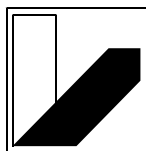


Appendix A: Letters of Intent to Collaborate

This Appendix contains the formal letters of Intent to Collaborate in the User Consortium for the Helmholtz-Beamline at the European XFEL, which have been received as of 08:00 CET, 15.March 2012.

Several additional expressions of Intent to Collaborate have been received by Email communication. These groups are included in the formal User Consortium partner list, but formal letters are not attached. These include groups from the following Institutions.

Deutsche Elektron Synchrotron (DESY)
General Atomics (GA)
Helmholtz-Zentrum GSI-Darmstadt (GSI)
Helmholtz-Institute Jena (HIJ)
Helmholtz-Zentrum Dresden-Rossendorf (HZDR)
Imperial College (IC)
Institute of Laser Engineering, ILE – Osaka University
Institute of Optics and Quantumelectronics – IOQ-Jena
Lawrence Livermore National Laboratory (LLNL)
Los Alamos National Laboratory (LANL)
Ludwig Maximilian University – Munich (LMU)
Max Planck Institute fuer Quantenoptik (MPQ)
Paul Scherer Institute (PSI)
Scottish Universities Physics Alliance (SUPA)
University College London (UCL)



**UNIVERSITÄT
BAYREUTH**

Bayerisches Geoinstitut

**Bayerisches Geoinstitut, Universität,
D-95440 Bayreuth**

Postanschrift:
Bayerisches Geoinstitut
Universität Bayreuth

D-95440 Bayreuth

Gebäude: BGI
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e-mail: bayerisches.geoinstitut@uni-bayreuth.de

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes currently 4 PhD scientists and 5 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are investigation geophysically important materials at conditions of Earth and planets deep interiors, and fundamental aspects of high pressure solid state physics.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose about 10 different experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of at least 5 PhD students.

My Research Group is prepared to develop diamond anvil cells for ultra-high pressure (above 200 GPa) and necessary environment (including external electrical and internal pulsed laser heating) for such experiments. Obviously the instrumentation to be made available through the User Consortium to other research groups

Sincerely yours,



Professor Dr. Leonid Dubrovinsky
Bayerisches Geoinstitut
University Bayreuth
D-95440 Bayreuth
Germany
Tel. +49-921-553736
Fax +49-921-553769
E-mail: Leonid.Dubrovinsky@Uni-Bayreuth.DE

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes __5__ PhD scientists and __2__ students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are in high pressure physics and in dense plasma physics. Our current interests are in determining the equation of state of the components of planetary interiors, from hydrogen to iron, in measuring the spectroscopic, structural and electronic properties of very dense plasmas, and in disclosing the quantum many-body effects of density. Our research activity relies heavily on the use of large facilities, such as synchrotron s and KJ lasers. In particular we are now implementing pump probe experiments in front of the ESRF synchrotron to try to measure the properties of warm dense plasmas at the same microscopic level of description as the one now achieved for high pressure solids. Certainly, those types of experiments should be more suited for an implementation in front of the HED beamline of the European XFEL. However, our current effort in the measurements of warm dense matter at the ESRF should be considered as preparatory for an optimum use of the HED beamline at its start.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose __3__ experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of __3__ PhD students.

Sincerely,



Paul Loubeyre
High Pressure group leader.
Commissariat à l'Energie Atomique.
91297 Arpajon. France.



*Centre Lasers Intenses et
Applications*

Unité Mixte de Recherche CNRS -CEA -Université Bordeaux 1 (UMR 5107)
<http://www.celia.u-bordeaux1.fr>

Talence, March 12, 2012

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the
European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned
Helmholtz-Beamline at the European XFEL.

6 PhD scientists and 4 students, from two research groups at CELIA, will likely
participate in the planning, execution or analysis of experiments making use of the
Helmholtz-Beamline at the European XFEL. Our principal research areas are high
energy density physics and warm dense matter.

During the first five years of operation of the Helmholtz-Beamline at the European
XFEL, our Research Groups will likely propose 2 experiments. We are interested to
collaborate in experiments proposed by other User Consortium teams, as appropriate.
This work will likely contribute to the dissertation work of 3 PhD students.

The concerned research groups already have a good experience in conducting
experiments on large facilities. One of these groups consists of theoreticians that will
contribute with large scale hydrodynamical and kinetic codes. The other group has
already developed a collaboration with members of DESY on these topics and have
performed experiments on LCLS.

Sincerely,

Prof. Vladimir Tikhonchuk
Deputy Director of CELIA
CELIA – Univ. Bordeaux / CEA / CNRS
351 Cours de la Libération
33405 Talence
France
tikhon@celia.u-bordeaux1.fr

Dr. Anton Barty
Center for Free Electron Laser Science
DESY, Hamburg, Germany

Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

The Coherent Imaging Group at CFEL-DESY would like to join the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

The CFEL coherent imaging division has extensive experience in time-resolved imaging of dynamic structures using femtosecond X-rays pulses from FEL sources. We bring to the collaboration expertise on diffraction imaging of transient states, including structure determination using the 'diffract and destroy' that is ideally suited to single-shot HED experiments at the European XFEL. We would like to contribute manpower and equipment to the development of imaging diagnostics on the Helmholtz beamline, as well as performing our own experiments on the evolution of non-equilibrium states and effects of intense radiation on biological samples. Exploration of the latter area is particularly critical in the context of our biological imaging program.

Our research group includes a diverse group of PhD scientists and students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose several experiments relating to diffraction from transient extreme states. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate.

Sincerely,

Anton Barty
CFEL/DESY

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 2 PhD scientists who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are **matter under extreme conditions and high pressure physics**.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 3 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 2 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: single-shot broadband optical spectroscopy and Coherent Anti-Stokes Raman spectroscopy.

