

February 13th, 2009
ICFA meetings at KEK

ICFA Panel on Advanced and Novel Accelerators

Activity Report

Chair:

Mitsuru Uesaka

Nuclear Professional School

University of Tokyo

Panel Members

Chair: M.Uesaka (Univ.Tokyo, Japan)

I.Ben-zvi (BNL, USA), W.Leemans (LBL, USA),
R.Ruth (SLAC, USA), Louis Rinolfi(CERN, Europe),
F.Zimmermann(CERN, Europe), Jongmin Lee(APRI, Korea),
B.Carlsten (LANL, USA), W.Gai(ANL, USA),
O.J.Louiten(U.Eindhoven, NL), J.Rosenzweig(UCLA, USA),
L.Serafini(U.Milan, Italy), S.Schreiber (DESY, Germany),
Tang Chuangxiang(China), B.Cros(Univ.Paris-Sud, France),
Patrick Muggli (USC, USA), Dino Jaroszynski(Univ. Strathclyde, UK),
A.Noda(Kyoto Univ., Japan), R.Hajima(JAEA, Japan)

Total: 19

America: 7

Europe: 7

Asia: 5

Workshop on Compton Sources for X/ γ Rays: Physics and Applications,
chaired by Prof.L.Serafini(INFN/Milano)
in Sardinia, Italy, on Sep.7-12, 2008



It was successfully held by nice chairpersonship of Prof.L.Serafini etc., having **about 80 leading scientists and students** in this and related fields. At the opening session, I, as the panel chair, explained our panel policies for suggestion on the quality upgrade of the endorsed workshops. Especially, our two panel policies of publication of contributions to prestigious journal after reviewing and awards to young scientists and students were perfectly performed. **Almost all contributions are going to be reviewed and published in NIM. Best oral- and poster-presentation-awards were selected and given.**

Newsletter is going to start up

S-band linac and application: L.Serafini, J.Louiten et al.

L-band linac including superconducting and application: S.Schreiber et al

X-band linac:Louis Rinolfi et al.

Medical physics application: Mitsuru Uesaka et al.

Compact linacs and industrial application:Tang Chuangxiang et al.

Inverse Compton scattering source and industrial application: R.Ruth et al.

High brightness beam and application: J.Rosenzweig et al.

Wakefield accelerator and application: W.Gai et al.

Extremely high RF accelerator and application: B.Carsten et al.

FEL application: R.Hajima et al.

ion cooling and application: I.Ben-zvi et al.

Laser plasma electron accelerator and application (Energy frontier, Pump-and-probe analysis, Intense photon science, FEL etc.): W.Leemans, B.Cros, Jongmin Lee, Dino Jaroszynski et al.

Beam plasma accelerator and application: P.Muggli et al.

Compact ion accelerator and application: A.Noda et al.

Topics on beam physics: F.Zimmermann et al.

The topics and contents are discussed to be integrated and published in a book

Candidate for ICFA endorsed Workshop

The Laser and Plasma Accelerator Workshop 2009 in Kardamyli, Greece

Dr. Patric Muggli(USC) and Dr. Bob Bingham(Rutherford)
Workshop co-chairs

A part of a very successful series of international workshops that **started in 1987** in **Malibu**. Since then, the workshop has been held in **Asia and in Europe (Kardamyli, Kyoto, Presqu'île de Giens, Portovenere, Taipei, Azores Islands)**.

The purpose of the workshop is to bring together the most recent results in **laser wakefield acceleration, plasma wakefield acceleration, laser-driven ion acceleration, and radiation generation produced by plasma-based accelerator beams**.

The last workshop was organized on the Azores Island of Terceira (<http://cfp.ist.utl.pt/lpaw07/index.php>) by the IST group from Lisbon, Portugal, and brought together over 80 participants.

A distinctive feature of the workshop was the small number of formal talks and the large number of working group sessions.

The 2009 workshop will be held from June 22 to 26,
and the program will be following the same model.

The workshop will be overseen by an international organizing committee and a program committee (see attached list) that include many of the leaders in the topics covered. Therefore most of the world leading research group will be represented.

The workshop will be organized around **four working groups**:

- 1) **Ions Generation,**
- 2) **Electrons Generation, Theory/Simulations,**
- 3) **Electrons Generation, Experiments,**
- 4) **Radiation Generation.**

The working groups will be **chaired by two (young) experts** in the specific fields. The topics cover experiments, simulations and theory.

As for the previous workshops, **a special edition of IOP Plasma Physics and Controlled Fusion will serve as proceedings** and will gather the essence of the results presented at the workshop, as well as the results that will emanate the four working groups.

At the workshop a **PhD Thesis Award** will be given to the best thesis in the field. The prize is named after the father of the field, the late **John M. Dawson**, and represents a important recognition of the contribution to the field by a graduate student.

