s): **Hermann Franz**
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e-mail: **hermann.franz@desy.de**

Germany

BESSY FEL
***Seeded CW FEL for VUV and soft x-ray
range***

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **Prototype**
funding expected in 2008 (STARS)
Status of Contracting: **In R&D phase**
Construction scheduled to start: **2008 for STARS**
prototype
Duration of Construction: **3-4 years for the**
prototype
Estimated Project Cost: **approx 220**
MEUR
Equipment to be Purchased: **Superconducting**
linac related equipment, undulators, Ti:Sa
laser etc.

Project Leader(s): **Jens Knobloch**
Affiliation: **BESSY**
e-mail: **knobloch@bessy.de**

Contact Person(s): **Markus Sauerborn (PR**
department)
Affiliation: **BESSY**
e-mail: **markus.sauerborn@bessy.de**

International Project

ITER
Worlds largest Tokamak

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **21 November 2006**
Status of Contracting: **Start-up**
Construction scheduled to start: **1 January 2007**
Duration of Construction: **10 years**
Estimated Project Cost: **5 Billion Euro**
Equipment to be Purchased: **Sc Magnets, RF, Power Supplies, Controls, Buildings**

Project Leader(s): **Kaname Ikeda**
Affiliation: **ITER**
e-mail: **Kaname.Ikeda@Iter.org**

Contact Person(s): **Norbert Holtkamp**
Affiliation: **ITER**
e-mail: **Norbert.Holtkamp@iter.org**

Italy

FERMI@Elettra
Seeded Single Pass Free Electron Laser

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **2004**
Status of Contracting: **Starting**
Construction scheduled to start: **2006**
Duration of Construction: **to 2010**
Estimated Project Cost: **85 M €**
Equipment to be Purchased: **High brightness**
photoinjector, accelerating sections,
waveguides, pulsed RF systems, klystrons,
dipole, quadrupole, steering and phase
magnets, vacuum system components,
undulators, electron and photon beam
diagnostics, high power laser systems and
optica

Project Leader(s): **Stephen Milton**
Affiliation: **Sincrotrone Trieste S.C.p.A.,**
34012 Basovizza, Trieste, ITALY
e-mail:
stephen.milton@elettra.trieste.it

Contact Person(s): **Stephen Milton**
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Japan

J-PARC
***MW-class high intensity proton
accelerator for neutrons, muons, kaons
and neutrinos***

Project type: This Project is: **NEW**

A Requirements List is available: **YES**

Approval Date: **April 1, 2001**

Status of Contracting: **Under
construction**

Construction scheduled to start: **April 1, 2001**

Duration of Construction: **8 years**

Estimated Project Cost: **152.7 billion yen
(about \$1.3 billions)**

Equipment to be Purchased: **Linac, 3 GeV
Synchrotron, 50 GeV Synchrotron, Spallation
neutron source, Pulse muon source, Kaon
factory, Long baseline neutrino beams.**

Project Leader(s): **Shoji Nagamiya**

Affiliation: **J-PARC Center at KEK and
JAEA**

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Contact Person(s): **Yoshishige Yamazaki**

Affiliation: **J-PARC Center at KEK and
JAEA**

e-mail: **yoshishige.yamazaki@kek.jp**

Japan

SuperKEKB
B-factory at KEK

Project type: This Project is: **UPGRADE**
A Requirements List is available: **YES**
Approval Date: ***Under discussion***
Status of Contracting:
Construction scheduled to start:
Duration of Construction: ***4 years***
Estimated Project Cost: ***48B JPY***
Equipment to be Purchased: ***All accelerator components***

Project Leader(s): ***A. Suzuki, F. Takasaki,
Y. Kamiya, M. Yamauchi, K. Oide***
Affiliation: ***KEK***
e-mail: ***director@mail.kek.jp***

Contact Person(s): ***Katsunobu Oide***
Affiliation: ***KEK***
e-mail: ***Katsunobu.Oide@kek.jp***

Japan

Harima Angstrom Laser at SPring-8 (HAL/SPring-8)

Free electron laser user facility, 8 GeV C-band electron linac plus 5 in-vacuum undulators/photon beam lines

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **December 2005**
Status of Contracting: **Under way**
Construction scheduled to start: **April 2006**
Duration of Construction: **5 years (2006-2011)**
Estimated Project Cost: **290 M \$ US**
Equipment to be Purchased: **Normal
conducting C-band linac technology, RF
systems, vacuum & magnets systems, in-
vacuum undulators, photon beam line
components**