Sincerely,

Alexander Goncharov
Geophysical Laboratory, Carnegie Institution of Washington

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

Salamanca, March 8th, 2012

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express our intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

The Centro de Laseres Pulsados (Pulsed Laser Center), CLPU, is a new research facility created as a Consortium of the Spanish Ministry of Education and Science, the Regional Government of Castilla y León and the University of Salamanca, as part of the implementation of the Spanish Scientific Infrastructures Roadmap. The Consortium headquarters are located in Salamanca, Spain. The Consortium was created on December 19th, 2007

The objectives of the Consortium, as stated at the starting document, are: to build and operate a Petawatt Laser in Salamanca; to develop ultra-short-pulse technology in Spain; to make significant advances in intense, compact laser technology; to promote the use of such technology in several fields such as Physics, Engineering, Chemistry, Biology, Medicine, Energy, etc; and to open the facility to the domestic and international scientific community.

CLPU, is an evolution of the Laser Service at the University of Salamanca, which has been acting as a user facility since March 2003. As a user service, it has been giving access and support to many national and international groups over the years. Obviously, the scope of users broadens as new lasers with improved specifications are available.

The main equipment of the CLPU is a PW laser, the VEGA laser. VEGA is a CPA system working at 30 femtoseconds after compression. It has a single front end and three synchronized amplification lines:

VEGA System	Energy per shot	Pulse duration	Central Wavelength	Peak power	Repetition Rate	Operation
VEGA-one	600 mJ	30 fs	800 nm	20 TW	10 Hz	Since 2007
VEGA-two	6 J	30 fs	800 nm	200 TW	10 Hz	Spring 2012
VEGA-three	30 J	30 fs	800 nm	1 PW	1 Hz	Mid 2013

The VEGA system is based on standard CPA technology using a Ti:Sapphire amplifier. The laser is going to be very relevant because it is going to be running at one Hz (one shot per second) and has the possibility to be upgraded to 5 Hz.

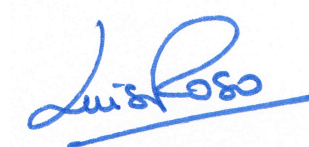
CLPU has its own dedicated building, under construction at the Scientific Park of the University of Salamanca at Villamayor de la Armuña (in the Salamanca metropolitan area). However this building will not be available until summer 2012. In between, CLPU is operating in a provisional site.

CLPU scientific and technical staff includes now 10 PhD scientists and technologists, 14 graduate technologists and 5 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Moreover, the scientific and technical staff of the Centre will be growing during the next two years, and an important increase of the number of scientists is foreseen. Our principal research areas are strong-field physics and ultra-fast dynamics. We are also very much interested in extreme laser technology.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 2 experiments. We are also interested to collaborate in some experiments proposed by other User Consortium teams, when appropriate. This work will likely contribute to the dissertation work of 4 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: an extremely high vacuum chamber; and tools for metrology. Also we will expect to contribute with our expertise in ultraintense lasers.

Sincerely,



Luis Roso
CLPU Director
and
Prof of Optics at the
University of Salamanca

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

We hereby express our intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

Our Research Groups includes five PhD scientists and two students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research area is condensed matter in high magnetic fields. In particular we are interested to perform x-ray scattering experiments on materials like high-T_c superconductors at magnetic field above the upper critical field in the, at about 30 – 40 Tesla at low temperature. Heavy Fermion systems at high fields are another class of materials of emerging interest in our groups.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, our Research Groups will likely propose five experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of two PhD students.

Our Research Group are prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: beamline and high magnetic field infrastructure.

Sincerely,

Joerg Stempfer and Martin v. Zimmermann
HASYLAB at DESY



SCHOOL of PHYSICS and ASTRONOMY

The University of Edinburgh
James Clerk Maxwell Building
The Kings Buildings
Mayfield Road
Edinburgh EH9 3 JZ
Fax 0131 650 7174
Telephone 0131 650 5956

11 March, 2012

Dear Tom,

Many thanks for your letter. I am delighted to confirm my intent to participate in the User Consortium of the Helmholtz-Beamline at XFEL.

XFEL is the most exciting x-ray science project in Europe in the last 20 years, and its use will prove transformative in a wide range of scientific disciplines. My own group's research interests are in using XFEL, along with a high-repetition rate kiloJoule laser, to ramp-compress materials to pressures and temperatures previously inaccessible with any other experimental technique. The proposed Helmholtz-Beamline will be perfect for such studies.

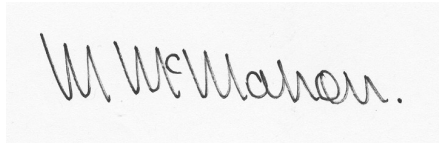
Over the last 20 years or so, our work at the SRS, Diamond and ESRF synchrotrons has revealed that, rather than getting simpler at high compression, the structural behaviour of matter is very much more complex than that observed at ambient conditions. Computational studies are now revealing that this behaviour continues to very much higher pressures than we can achieve at present, where even metals such as aluminium are predicted to adopt complex incommensurate forms. We can access and study these exotic high-density states only by using relatively "gentle" dynamic compression over nanoseconds, thereby ensuring that the sample remains cold enough to be in the solid (rather than liquid or plasma) state.

Over a 5-year period, I would envisage 3 PhD students working on XFEL-based science, along with at least one postdoc. We would hope to have access to XFEL at least 3 times per year. Our long experience on other x-ray sources is that "often-and-little" – that is, small, regular amounts of access – gives the best scientific outputs. However, this necessitates fast set-up times. I would expect to be working in collaboration with Justin Wark's group in Oxford for much of our research.

You will know that the UK funding councils, in their infinite wisdom, have decided not to commit funding to the main XFEL project. However, the same funding bodies are quite clear that they will support world-leading research proposals. We will, of course, seek funding to support dynamic compression science at XFEL, very likely in

collaboration with the University of Oxford. I would welcome a discussion as to where we can best contribute.

Yours sincerely,

A handwritten signature in black ink, reading "M McMahon." The signature is written in a cursive style with a period at the end.