Committees

International advisory committee:

R. Bingham (RAL, U.K.),
J Cary (U. Colorado, USA)
P. Chen (SLAC, USA),
C. Joshi (UCLA, USA),
T. Katsouleas (Duke U., USA),
W. Leemans (LBNL, USA),
C. S. Liu (U. Maryland),
J. T. Mendonça (IST, Portugal),
H. O. Moser (SSLS, Singapore),
G. Mourou (LOA, France),
P. Muggli (USC, USA)
F. Pegoraro (Pisa, Italy),
N. Andreev (RAS, RU)
P. Sprangle (NRL, USA),
T. Tajima (JAERI, Japan),
J. M. Vehn (MPI-G, Germany),

Organizing Committee:

P. Muggli (U. Southern California, USA), co-chair
R. Bingham (Rutherford Laboratory, UK), co-chair
L. Silva (IST, Portugal)
S. Martins (IST, Portugal)
M. Tzoufras (U. Oxford, UK)
T. Katsouleas (Duke U., USA)
S. Katsouleas (Kardamili)
The Mayer of Kardamili

International program committee:

S. Bulanov (General Physics Inst., Russia),
B. Cros (Paris, France),
D. Giulietti (Pisa, Italy),
E. Esarey (LBNL, USA),
M. Downer (U. Texas, USA)
P. Sukla (U. Bochum, Germany) ps@tp4.rub.de
H. Milchberg (U. Maryland, USA)
J. Fuchs (LULI, France)
K. Kruschelnik (U. Michigan, USA)
D. Umstadter (U. Nebraska, USA)
Mathias Marklund (Umea U., Sweden)
M.J. Hogan (SLAC, US)
S. Hooker (Oxford, U.K.),
D. Jaroszynski (Strathclyde, U.K.),
S. Kurokawa (KEK, Japan),
V. Malka (LOA, Ecole Polytechnique, France),
P. Mora (CPHT, Ecole Polytechnique, France),
W. B. Mori (UCLA, USA),
P. Mulser (UNI Darmstadt, Germany),
K. Nakajima (KEK, Japan),
Z. Najmudin (IC, U.K.),
P. Norreys (RAL, UK),
A. Pukhov (ITP, UNI D?sseldorf),
A. Robinson (UK)
L. Schachter (Technion, Israel),
L. Serafini (INFN, Milano, Italy),
L. O. Silva (IST, Portugal),
A. Ting (NRL, USA),
M. Uesaka (Tokyo, Japan)
V. Yakimenko (BNL, USA)
W. Lu (UCLA, USA)
J.-L. Gregory (UK)
M. Wiggins (Strathclyde U., UK)
Stefan Karsh (Germany)

Candidate for ICFA endorsed Workshop

“The Physics and Applications of High Brightness Electron Beams”

Chaired by Jamie Rosenzweig,
for co-chairs Gigi Palumbo and Mitsuru Uesaka

to be held in at the Westin Maui Resort,
Maui, Hawaii, November 16-19, 2009.

which is being proposed for **endorsement by the ICFA Panels on Beam Dynamics and Advanced & Novel Accelerators.**

the latest in the joint tradition of the “Arcidosso” (XFEL) and High Brightness Beam series, and is the direct heir to the last workshop in the series, held in Erice, Sicily

The workshop mission is given in the following statement:

High brightness electron beams are playing an increasingly critical role in two frontier fields that are now yielding results that provoke considerable excitement and activity across the scientific community: **radiation generation methods and advanced acceleration schemes**. Such cutting edge radiation production methods include variations on the revolutionary **4th generation device, the free-electron laser, as well as inverse Compton scattering (ICS) of intense lasers**. These diverse approaches are thus able to create high peak and high average power light sources, **with applications in ultrafast sciences and the Angstrom level, as well as in nuclear and high-energy physics**. Likewise, high brightness beams are at the center of many future accelerator schemes, e.g. based on high gradient electron and laser wakefields. Indeed, **laser wakefields** are now entering the proof-of-application phase, where unique light sources based on advanced acceleration schemes are enabled. **The goal of this workshop is to provide a comparative study of the generation, manipulating, modeling and measuring of high brightness electron beams, and the multitude of underlying, interdisciplinary methods linking the physics of these beam systems to the physics of advanced applications.**

Preparation

1. **The registration fee** will be \$450 US and will support the conference infrastructure, refreshments, attendance of young scientists and students, and publication of the conference proceedings. We will also be looking to organizing committee members to encourage contributions to the workshop organization.
2. The cost of the **hotel** rooms has been aggressively negotiated to be reduced to \$209/night
3. The program is now being prepared, and will include invited and contributed plenary talks in the mornings, with the afternoons dedicated to **working groups**.
 - 1)**Sources, including photoinjectors and plasma-based sources**
 - 2)**Manipulation and diagnosis of high brightness beams**
 - 3)**Theory and modeling, simulation challenges**
 - 4)**Applications of high brightness beams in advanced accelerators and light sources.**
1. We are discussing that **the proceedings will be published by World Scientific; a special issue of PRST-AB** dedicated to the workshop is also foreseen.