Project Leader(s): **Tetsuya Ishikawa**
Affiliation: **RIKEN-JASRI Joint Project
Team for SPring-8 XFEL**
e-mail: **ishikawa@spring8.or.jp**

Contact Person(s): **Tetsuya Ishikawa,
Hitoshi Tanaka**
Affiliation: **RIKEN**
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Japan

ATF2

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **2005**
Status of Contracting: **Under way**
Construction scheduled to start: **Mid-construction**
Duration of Construction: **3 years**
Estimated Project Cost: **5 M \$ US**
Equipment to be Purchased:

Project Leader(s): **Not available**

Affiliation:

e-mail:

Contact Person(s): **Junji Urakawa**

Affiliation: **KEK**

e-mail: **junji.urakawa@kek.jp**

Japan

IFMIF/EVEDA

***Accelerator driven D-Li Stripping Source.
Includes 3 projects: Accelerator, Target
and Test Facility. The accelerator is
designed and procured by EU, the
buildings are procured by Japan, the
accelerator will be installed at Rokkasho,
Japan***

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **February 2007**
Status of Contracting:
Construction scheduled to start: **June 2007**
Duration of Construction: **6 years**
Estimated Project Cost: **100 M€**
Equipment to be Purchased: **Linear
accelerator**

Project Leader(s): **Pascal Garin**
Affiliation: **CEA**
e-mail: **pascal.garin@cea.fr**

Contact Person(s): **Alban Mosnier**
Affiliation: **CEA**
e-mail: **alban.mosnier@cea.fr**

Korea

PEFP
Proton Engineering Frontier Project

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **July 2002**
Status of Contracting: **Under way**
Construction scheduled to start: **2002-2012**
Duration of Construction: **10 years**
Estimated Project Cost: **128.6 billion won**
(about 130 M \$ US)
Equipment to be Purchased: **Klystrons, Beam**
Line Components, Power Supplies

Project Leader(s): **Dr. Byung-Ho Choi**
Affiliation: **PEFP / KAERI**
e-mail: **bhchoi@kaeri.re.kr**

Contact Person(s): **Dr. Ji-ho Jang**
Affiliation: **PEFP / KAERI**
e-mail: **jangjh@kaeri.re.kr**

People's Republic of China

CSNS
China Spallation Neutron Source

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **July 2005**
Status of Contracting: **R&D**
Construction scheduled to start: **2008**
Duration of Construction: **6 years**
Estimated Project Cost: **1.5 B CNY**
Equipment to be Purchased: **accelerator**
magnet, power supply, vacuum chamber, linac
klystron, instrumentation etc.

Project Leader(s): **Jie Wei**
Affiliation: **IHEP, Chinese Academy of**
Sciences/BNL
e-mail: **weijie@ihep.ac.cn**

Contact Person(s): **Wei, Jie / Fu, Shinian**
Affiliation: **Institute of High Energy**
Physics, Chinese Academy of
Sciences/Brookhaven National Laboratory
e-mail: **weijie@ihep.ac.cn**

Dubna Electron Synchrotron

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **January 2005**
(Phase 1)

Status of Contracting: **In progress**
Construction scheduled to start: **January 2003**
Duration of Construction: **3.5 years**
Estimated Project Cost: **1.5 M \$ US**
(Phase 1)

Equipment to be Purchased: **Vacuum
chambers, undulators, FEL mirrors, electron
gun cathodes and grids**

Project Leader(s): **Dr. Grigory Shirkov, Chief
Engineer, Dr. I.N. Meshkov, Directorate Adviser**
Affiliation: **JINR, Joliot-Curie 6, RU-
141980 Dubna**
e-mail: **shirkov@jinr.ru,
meshkov@jinr.ru,**

Contact Person(s): **Dr. Grigory Shirkov, Chief
Engineer, Dr. I.N. Meshkov, Directorate Adviser**
Affiliation: **JINR, Joliot-Curie 6, RU-
141980 Dubna**
e-mail: **shirkov@jinr.ru,
meshkov@jinr.ru,**

Russia

ITEP-TWAC
Heavy Ion accelerator-accumulator

Project type: This Project is: **UPGRADE**
A Requirements List is available: **YES**
Approval Date: **2002**
Status of Contracting: ***contracted since***
2002
Construction scheduled to start: **2002**
Duration of Construction: **2010**
Estimated Project Cost: **30 M Euro**
Equipment to be Purchased: ***RF , high vacuum***
equipment, pulsed magnets, kickers

Project Leader(s): **Boris Sharkov**
Affiliation: **ITEP-Moscow**
e-mail: ***boris.sharkov@itep.ru***