Prof Malcolm I McMahon

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 5 PhD scientists and 5 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are high energy density physics, warm dense matter, strong-field physics and ultra-fast dynamics.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 3 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 4 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: Plasma diagnostics

Sincerely,



Dr. Georg Korn
Chief Science Officer
Institute of Physics, Academy of Science of Czech Republic
Fyzikální ústav AV ČR, v. v. i.
Na Slovance 1999/2
182 21 Praha 8

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 2 PhD scientists and 1 postdoc who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are high energy density physics, and warm dense matter studies. During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 4 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 3 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups:

- High collection x-ray scattering spectrometer for plasma diagnostics
- Streaked optical pyrometer for temperature measurements in the eV regime
- Angle resolved VUV-spectrometer

Sincerely,

Dr. Paul Neumayer
Extreme Matter Institute
GSI Helmholtzzentrum für Schwerionenforschung mbH

Johann Wolfgang Goethe-Universität Frankfurt am Main
FB Geowissenschaften, FE Mineralogie / Kristallographie

To
Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

FB Geowissenschaften

Institut Geowissenschaften • Kristallographie
Altenhöferallee 1
60438 Frankfurt am Main

Prof. Dr. Björn Winkler

Telefon +49 (0)69-798 40107
Telefax +49 (0)69-798 20109
E-Mail b.winkler@kristall.uni-frankfurt.de

Datum: 13. März 2012

Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 2-3 PhD scientists and 2-3 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research area is the study of structure-property-relations of matter under extreme conditions.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 4-6 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 2-3 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: time-resolved laser fluorescence spectroscopy

Yours sincerely





Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 4 PhD scientists and 4 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are shock effects in minerals (amorphization, melting, high-pressure phases) and ultra-fast dynamics and deformation.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 5-10 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 4 PhD students.

Albert-Ludwigs-Universität
Freiburg

Institut für
Geowissenschaften
- Geologie -

Prof. Dr. Thomas Kenkmann
Leitung Geologie
Studiendekan Geowissenschaften
Sprecher Forschergruppe FOR-887

Albertstraße 23 b
79104 Freiburg
Tel. 0761/203-6495
Fax 0761/203-6496
thomas.kenkmann@geologie.uni-
freiburg.de
www.geologie.uni-freiburg.de

Sekretariat: Manuela Tombrink
Tel. 0761/203-6494
Fax 0761/203-6496
manuela.tombrink@geologie.uni-
freiburg.de

Freiburg, 13.03.2012

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: not yet specified.

Sincerely,

A handwritten signature in blue ink on a light yellow rectangular background. The signature reads "Thomas Kenkmann" in a cursive script, with the first name "Thomas" and the last name "Kenkmann" clearly legible.

Thomas Kenkmann



Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

Heisenberg-Professur
für Quantenfeldtheorie

Max-Wien-Platz 1
D-07743 Jena/ Germany

**Univ. -Prof.
Dr. Holger Gies**

Telefon 0 36 41/ 9 47-190
Telefax 0 36 41/ 9 47-102

E-Mail: holger.gies@uni-jena.de

13th March 2012

Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan;

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 2 PhD scientists and 4 students who will likely participate in the investigations of the underlying theory and theoretical preparatory work for experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are strong-field quantum electrodynamics, tests of fundamental symmetries and constituents of matter and strongly coupled complex systems.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely work out the underlying theory for five experimental proposals. We are interested to collaborate in the corresponding theoretical aspects of further experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation and master thesis work of 2 PhD and 3 master students.

Sincerely,

Holger Gies

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 4 PhD scientists and several students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research area is Geomaterials research. We experimentally and theoretically investigate structural, physical and chemical properties of minerals, melts and fluids under high pressure/high temperature conditions. Knowledge is of paramount importance for understanding the structure and dynamics of deep Earth.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose one or two experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of several PhD students.

My Research Group is prepared to contribute in the development of the following instrumentation, to be made available through the User Consortium to other research groups: X-Ray Diffraction and X-Ray spectroscopy of materials using diamond anvil cells.

Sincerely,

Prof. Dr. Wilhelm Heinrich
Tel.: +49(0)331 288-1410
Fax: +49(0)331 288-1402
E-Mail: whsati@gfz-potsdam.de

Helmholtz-Zentrum Potsdam
Deutsches GeoForschungsZentrum (GFZ)
Stiftung des öff. Rechts Land Brandenburg
Telegrafenberg, D-14473 Potsdam

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 4 PhD scientists and 8 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are high energy density physics and strong-field physics.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 5 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 5 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: x-ray imagers and spectrometers, electron and ion spectrometers, and other related diagnostics or targets.

Sincerely,



Yutong Li, Prof.
Institute of Physics, Chinese Academy of Sciences
No.8, Nansan Str., Zhongguancun, Beijing
China 100190
Tel: +86 10 82648014
Fax: +86 10 82649356
Email: ytli@iphy.ac.cn

УЧРЕЖДЕНИЕ
РОССИЙСКОЙ
АКАДЕМИИ
НАУК
ОБЪЕДИНЕННЫЙ
ИНСТИТУТ
ВЫСОКИХ
ТЕМПЕРАТУР
РАН



INSTITUTION
OF THE RUSSIAN
ACADEMY
OF SCIENCES
JOINT
INSTITUTE
FOR HIGH
TEMPERATURES
RAS

Ижорская ул., д. 13, стр. 2
г. Москва, 125412, Россия
Тел.: (495) 485-83-45
Факс: (495) 485-99-22

Izhorskaya St., 13, Bd. 2
Moscow 125412, Russia
Tel.: +7 (495) 485-83-45
Fax: +7 (495) 485-99-22

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 6 PhD scientists and 4 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL.

Our principal research area is high energy density physics, and development of related diagnostic methods and tools based on X-ray radiation and ion beams. Particularly we are interested in topics of laboratory astrophysics, shock compression and laser ablation of matter, laser-accelerated ion and electron beams, exotic atomic states of WDM, measurements of magnetic fields in laser plasma.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose of about 3 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 3 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: Crystal-based X-ray spectrometers with high spectral and spatial resolution, components for X-ray backlighting and/or X-ray microscopy systems, crystal-based x-ray detectors.

Sincerely,

Dr. Sergey A. Pikuz,
Head of Laboratory,
Joint Institute for High Temperatures RAS,
13-2 Izhorskaya st., Moscow 125412, Russia.
+7-495-484-1944, +7-916-603-3489
spikuz@gmail.com

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Professor Cowan:

I hereby express our intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My research groups will include about 5 PhD scientists and 3 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research subject areas of interest are strong field physics, ultrafast phenomena, x-ray spectroscopy, material irradiation, laser-driven secondary source development (such as coherent x-rays, gamma-rays, electrons and protons/ions) for probe pulse and accelerator development.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my research groups will likely propose about 4 experiment runs. We are also interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 3 PhD students.

