

# Workshop on Compton Sources for X/g Rays: Physics and Applications

Alghero (Porto Conte), Italy, September 7-12, 2008

## Preliminary timetable (September 3)

### *Day 1, Monday 8*

9:00-9:30 Introduction and Workshop overview, 30 minutes

9:30-10:15 Invited (“Introductory tutorial”, James B. Rosenzweig, UCLA, USA)

10:15-11:00 Invited (“Compton source and nuclear photo-science application”, Chris Barty and Craig Siders, LLNL, USA)

11:00-11:30 *Coffee*

11:30-12:15 Invited (“The Compact Light Source: A Miniature Synchrotron producing x-rays with Inverse Compton Scattering”, Ronald Ruth, Lyncean, USA)

12:15-13:00 Invited (“The Thomson Source at INFN-LNF and its foreseen applications, as part of the SPARC&PLASMONX National Projects”), Luca Serafini, Milan University, Italy)

13:00 *Lunch*

16:45 – 17:00 *Coffee*

17:00-17:45 Invited (Experience with synchrotron light source and comparison, Marie Couprie, Synchrotron SOLEIL, France)

17:45-18:15 Oral (“Dependence of edge-enhancement-index on experimental”, B. Golosio)

18:15-18:45 Oral (“Development of Compact Hard X-ray Source via Laser Compton Scattering at AIST”, R. Kuroda)

18:45-19:15 Oral (“Design study of compact Compton X-ray sources for material and life sciences applications”, Y. Maslova)

### *Day 2, Tuesday 9*

9:00-9:45 Invited (“Imaging Applications”, Kawakatsu Yamada, National Institute of Advanced Science and Technology, Japan)

9:45-10:30 Invited (“Coherent imaging”, John Miao and Kevin Raines, UCLA, USA)

10:30-11:00 Oral (“Compton Scattering Monochromatic Tunable X-ray Source based on X-band Multi-bunch linac at the University of Tokyo”, F. Sakamoto)

11:00-11:30 *Coffee*

11:30-12:00 Oral (“Recent Progress in Generation and Application of AIST Laser-Compton Photon Beam”, H. Toyokawa)

12:00-12:30 Oral (“Phase contrast medical imaging with compact X-ray sources: towards clinical applications”, P. Coan)

12:30-13:00 Oral (“Application of monochromatic keV X-ray source to X-ray drug delivery system development”, M. Uesaka)

13:00 *Lunch*

16:00 – 17:00 *Poster + Coffee*

17:00-17:45 Invited (“Medical imaging in radiotherapy”, Riccardo Calandrino, IRCCSU San Raffaele)

17:45-18:15 Oral (“Clinical mammography with synchrotron radiation and the new digital development”, L. Rigon)

18:15-18:45 Oral (“Theoretical considerations for x-ray phase contrast mammography by Compton source”, A. Cedola)

18:45-19:15 Oral (“Tsinghua Thomson Scattering X-ray Light Source”, C. Tang)

### ***Day 3, Wednesday 10***

9:00-9:45 Invited (“Laser Super-cavity”, Junji Urakawa, KEK, Japan)

9:45-10:15 Oral (“Multi-disciplinary experiments with hundred TW class Ti:Sa lasers”, D. Giulietti)

10:15-10:45 Oral (“Laser-plasma electron accelerator for all optical inverse-Compton x-ray source”, K. Koyama)

10:45-11:00 *Coffee*

11:00-11:45 Invited (“HARP (High-gain Avalanche Rushing amorphous Photoconductor) detector”, Kenkichi Tanioka, NHK, Japan)

11:45-12:15 Oral (“Stand-off Detection of Nuclear Materials Using Inverse Compton Scattering Generated Gamma-Rays”, S. Boucher and G. Travish)

12:15-12:45 Oral (“Detection of radioactive isotopes by laser Compton gamma-ray beams”, R. Hajima)

13:00            *Lunch + Social Excursion in the afternoon*

#### ***Day 4, Thursday 11***

9:00-9:45 Invited (“Simulations for linear and fully nonlinear Thomson Scattering with TSST code”, Paolo Tomassini, Pisa University, Italy)

9:45-10:30 Invited (“Non linear effects”, Fred Hartemann, LLNL, USA)

10:30-11:00 Oral (“High Finesse Fabry Perot cavity R&D at Orsay”, F. Zomer)

11:00-11:30            *Coffee*

11:30-12:15 Invited (“Linac e+ source for ILC, CLIC”, V. Yakimenko, BNL, USA)

12:15-12:45 Oral (“The LAL Compton Program”, A. Variola)

13:00            *Lunch*

16:00 – 17:00            *Poster + Coffee*

17:00-17:45 Invited (“An overview of emerging scientific applications of synchrotron radiation: biomedical imaging, radiation therapy, paleontology and cultural heritage”, Alberto Bravin, ESRF, France)

17:45-18:30 Invited (“Characterization Results of the BNL ATF Compton X-ray Source Using K-edge Absorbing Foils”, Oliver Williams, UCLA)

18:30-19:00 Oral (“Polarization effects of electron and photons in the Thomson scattering X-ray source”, C. Tang and Y. Du)

#### ***Day 5, Friday 12***

9:00-9:45 Invited (“Compton Ring/ERL Polarized Positron Source for ILC/CLIC”, T. Omori, KEK, Japan)

9:45-10:15 Oral (“Ultra-High brightness electron beams by plasma based injectors for all optical free electron lasers”, V. Petrillo)

10:15-10:45 Oral (“X-Ray spectra reconstruction from analysis of attenuation data: a Back Scattering Thomson Source application”, P. Delogu)

*10:45-11:00 Coffee*

11:00-11:45 Invited (“Compact Systems and Application for Water-Window X-rays”, Masakazu Washio, Waseda University, Japan)

11:45-12:15 Oral (“Guiding of X-rays from Inverse Compton Scattering as a Means to Enhance Flux and Brightness”, A. Gover and G. Travish)

12:15-13:00 Concluding Remarks