Contact Person(s): **Nikolay Alexeev**
Affiliation: **ITEP-Moscow**
e-mail: ***nalex@itep.ru***

Russia

NICA
Ion Collider Facility

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **January 2007**
Status of Contracting: **In progress**
Construction scheduled to start: **In progress**
Duration of Construction: **4 years**
Estimated Project Cost: **50 M \$ US**
Equipment to be Purchased: **SC magnets +
power supplies, cryogenic equipment, RF
powerful electronics, vacuum chambers and
vacuum pumps, control electronics**

Project Leader(s): **Prof. Alexei Sissakian,
Director**
Affiliation: **JINR, Joliot-Curie 6, 141980
Dubna Russia**
e-mail: **sisakian@jinr.ru**

Contact Person(s): **Prof. Alexander Sorin, deputy
director of Lab. for Theor. Physics**
Affiliation: **JINR, Joliot-Curie 6, RU-
141980 Dubna**
e-mail: **sorin@theor.jinr.ru**

Spain

ALBA ***3rd Generation Synchrotron Light Source***

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **March 2003**
Status of Contracting: **Main**
components of accelerator already ordered
Construction scheduled to start: **Building start,**
May 2006
Duration of Construction: **2004-2009**
Estimated Project Cost: **170 M€**
Equipment to be Purchased: **Accelerator and**
x-ray beamline components

Project Leader(s): **Joan Bordas**
Affiliation: **CELLS, Campus UAB, 08193**
Bellaterra, SPAIN
e-mail: ***joan.bordas@cells.es***

Contact Person(s): **Montse Pont**
Affiliation: **CELLS, Campus UAB, 08193**
Bellaterra, SPAIN
e-mail: ***pont@cells.es***

Two-beam Test-stand for CTF3

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **December 2005**
Status of Contracting: **Design**
Construction scheduled to start: **Summer 2007**
Duration of Construction: **1 year**
Estimated Project Cost: **1.5 MEuro**
Equipment to be Purchased: **Magnets,
Diagnostics, Vacuum Equipment**

Project Leader(s): **Prof. Tord Ekelof**
Affiliation: **Uppsala University,
Department of Nuclear and Particle Physics**
e-mail: **Tord.Ekelof@tsl.uu.se**

Contact Person(s): **Volker Ziemann**
Affiliation: **Uppsala University,
Department of Nuclear and Particle Physics**
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Sweden

Optical Replica Synthesizer
see Saldin, et. al. NIM A 539 (2005) 499

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **March 2006**
Status of Contracting: **Design, Ordering**
Construction scheduled to start: **Spring 2007**
Duration of Construction: **6 month**
Estimated Project Cost: **1.2 MEuro**
Equipment to be Purchased: **Undulator**
Magnets, Laser system

Project Leader(s): **Mats Larsson**
Affiliation: **Stockholm University**
e-mail: **mats.larsson@physto.se**

Contact Person(s): **Volker Ziemann**
Affiliation: **Uppsala University,**
Department of Nuclear and Particle Physics
e-mail: **Volker.Ziemann@tsl.uu.se**

Switzerland

PROSCAN ***Stand-alone Protontherapy Facility***

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **August 2000**
Status of Contracting: **Finished for
superconducting accelerator, beamline and
gantry 1**
Construction scheduled to start: **August 2002**
Duration of Construction: **3 years for
superconducting accelerator, 2 years for the
beamline, 1 year for the connection of an
existing gantry, 1 year for the new gantry
(spot-scanning technology)**
Estimated Project Cost: **30 MCHF**
Equipment to be Purchased: **beamline
components, magnets**

Project Leader(s): **Jürgen Duppich**
Affiliation: **Paul Scherrer Institute; CH-
5232 Villigen; Switzerland**
e-mail: **juergen.duppich@psi.ch**

Contact Person(s): **Martin Jermann**
Affiliation: **Paul Scherrer Institute; CH-
5232 Villigen; Switzerland**
e-mail: **martin.jermann@psi.ch**

Switzerland

HIPA <i>High Intensity Proton Accelerator</i>
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Project type: This Project is: **UPGRADE**
A Requirements List is available: **NO**
Approval Date: **1998/2005 (Ring Cyclotron/Injector Cyclotron)**
Status of Contracting: **Closed/Under way**
Construction scheduled to start: **Under way/2006**
Duration of Construction: **till 2009**
Estimated Project Cost: **8 MSfr/10 MSfr**
Equipment to be Purchased: **RF Cavities, RF Components,**