My research groups are prepared to develop instrumentation that can be made available through the User Consortium to other research groups: examples include particle spectrometry, fast particle beam diagnostics and ultrafast x-ray diagnostics.

Sincerely,

Paul R. Bolton,	Deputy-Director-General,
	Quantum Beam Science Directorate,
	Kansai Photon Science Institute,
	Japan Atomic Energy Agency, Japan.



KYOTO UNIVERSITY
INSTITUTE FOR CHEMICAL RESEARCH
ADVANCED RESEARCH CENTER FOR BEAM SCIENCE

Gokasho, Uji Kyoto 611-0011, Japan

Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany

**Participation in the User Consortium
for the Helmholtz-Beamline at the European XFEL**

9th March, 2012

Dear Dr. Thomas Cowan,

There is no doubt, that having complex experimental facilities using multiple quantum beams offers to pioneer scientific fields and energize the traditional fields of biology, chemistry, atomic and nuclear physics, elementary particle physics, astrophysics, and radiation science. Especially ultra high intensity lasers have high a great potential to produce multiple high-energy quantum beams. I believe that the combination of ultra high intensity lasers with an XFEL can complete this vision, of the a complex facility having multiple quantum beams, which will be realized in the Helmholtz-Beamline at the European XFEL, which you have been proposing.

I hereby would like to express my interest to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

In my laboratory we are studying the physics of intense laser matter interaction and radiation generation from it, with the applications of laser generated radiations to material science. At the moment, three professors (including myself), two PhD researchers and six graduate students are involved in the research, From them 3 PhD scientists and 3 students will likely participate in the planning, performing or analysis of experiments using the Helmholtz-Beamline at the European XFEL.

Our current major research themes are

- (1) Ultrafast electron diffraction with intense laser accelerated electron pulses.
- (2) Physics of radiation (electrons, ions, molecules, THz, neutrons and so on) generation by intense femtosecond laser pulses
- (3) Physics of femtosecond laser nano-ablation and self-formation of nanostructure on surfaces.

When the Helmholtz-Beamline at the European XFEL is completed, during the first several years, my laboratory would like to propose 1-2 experiments. Additionally, we are interested to collaborate in experiments of common interests, which are proposed by other User Consortium teams. The work within the Helmholtz-Beamline at the European XFEL will likely contributes to the dissertation work of 1-2 PhD students.

We are currently developing an ultrafast electron diffraction (UED) instrument, which will be available for the activity of the User Consortium.

I will believe the proposed Helmholtz-Beamline at the European XFEL is realized to prove fruitful for bright future of science.

Sincerely yours,

Shuji Sakabe

Professor

Laboratory for Laser Matter Science, Advanced Research Center for Beam Science
Institute for Chemical Research

Kyoto University

Gokasho, Uji Kyoto 611-0011, Japan

Phone: +81-774-38-3291, Fax: +81-774-38-4509

E-mail: sakabe@laser.kuicr.kyoto-u.ac.jp

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 1 PhD scientists and 2 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are warm dense matter and plasmas probed by short x-ray pulses.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 2 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 2 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: spectrometer for inelastic x-ray scattering.

Sincerely,

Roger W. Falcone
Professor, University of California, Berkeley, Physics Department
Director, Advanced Light Source, Lawrence Berkeley National Laboratory



TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 23 PhD scientists and 4 students, many who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are High energy density physics and materials at extreme conditions.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 5 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 2 PhD students.

Yours sincerely,

A handwritten signature in black ink, reading "Gilbert W. Collins".

Gilbert Collins
High Energy Density Section Leader
Lawrence Livermore National Laboratory



TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 12 PhD scientists and 4 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are high energy density physics, warm dense matter, ultrafast x-ray probing, laser-particle production and acceleration.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 3 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 2 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: X-ray Thomson scattering, x-ray radiography, electron spectrometer, interferometry, light scattering diagnostics

Sincerely,

Siegfried H. Glenzer
Glenzer1@llnl.gov
Plasma Physics Group
Lawrence Livermore National Laboratory

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes four PhD scientists who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research area is ultrafast dynamics in condensed matter and dynamics and structure of warm dense matter.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose three experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate.

My Research Group gladly offers its expertise in designing, performing, and analyzing XFEL experiments. In the past we have built XFEL instrumentation (e.g. the LCLS gas energy detector), we pioneered x-ray Thomson scattering on warm dense matter at LCLS, and we have studied the interaction of high-intensity x-ray radiation with matter through experiments and modeling for more than a decade.

Sincerely,

Stefan Hau-Riege
Lawrence Livermore National Laboratory



Pravesh K Patel

Associate Program Leader for Fast Ignition Science
Fusion Energy Sciences Program

Lawrence Livermore National Laboratory

Mailstop L-637, P.O. Box 808, Livermore, CA 94551

Direct line: +1 925 423 7450; E-mail: pravpatel@llnl.gov

March 13, 2012

Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany

Dear Dr. Cowan,

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

I am the Program Leader for Fast Ignition Inertial Confinement Fusion at Lawrence Livermore National Laboratory. My group includes approximately 20 scientific staff, postdoctoral researchers, and graduate students. A major element of our research program is focused on experiments and modeling of relativistic laser-plasma interaction and fast electron heating of targets to high energy density conditions. We have performed major experimental campaigns at the Titan laser at LLNL, Trident at LANL, OMEGA EP at LLE, LULI2000 at LULI, and Vulcan Petawatt at RAL. The combination of a Petawatt-class and a high brightness x-ray probe presents opportunities for unique experiments to study short-pulse heated dense plasmas.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, we will likely propose three experiments, as well as collaborating in experiments proposed by other User Consortium teams. We would likely have two scientists working on this project, plus two PhD students.

