



## What we're here to do



1. Hear some good News
2. Review Goals of the Study
3. Hear plans from the International Steering C'ttee.
4. Plan future Workshops
5. Give credit to those who deserve it.



## Good News



1. US DOE has put the international linear collider first on its medium term priority list.
2. UK PPARC has been advised to put £7.2M into an LC Beam Delivery System study, 2004-2007.



## Goals of the Study



*Requested* by OC+conveners' meeting in CERN, 3 July.  
Drafted by Klaus Desch, Albert de Roeck, DJM,  
*et al* (esp. Philip Bambade). See websites for text.  
Further improvements invited. We should continue to  
move these goalposts if we want to win the game.

### International

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- to contribute to the development of a Global Linear Collider programme by encouraging international collaboration on the physics case, on detector R&D and on the machine-detector interface.
- to participate in the international LCWS workshops (the Saariselka series).
- to explore ways of co-ordinating and *perhaps integrating the regional and worldwide workshop series.*



## Goals of the Study



### Detector design, R&D, Simulation

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- to design, build and test detector prototypes (with inter-regional collaboration).
- to maintain the detector design, and critically review its performance on all important physics channels.
- to build up a modern simulation framework (both for detector and physics studies) sharing resources with the other regions whenever possible.
- *to prepare all tools necessary for a "simulated data challenge".*  
(Ties will say something here)



## Goals of the Study



### Machine-Detector Interface

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- to study the impact of realistic beams and the associated backgrounds on the detector.
- *when the linac technology and crossing angle choice are made, to update all designs to match.*
- to interact with the designers of the beam delivery system, ensuring that physics goals can be achieved.
- to participate in planning and R&D for polarimetry, beam energy measurement, beam monitoring, luminosity measurement.
- to study the special requirements of the gamma-gamma, e-gamma and GigaZ options.



## Goals of the Study



### Physics Case

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- to co-operate with LHC colleagues to develop and present the arguments for concurrent running of LC and LHC.
- *to explore the connections between the LC physics programme and cosmology.*
- to continue to upgrade feasibility studies on important physics channels, with more realistic beam, background and detector simulation.
- *before the linac technology choice is made, to explore any differences between the physics capabilities of the candidate technologies.*

*continued.....*



## Goals of the Study



### Physics Case - *continued*

- to study quantitatively the potential systematic limitations on measurements and look for ways around them.
- *to quantify the physics benefits from options to upgrade or vary the LC programme:* from the energy upgrade, from the  $e^- e^-$ ,  $e^- \gamma$  and  $\gamma \gamma$  options, from the Giga Z option, from  $e^+$  polarisation, from narrower beam energy spread, from better polarimetry and spectrometry.
- in the Loopverein, to continue improving the precision of Standard Model
- and Supersymmetric predictions to match the expected precision of experimental measurements with the LC.
- to continue to investigate new theoretical ideas, both strategic and methodological.
- to continue development of Monte Carlo generators suitable for LC physics.



**ILCSC**



Meets next week in Paris. Two main tasks -

to appoint the panel of 12 wise persons who will make the technology choice by the end of 2004, and to agree its charge.

to consider how to establish the "pre-Global Design Group", to start co-ordinating design and R&D - immediately after the technology choice has been made.



## Future of our Studies



Organising Committee and conveners meet over lunch on Saturday.

*Let them have your new ideas before then.*

*ACFA workshop, Mumbai 15-17 Dec.; N.A. SLAC 7-10 Jan.*

LCWS2004 will be in Paris 19-23 April. Just inviting conveners + plenary speakers (Ed Witten has accepted). Includes special Particle Physics exhibition with Outreach day on Saturday 24.

Next ECFA Study pencilled in for Durham, UK, ~16-19 September 2004. *Any problem with these dates?*

What next? LCWS or ECFA workshop in Spring 2005?

Do we ask ECFA to continue Study beyond Spring 2005?



## Credits



Thanks to Abdelhak Djouadi for inviting us here.

(Also; thanks to Jan Kalinowski for inviting us to Warsaw next autumn. Decided on Durham instead because we had not been to UK as recently as to Poland.)

**And thanks to the retiring conveners and OC memebbers from the ECFA/DESY Study:**

*Abdelhak Djouadi, Marco Battaglia, Herbie Dreiner, Sylvie Rosier-Lees, Graham Wilson, Werner Bernreuther, Manel Martinez, Stefan Söldner-Rembold, Fred Jegerlehner, Martin Leenen, Stavros Katsanevas, Peter Zerwas, Walter Majerotto, George Gounaris, Sergio Bertolluci – apologies to any left out!*

*Welcome to Tiziano Camporesi, who takes Marcello Piccolo's place on the Worldwide Study O.C. - and to Marcello as a new member of the ECFA Study O.C.*