Project Leader(s): **Dr. Pierre A. Schmelzbach**
Affiliation: **Paul Scherrer Institut**
e-mail: **pierre.schmelzbach@psi.ch**

Contact Person(s): **Dr. Pierre A. Schmelzbach**
Affiliation: **Paul Scherrer Institut**
e-mail: **pierre.schmelzbach@psi.ch**

Taiwan

Taiwan Photon Source Synchrotron Light Source

Project type: This Project is: *NEW*
A Requirements List is available: *YES*
Approval Date: *January 2007*
(approval of Phase I)
Status of Contracting: *Design*
Construction scheduled to start: *2008*
Duration of Construction: *7 years*
Estimated Project Cost: *300 M \$ US*
(salaries excluded)
Equipment to be Purchased: *Accelerator and*
x-ray beamline components

Project Leader(s): *Keng Liang*
Affiliation: *National Synchrotron*
Radiation Research Center
e-mail: *ksliang@nsrrc.org.tw*

Contact Person(s): *Keng Liang*
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ISIS Second Target Station
Construction of second target station on
world-leading ISIS neutron spallation
source, thereby roughly doubling user
capacity

Project type: This Project is: **UPGRADE**
A Requirements List is available: **YES**
Approval Date: **April 2003**
Status of Contracting: **In progress**
Construction scheduled to start: **Over halfway**
through
Duration of Construction: **5 years**
Estimated Project Cost: **£140M**
(including first phase of neutron instruments)
Equipment to be Purchased: **Still to be**
purchased: equipment for Phase 1 neutron
instruments. Further information at [http://ts-](http://ts-2.isis.rl.ac.uk/)
2.isis.rl.ac.uk/

Project Leader(s): **Mr H J Jones, Project**
Manager
Affiliation: **ISIS, CCLRC, Rutherford**
Appleton Laboratory, OX11 0QX, UK
e-mail: **h.j.jones@rl.ac.uk**

Contact Person(s): **Dr. D J S Findlay**
Affiliation: **ISIS, STFC, Rutherford**
Appleton Laboratory, OX11 0QX, UK
e-mail: **d.j.s.findlay@rl.ac.uk**

BASROC CONFORM Project
Construction of a nonscaling Fixed Field
Alternating Gradient (NS-FFAG) ring for
Oncology, Research and Medicine

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **1st April 2007**
Status of Contracting: **Design Phase**
Construction scheduled to start: **1st April 2007**
Duration of Construction: **3.5 years**
Estimated Project Cost: **£6.9m**
Equipment to be Purchased: **Magnets, vacuum
systems, RF systems, electron beam
diagnostics devices, power supplies, support
girders, controls.**

Project Leader(s): **Professor Roger Barlow**
Affiliation: **School of Physics and
Astronomy, University of Manchester**
e-mail: **roger.barlow@manchester.ac.uk**

Contact Person(s): **Neil Bliss**
Affiliation: **Science & Technology
Facilities Council, Daresbury Laboratory**
e-mail: **n.bliss@dl.ac.uk**

**Spallation Neutron Source Beam Power
Upgrade**
Increase beam power capability to 3 MW

Project type: This Project is: **UPGRADE**
A Requirements List is available: **YES**
Approval Date: **expected 2007**
Status of Contracting: **Design**
Construction scheduled to start: **expected 2009**
Duration of Construction: **5 years**
Estimated Project Cost: **160 M\$**
Equipment to be Purchased: **cryomodules,
magnets, klystrons, transmitters**

Project Leader(s): **John Haines**
Affiliation: **Oak Ridge National
Laboratory**
e-mail: **hainesjr@ornl.gov**

Contact Person(s): **Stuart Henderson**
Affiliation: **Oak Ridge National
Laboratory**
e-mail: **shenderson@ornl.gov**

National Synchrotron Light Source II
Synchrotron Light Source

Project type: This Project is: ***NEW***
A Requirements List is available: ***NO***
Approval Date: ***August 25, 2005***
Status of Contracting: ***Design***
Construction scheduled to start: ***October 2008***
Duration of Construction: ***2005 to 2013***
Estimated Project Cost: ***\$800M***
Equipment to be Purchased: ***Accelerator and
x-ray beamline components***

Project Leader(s): ***Steve Dierker***
Affiliation: ***Brookhaven National
Laboratory***
e-mail: ***dierker@bnl.gov***

Contact Person(s): ***Steve Dierker***
Affiliation: ***Brookhaven National
Laboratory***
e-mail: ***dierker@bnl.gov***

CEBAF 12 GeV Upgrade
Upgrade the accelerator energy from 6
GeV total to 12 GeV for spin-polarized
electrons