Sincerely,

Pravesh K. Patel
Associate Program Leader for Fast Ignition
Lawrence Livermore National Laboratory



TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 4 PhD scientists and 4 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research area(s) is (are) high intensity HED plasma physics (including x-ray transport in dense matter), warm dense matter, high intensity laser-matter interactions, nuclear transitions in a plasma environment, and time-resolved x-ray measurements.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 4 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 3 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: a sub-picosecond x-ray streak camera.

Sincerely,

A handwritten signature in black ink, appearing to be 'R. Shepherd', with a stylized, flowing line extending to the right.

Your Name Dr. Ronnie Shepherd
Your Institution Lawrence Livermore National Laboratory

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

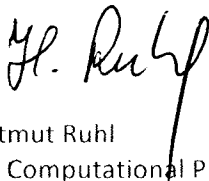
My Research Group includes 5 PhD scientists and 3 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are

Strong field physics, radiation dominated plasma, matter under extreme condition, computational plasma physics

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 2 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 2 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: Codes

Sincerely,



Your Name: Hartmut Ruhl

Your Institution: Computational Plasma Physics, LMU, Theresienstrasse 37, 80333 Munich



Laboratoire d'utilisation des lasers intenses

ECOLE POLYTECHNIQUE

Michel KOENIG

Directeur de Recherche CNRS

Michel.koenig@polytechnique.edu

Tel : 33 1 69335399

Unité Mixte de Recherche n° 7605 CNRS - CEA -
Ecole Polytechnique – UPMC Paris



Palaiseau, march 10th 2012

To Prof. Thomas Cowan

Helmholtz-Zentrum Dresden-Rossendorf

Bautzner Landstrasse 400

03128 Dresden, Germany

t.cowan@hzdr.de

Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Pr. Cowan

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 4 permanent PhD scientists and 2 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are high energy density physics, warm dense matter, matter under extreme conditions, high pressure physics, laboratory astrophysics.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 5 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 2 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: VISAR, SOP.

Sincerely,

Regards,
Michel Koenig
High Density Energy group leader

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan,
dear Tom:

as a Director of Max Born Institute Berlin I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

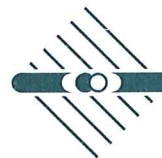
The part of my research group at MBI Berlin, relevant for the research under discussion, includes ~4 PhD scientists and ~3 students who will likely want to participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our present principal research areas are strong-field physics, especially particle acceleration (ions and electrons), and interaction of matter with intense electro-magnetic radiation.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL my Research Group may likely propose 2 experiments. We are certainly interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work may likely contribute to the dissertation work of 2 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: ion spectrometer, x-ray spectrometer, EUV-spectrometer.

Sincerely,

Wolfgang Sandner
Director, Max Born Institute Berlin



MPI für Kernphysik • Postfach 103980 • D-69029 Heidelberg

Prof. Dr. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden
Germany

Honorarprof. Dr. Christoph H. Keitel
Director
Max-Planck-Institut für Kernphysik
Saupfercheckweg 1
D-69117 Heidelberg
Germany
phone: +49 6221 516-151
fax: +49 6221 516-152
e-mail: keitel@mpi-hd.mpg.de

March 12, 2012

Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Prof. Cowan,

we hereby express our intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

The combination of PW laser and XFEL is opening many fruitful new directions in our fields of research, and we are most interested that this experimental possibility comes into being. We will participate in suggesting interesting new concepts for experiments, particularly in the areas of strong-field QED, vacuum polarization and radiation reaction effects, x-ray interaction with laser-accelerated electrons and laser-nucleus interactions. As appropriate, we will participate in interpreting the experimental results.

Yours sincerely,

Antonino Di Piazza
Group Leader

Karen Z. Hatsagortsyan
Group Leader

Adriana Pálffy
Group Leader

Christoph H. Keitel
Head of Division





MILITARY UNIVERSITY OF TECHNOLOGY
INSTITUTE OF OPTOELECTRONICS



2, Kaliskiego Street, 00-908 Warsaw, Poland tel.48 22 683 94 30, fax. 48 22 666 89 50, www.ioe.wat.edu.pl

Warsaw, March 08, 2012

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: *Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL*

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group on Laser-Matter Interactions includes 5 PhD scientists and 4 engineers, including 1 PhD student, who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are: high-intensity laser interaction with matter, generation of x-ray radiation with lasers and investigation of matter under extreme conditions.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose two experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of two PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: x-ray imaging system, high-energy laser system.

Sincerely,

Prof. Henryk Fiedorowicz
Institute of Optoelectronics
Military University of Technology
Ul. Kaliskiego 2
00-908 Warsaw, Poland
Tel: +48 22 683 9201 (office), +48 601 201 496 (mobile)
E-mail: hfiedorowicz@wat.edu.pl
<http://www.ztl.wat.edu.pl/zoplzm>



OncoRay · Med. Fakultät · Fetscherstr. 74 · PF 41 · 01307 Dresden · Germany

Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden
Germany
t.cowan@hzdr.de



Prof. Nils Cordes

Head of Radiobiology

Tel.: (0351) 458 7401
Fax : (0351) 458 7911
Nils.Cordes@oncoray.de

Dresden, 16th March 2012

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

The Section of Radiobiology at OncoRay would like to join the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

Our research group focuses on target identification, understanding the molecular mechanisms for the specific target molecules involved, drug development and therapeutic administration of targeting agents.

Within the context of this collaboration, Dr. Anna Dubrovskaya and I are interested in the development efforts by Dr. Karim Fahmy (HZDR) and the CFEL/DESY group towards structural determinations of biological molecules in their native environments, and the longer perspective this may have on radiobiological research.

Sincerely,

Prof. Dr. Nils Cordes
Professor of Molecular and Cellular Radiobiology
Head of Radiobiology

Dresden University of
Technology
OncoRay
Fetscherstraße 74 / PF 41
01307 Dresden
www.oncoray.de

Bearbeiter: Vorname Name
Gruppe/Bereich
Tel.: 0351/ 458 xxxx
Fax: 0351/ 458 xxxx
Vorname.Nachname@oncoray.de

Prof. Dr. M. Baumann
Chairman

Prof. Dr. W. Enghardt
Medical Radiation Physics

Prof. Dr. L. Kunz-Schughart
Tumor Pathophysiology

Prof. Dr. N. Abolmaali
Molecular Imaging

Prof. Dr. N. Cordes
Molecular and Cellular
Radiobiology

Dr. J. Pawelke
onCOOPTics

Dr. U. Dersch
In-vivo Dosimetry

Prof. Dr. Anna Dubrovskaya
Biomarkers

Stefan Pieck
Scientific Coordinator

OAK RIDGE NATIONAL LABORATORY

MANAGED BY UT-BATTELLE FOR THE DEPARTMENT OF ENERGY

MATERIALS SCIENCE & TECHNOLOGY DIVISION
Oak Ridge National Laboratory; P.O. Box 2008
Oak Ridge, TN 37831-6030
Phone: (865) 574-5506
Fax: (865) 574-4143
Internet: bcl@ornl.gov

DATE: March 12, 2012

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 7 PhD scientists who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research area is in: Ultra-fast Physics of Displacement Cascades including Sub-Picosecond to Seconds Dynamics and Evolution of Cascade Defects.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose or collaborate on 2 experiments per year for an estimated total of 10 experiments. We will be interested to collaborate in experiments proposed by other User Consortium teams, as capabilities appropriate for our research directions are developed. My Research Group does not include students at present; however, as facilities such as the ultra-fast pulsed-ion irradiation capabilities planned for the Helmholtz-Beamline become available, it will be possible to address cascade dynamics and evolution directly and it is likely that our research would contribute to the dissertation work of 2 PhD students.

Sincerely,



Bennett C. Larson
Corporate Fellow
Materials Science and Technology Division
Oak Ridge National Laboratory, Oak Ridge, TN 37831



Department of Physics

Richard R. Freeman
191 West Woodruff Avenue
Columbus, OH 43210-1117
Phone 614-292-8314
Fax 614-292-7557
freeman@physics.osu.edu
www.hedn.osu.edu

March 8, 2012

Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Professor Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 3 PhD scientists and 5 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are: High Energy Density Physics, Warm Dense Matter and Strong Field Physics

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose at least 5 experiments. We are interested in collaborating on experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of more than 5_ PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: Compact, high resolution, absolutely calibrated Thomson Parabola detectors for high energy positive and negative ions, electrons and positrons

Sincerely,

A handwritten signature in black ink, appearing to read 'Richard R. Freeman', written over a thin yellow horizontal line.

Richard R. Freeman
Distinguished Professor of Mathematical
and Physical Sciences



From: Professor Justin Wark
Tel: +44 (0) 1865 272251
Fax: +44 (0) 1865 272400
Email: Justin.wark@physics.ox.ac.uk

Department of Physics
Clarendon Laboratory
Parks Road
Oxford
OX1 3PU

Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

13th March 2012

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

We hereby express our intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

Our Research Group includes 5 PhD scientists and 12 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are shock and isentropic compression of condensed matter, shock physics in plasmas, warm dense matter, X-ray Thomson scattering, and matter under extreme conditions.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose between 5 and 7 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 5 PhD students.

Subject to funding, our Research Group is prepared to develop instrumentation for X-ray scattering experiments (spectroscopy and Thomson scattering), to be made available through the User Consortium to other research groups.

Sincerely,

A handwritten signature in black ink, appearing to be 'JWark'.

Professor Justin Wark, and Dr Gianluca Gregori

Department of Physics
Clarendon Laboratory
University of Oxford



TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

12.03.2012

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 6 PhD scientists and 3 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research area is generation and application of THz pulses with extreme high field strength including manipulation of charged particles by THz pulses.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 3 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 3 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: Ultra intense THz pulse source with mJ level energy for various applications.

Sincerely,

Prof. János Hebling

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 3 PhD scientists and 6 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research area(s) is (are) strong-field physics.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 2 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 4 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: _____.

Sincerely,

Prof.Dr. Xueqing Yan

Institute of Heavy Ion Physics
Peking University, Beijing, China, 100871

(email: x.yan@pku.edu.cn)



Centre for Plasma Physics
School of Mathematics and Physics

Queen's University Belfast

Phone: +44-28-90973516
Fax: +44-28-90873110
www.qub.ac.uk/mp/cpp

To: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

Belfast, 17./3/2012

Re: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Prof. Cowan,

On behalf of my colleagues within the Centre for Plasma Physics, I hereby express our intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL. Our Research Group includes 5 academics interested in this collaboration (Borghesi, Dromey, Lewis, Riley and Zepf), plus 6 PhD scientists and 12 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are high energy density physics, warm dense matter production and characterization, XUV and X-ray pulse generation, laser-driven particle acceleration and applications.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, our Research Group will likely propose ~10 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 4-5 PhD students.

Our Group has a range of detectors and instrumentation (XUV and magnetic spectrometers, CCD cameras, optical streak Cameras, Micro Channel Plate detectors) which could be made available for experiments within the Users Consortium.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Marco Borghesi', enclosed in a black rectangular box.

Prof Marco Borghesi
Centre for Plasma Physics, QUB
e-mail: m.borghesi@qub.ac.uk



THE ROCKEFELLER UNIVERSITY
1230 YORK AVENUE · NEW YORK, NEW YORK · 10021-6399
PHONE: 212-327-8288 FAX: 212-327-7904
E-MAIL: sakmar@mail.rockefeller.edu

Laboratory of Molecular
Biology and Biochemistry

March 9, 2012

Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

Re: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I am writing to express my interest and intent to collaborate within the USER Consortium for the Helmholtz-Beamline at the European XFEL.

My research group in New York includes approximately 5 graduate students and 10 postdoctoral fellows. I anticipate that 1 student and 1 fellow might participate in the planning, execution or analysis of experiments conducted at the European XFEL.

Our principal area of interest includes structural biology and biophysics of membrane receptors and we have devised a number of enabling technologies that would be appropriate for use at XFEL. In particular, we plan to work closely with the laboratory of Dr. K. Fahmy at Rosendorf-Dresden to develop and apply our membrane nanoparticle technology called nanoscale apolipoprotein-bound bilayers (NABBs) that contain metal-containing membrane receptors of significant biological interest.