Project type: This Project is: **UPGRADE**
A Requirements List is available: **YES**
Approval Date: **CD-0 approved in**
2004, CD-1 approved in 2006, CD-2 expected
2007
Status of Contracting: **Under way**
Construction scheduled to start: **2009**
Duration of Construction: **5 years**
Estimated Project Cost: **\$ 306M TPC**
Equipment to be Purchased: **Spectrometers,**
Magnets, Beamline Components, Klystrons,
RF, Cryogenics, Cryomodules

Project Leader(s): **Claus H. Rode**
Affiliation: **Thomas Jefferson National**
Accelerator Facility
e-mail: **rode@jlab.org**

Contact Person(s): **Allison Lung, Rolf Ent,**
Warren Funk
Affiliation: **Thomas Jefferson National**
Accelerator Facility
e-mail: **lung@jlab.org, ent@jlab.org,**
lwfunk@jlab.org

3 MeV/u NSCL Reaccelerator

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **December 2006**
Status of Contracting: **Under way**
Construction scheduled to start: **January 2007**
Duration of Construction: **January 2007 -
June 2009**
Estimated Project Cost: **10,000,000 \$ US**
Equipment to be Purchased: **Gas stopper,
EBIS charge multiplier, RFQ, SRF quarter
wave resonators, 9 T solenoids, cryomodule
components and rf systems**

Project Leader(s): **Not available**
Affiliation:
e-mail:

Contact Person(s): **Chasity Fudella**
Affiliation: **National Superconducting
Cyclotron Lab., Michigan State Univ.**
e-mail: **fudella@nscl.msu.edu**

USA

Cornell Energy Recovery Linac

Project type: This Project is: **NEW**
A Requirements List is available: **YES**
Approval Date: **February 2005**
(approval of prototyping phase)
Status of Contracting: **In preparation**
Construction scheduled to start: **2006-2009**
prototyping phase, 2009-2011 construction
preparation, 2011-2017 proposed construction
and commissioning
Duration of Construction: **6 years**
Estimated Project Cost: **18 M \$ US for**
prototyping phase, other phases under
discussion
Equipment to be Purchased: **Not available**

Project Leader(s): **Not available**
Affiliation:
e-mail:

Contact Person(s): **Maury Tigner**
Affiliation: **CLASSE**
e-mail: **mt52@cornell.edu**

**Wisconsin Free Electron Laser Facility
VUV/Soft Xray facility with multiple
FELs in 5-1000 eV range**

Project type: This Project is: **NEW**

A Requirements List is available: **NO**

Approval Date:

Status of Contracting:

Construction scheduled to start: **proposed for
early part of next decade**

Duration of Construction: **five years**

Estimated Project Cost: **about \$300
million**

Equipment to be Purchased: **low emittance cw
electron injector, superconducting RF linacs,
RF, diagnostics, magnets, vacuum systems,
undulators, monochromators and photon
beamline componets, experimental
instrumentation**

Project Leader(s):

Affiliation:

e-mail:

Contact Person(s): **Joseph J. Bisognano**

Affiliation: **University of Wisconsin-**

e-mail: **jbisognano@src.wisc.edu**

USA

BELLA
10 GeV laser wakefield accelerator

Project type: This Project is: **NEW**
A Requirements List is available: **NO**
Approval Date: **not approved yet**
Status of Contracting:
Construction scheduled to start:
Duration of Construction: **4 years**
Estimated Project Cost: **\$18 M**
Equipment to be Purchased: **Petawatt laser system**

Project Leader(s): **Wim Leemans**
Affiliation: **LBNL**
e-mail: **wpleemans@lbl.gov**

Contact Person(s): **Wim Leemans**
Affiliation: **LBNL**
e-mail: **wpleemans@lbl.gov**

RHIC II
***Electron cooling of stored RHIC beams in
collision energy.***

Project type: This Project is: **NEW**
A Requirements List is available: **NO**
Approval Date: **Expected during FY
2007.**
Status of Contracting: **NA**
Construction scheduled to start: **2009**
Duration of Construction: **3 years**
Estimated Project Cost: **\$95M**
Equipment to be Purchased: **SRF accelerating
elements, accelerator magnets, vacuum equipment,
diagnostics, control system, cryogenic system, RF
systems, lasers.**

Project Leader(s): **Ilan Ben-Zvi**
Affiliation:
e-mail: **ilan@bnl.gov**

Contact Person(s): **Ilan Ben-Zvi**
Affiliation:
e-mail: **ilan@bnl.gov**