Thank you for the opportunity to participate in this exciting Consortium.

Sincerely,

Thomas P. Sakmar, M.D.
Richard M. & Isabel P. Furlaud Professor
The Rockefeller University



TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
Via email: t.cowan@hzdr.de

CC: Patrizio Antici (patrizio.antici@uniroma1.it)
Livia Lancia (livia.lancia@uniroma1.it)

Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Prof. Cowan:

we hereby express our intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

Our Research Group includes 2 experienced scientists, 2 PhD students and 2 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are the following: warm dense matter, strong-field physics, ultra-fast dynamics, secondary sources and particle acceleration (electrons, protons and neutrons) with applications.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, our Research Group will likely propose 10 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 3-4 PhD students.

Our Research Group is prepared to participate in the development of the following instrumentation: proton diagnostics and postprocessing.

Yours sincerely,

Prof. Luigi Palumbo
Head of the Department



Prof. Dr. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden

08.03.2012

Dear Prof. Dr. Cowan,

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL in Hamburg.

My Research Group includes currently 5 PhD scientists and 10 PhD students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are high energy density physics and warm dense matter and, in particular, theory for x-ray Thomson scattering, ab-initio simulations for matter under extreme conditions, and planetary modeling. Our research activities would benefit very strongly from the Helmholtz Beamline since it provides unique experimental capabilities to generate and probe matter under extreme conditions. This facility would also attract various communities so that an enormous progress in many fields of physics, especially in plasma physics, planetary physics, geophysics, and high-pressure physics, is expected.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose one experiment each year, i.e. 3-5 in total. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. We have a rich experience in such a cooperation from the participation in the Peak Brightness Collaboration that was established at the free electron laser FLASH in Hamburg to submit beam time proposals, to prepare and execute the experimental campaigns, and to evaluate and publish the results. The work at the Helmholtz Beamline will likely contribute to the dissertation work of 2-3 PhD students in my group.

My Research Group is prepared to develop theoretical tools and data that are necessary to design and evaluate state-of-the-art pump-probe experiments, among them PIC and radiation-hydrodynamic codes and x-ray scattering codes.

Sincerely,

Prof. Dr. Ronald Redmer
Universität Rostock

INSTITUT FÜR PHYSIK

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group presently includes 10 PhD scientists and 10 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research area(s) is (are) condensed matter in extreme conditions (high electric fields, electronic excitations...)

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 3-4 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 3 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: Apparatus for application of external high electric fields.

Sincerely,

Prof. Dr. Ullrich Pietsch
Chair of Solid State Physics
University of Siegen



中国科学院上海光学精密机械研究所

Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences



TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 20 PhD scientists and 30 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are high energy density physics, strong-field physics and ultra-fast dynamics.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 8 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 10 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: Space- and time-resolved XUV spectrometer, high resolution electron spectrometer.

Sincerely,

Mar.14, 2012

Prof. Ruxin Li
Director
Shanghai Inst. Opt. & Fine Mech. (SIOM)
Chinese Academy of Sciences
P. O. Box 800-211
Shanghai 201800, China
Email: ruxinli@mail.shcnc.ac.cn



上海交通大学
SHANGHAI JIAO TONG UNIVERSITY

Dr. Zheng-Ming Sheng
Professor, Department of Physics
800 Dongchuan Rd., Shanghai 200240
P. R. China
Tel/Fax: +86-21-3420 4629/3420 4319
E-mail: zmsheng@sjtu.edu.cn

March 8, 2012

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
BautznerLandstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 8 PhD scientists and 15 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are high energy density physics, strong-field physics, ultra-fast dynamics, etc.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose three experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 2 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: X and THz-ray spectrometers, charged particle beam detectors, and specially designed targets.

Sincerely,

Zheng-Ming Sheng

Professor, Department of Physics
Deputy Director, Laboratory for Laser Plasmas
Shanghai Jiao Tong University

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

The MEC research team includes 2 staff scientist and 2 research associates that will likely be involved in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal scientific area of interest is the use of FELs in the study of Warm Dense Matter and Matters under Extreme Conditions. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate.

Sincerely,



Bob Nagler
LCLS
SLAC National Accelerator Laboratory
2575 Sand Hill Road
Menlo Park, CA 94025
USA

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 6 PhD scientists and 1-2 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research area(s) is (are) high pressure physics/chemistry, high pressure materials synthesis.

[For example: high energy density physics, warm dense matter, strong-field physics, ultra-fast dynamics, matter under extreme conditions, high pressure physics, condensed matter in high magnetic fields, ...]

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 1-2 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 1 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: high pressure instrumentation _____.

Sincerely,
Ulrich Häussermann,
Stockholm University

Your Name
Your Institution

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

Dr. Homi Bhabha Road, Colaba, Mumbai – 400 005

Ph: 022-2 278 2381

Fax: 02 –2 280 4610/11

Prof. G. Ravindra Kumar

E-mail: grk@tifr.res.in

March 08, 2012

Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Prof. Dr. Cowan,

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes **TWO** PhD scientists and **TWO/THREE** students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are high energy density science and ultrafast dynamics

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose **THREE or FOUR** experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of **TWO** PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: **Instrumentation related to ultrafast dynamics and polarization measurements (as decided by mutual discussions).**

Best regards,
Sincerely,



TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

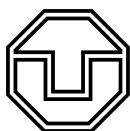
My Research Group includes 2 PhD scientists and 18 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are: high energy density physics, warm dense matter ultra-fast dynamics and matter under extreme conditions.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 3 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 3 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: X-ray Diagnostics, Target Preparation, Characterization and Design, Cryo-Technology.

Sincerely,

Professor Dr. Markus Roth
Technische Universität Darmstadt
Institut für Kernphysik
Schlossgartenstrasse 9
64347 Darmstadt



**TECHNISCHE
UNIVERSITÄT
DRESDEN**

Fakultät Mathematik und Naturwissenschaften Institut für Strukturphysik

Professur für Strukturphysik Kondensierter Materie

Inst. f. Strukturphysik, TU Dresden, 01062 Dresden

Prof. Dr. rer. nat.

Christian Schroer

Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstraße 400
03128 Dresden, Germany

Bearbeiter: Prof. Dr. Christian Schroer
Telefon: 0351 463-37589
Telefax: 0351 463-37048
E-Mail: schroer@physik.tu-dresden.de

Dresden, 9. März 2012

Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 4 PhD scientists and 7 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are high-resolution x-ray microscopy and x-ray optics. Focusing the XFEL beam allows us to generate matter under extreme conditions and image ultra-fast dynamics with high spatial resolution.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose several experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of several PhD students.

My Research Group is prepared to develop an x-ray microscopy and nano-focusing system that can be integrated into the Helmholtz-Beamline and shall be made available through the User Consortium to other research groups.

Sincerely,

Prof. Dr. Christian Schroer

Postadresse (Briefe)

Inst. f. Strukturphysik, TU Dresden
01062 Dresden

Postadresse (Pakete u. ä.)

Inst. f. Strukturphysik, TU Dresden
Zellescher Weg 16
01069 Dresden

Besucheradresse

Sekretariat:
Zellescher Weg 16, Zi. C115
01069 Dresden

Internet

<http://www.xray-lens.de>



Dr. FARHAT BEG
Dept. of MECHANICAL & AEROSPACE ENGINEERING (MAE)
9500 GILMAN DRIVE, MC 0411
LA JOLLA, CALIFORNIA 92093-0411

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Prof. Dr. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany.

March 10, 2012

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Professor Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes five PhD scientists and nine graduate students who will likely to participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are high energy density physics, strong-field physics, ultra-fast dynamics, matter under extreme conditions, high pressure physics, and condensed matter in high magnetic fields among others.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose five experiments (one experiment/year). We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of our several PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: Bremsstrahlung spectrometers, 2D copper K_{α} imager and a HOPG spectrometer.

Please let me know if you need an additional information.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Farhat Beg".

Dr. Farhat Beg
Professor of Engineering Physics
Department of Mechanical & Aerospace Engineering

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express our intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes four PhD scientists and two students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are strong-field QED, signatures of radiation reaction in strong-field physics, PIC simulations of relativistic plasmas and attosecond pulse generation.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose one experiment. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of two PhD students.

Sincerely,

Mattias Marklund
Arkady Gonoskov
Chris Harvey
Anton Ilderton

Department of Physics
Umeå University
901-87 Umeå
Sweden



University of Nevada, Reno

Department of Physics
College of Science
University of Nevada, Reno/0220
Reno, Nevada 89557-0220
Office: (775) 682-9700
Fax: (775) 682-9702

TO: Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

I will likely participate with one graduate student in the planning, modeling or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research area(s) is (are) high energy density physics, strong-field physics, ultra-fast dynamics in matter under extreme conditions.

We are interested to collaborate in experiments proposed by other User Consortium teams, and we would like to support from modeling/theory side to understand physics and design future experiments. This work will likely contribute to the dissertation work of 1 PhD students.

Sincerely,

March 12, 2012

Dr. Yasuhiko Sentoku
Professor, Department of Physics
University of Nevada, Reno
MS-220, Reno, NV 89557
tel : +1-775-682-9739, fax: +1-775-682-9702
e-mail: sentoku@unr.edu

Prof. Dr. Frank B. ROSMEJ

Président de la Fédération Nationale « Sciences de la Fusion »

Tél. : +33 (0)1 44 27 43 01

e-mail : frank.rosmej@upmc.fr

Secrétariat : L. Ardisson

Tél. : +33 (0)1 44 27 42 73

Fax : +33 (0)1 44 27 75 37

e-mail : ludovic.ardisson@upmc.fr

Prof. Thomas Cowan

Helmholtz-Zentrum Dresden-Rossendorf

Bautzner Landstrasse 400

03128 Dresden

Germany

t.cowan@hzdr.de

Paris, le 17 Mars 2012

RE: Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Prof. Cowan:

I hereby express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My university research group includes 2 PhD scientists and 3 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are

- atomic physics in dense plasmas, Warm Dense Matter, strongly coupled plasmas,
- non-equilibrium radiative properties of matter,
- interaction of suprathermal electrons with matter,
- interaction of XFEL with matter,
- exotic states of matter (e.g., hollow crystals, hollow ions, multiple excited states)

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my research group will likely propose 2-3 experiments. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 2-3 PhD students.

My research group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: high-resolution X-ray spectroscopic diagnostics.

Sincerely,



F.B. ROSMEJ



UPPSALA UNIVERSITET

Laboratory of Molecular Biophysics, Institute of Cell and Molecular Biology
Box 596, Husargatan 3, SE-75124 Uppsala, Sweden
Tel: +46-18-4714449 or +46-70-4250194, E-mail: janos.hajdu@xray.bmc.uu.se

08 March 2012

Prof. Thomas Cowan
Helmholtz-Zentrum Dresden-Rossendorf
Bautzner Landstrasse 400
03128 Dresden, Germany
t.cowan@hzdr.de

Participation in the User Consortium for the Helmholtz-Beamline at the European XFEL

Dear Dr. Cowan:

I am writing to express my intent to collaborate within the User Consortium for the planned Helmholtz-Beamline at the European XFEL.

My Research Group includes 8 PhD scientists and 6 students who will likely participate in the planning, execution or analysis of experiments making use of the Helmholtz-Beamline at the European XFEL. Our principal research areas are studies on atoms and molecules in extremely strong X-ray fields, high energy density physics, biomolecular imaging, ultra-fast dynamics, and matter under extreme conditions.

During the first five years of operation of the Helmholtz-Beamline at the European XFEL, my Research Group will likely propose 2-3 experiments per year. We are interested to collaborate in experiments proposed by other User Consortium teams, as appropriate. This work will likely contribute to the dissertation work of 6 PhD students.

My Research Group is prepared to develop the following instrumentation, to be made available through the User Consortium to other research groups: Sample injector and diagnostic system.

Sincerely,

Professor Janos Hajdu
Laboratory of Molecular Biophysics, Department of Cell and Molecular Biology, Uppsala
University, Husargatan 3 (Box 596), SE-751 24 Uppsala, Sweden
Tel: +46-70-4250194, E-mail: janos.hajdu@xray.bmc.uu.se