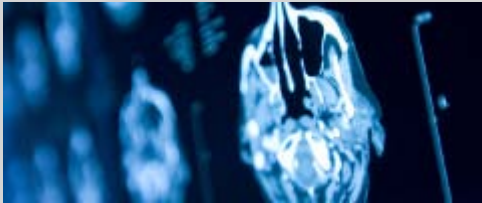


**The ILC is a gateway to technology**

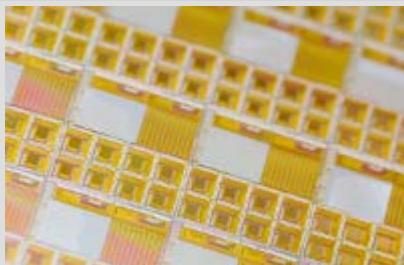


The science community wants to build the ILC to answer some of the most fundamental questions about the universe and the laws that govern it. A new brochure looks at a number of other answers the ILC may bring: those from technologies developed for the project that can benefit all of society in many different areas. This issue of NewsLine is a special on the possible benefits from the ILC and other particle physics projects.

**Feature Story**

**From Symmetry Magazine: Particle physics benefits: Adding it up**

Stories abound about how particle physics benefits education, the economy, and society as a whole. Quantifying those benefits would help particle physics better demonstrate its value to the country.



The semiconductor industry relies on accelerator technology to implant ions in silicon chips, making them more effective in consumer electronic products, such as computers, cell phones, and MP3 players. Photo: Reidar Hahn, Fermilab

As a lead machinist at Argonne National Laboratory, Frank Meyer recognized the need for industry to supply complex equipment for scientific research. So in 1966 he started Meyer Tool & Manufacturing on a part-time basis in his garage. Three years later, he left Argonne to expand his machine shop into a full-time manufacturing facility.

[Read more...](#)

-- Elizabeth Clements, Fermilab

**BlogLine**

4 April - [Tony Hartin](#)  
[Physics and Mathematics](#)

**Feature Story**

**ILC: Innovation-Led Cooperation?**

Study and brochure highlight potential technological benefits



The many different systems and parts of the ILC are likely to produce technologies beyond fundamental science.

New science project in their planning stages are a bit of a hothouse for new ideas, innovative solutions and maybe even breakthroughs in technology. The ILC is right in the middle of this stage: R&D is in full swing, scientists pursue various solutions to meeting the high demands of the machine and detectors. No wonder then that people are already thinking of ways to transfer the technologies developed for the different areas of the ILC to other projects or disciplines: medicine, biology, drug research, computing, environment and many others.

[Read more...](#)

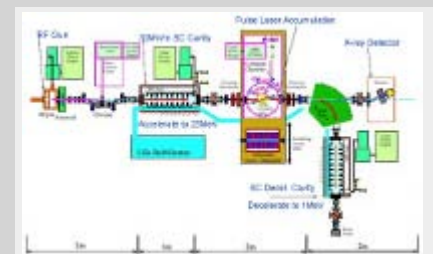
-- Barbara Warmbein

**In Brief**



**Director's Corner**

**Technological Benefits from ILC R&D**



Quantum Beam Project at KEK will use ILC superconducting RF technology to develop a compact 25 MV SC accelerator with beam current (9mA) and pulse length (1ms) similar to the ILC for medical and pharmaceutical applications

We are pursuing a very ambitious R&D programme in order to develop the technologies that will be required to build the International Linear Collider. Recognising that important technological benefits are resulting from our ILC R&D programme, the Funding Agencies for Large Colliders (FALC), a group composed of representatives of national science funding agencies worldwide, commissioned a study. The aim was to explore the potential wider benefits of ILC technological developments to industry, the larger scientific community and society at large. They have produced a report, "[Technology Benefits deriving from the International Linear Collider](#)," along with a new companion brochure, "[Gateway to Technology](#)," being released with this issue of *ILC NewsLine*, provides informative summaries of some broader benefits to society resulting from our work.

[Read more...](#)

Physics I enjoyed because it was mysterious, it was about the world and it involved maths...

3 April - Frank Simon

[Sun shines at the TeraScale](#)

Particle physicists, including myself, have high hopes that something new, maybe even unexpected, turns up at this new energy scale, which will show us how physics looks like beyond our current understanding.

1 April - Tony Hartin

[Kaos \(theory\) on Wall Street](#)

Is it really true that lapsed physicists who work in financial institutions applying physics to stock market modelling have caused the current world economic turmoil?

31 March - Frank Simon

[An Ambush... And some Thoughts about the ILC](#)

Working together across continents and across different cultures and time zones is thus part of the everyday life of particle physicists, something I don't want to miss.

[Follow all Quantum Diaries](#)

## Calendar

### Upcoming meetings, conferences, workshops

[Joint ACFA Physics and Detector Workshop and GDE Meeting on International Linear Collider \(TILCO9\)](#)

Tsukuba, Japan  
17-21 April 2009

[Particle Accelerator Conference 2009 \(PAC09\)](#)

Vancouver, Canada  
4-8 May 2009

[11th European Symposium on Semiconductor Detectors](#)

Wildbad Kreuth Conference Center, Bavaria, Germany  
7-11 June 2009

[ILC-CLIC LET Beam Dynamics Workshop at CERN](#)

CERN, Switzerland  
23-25 June 2009

### Upcoming schools

[Terascale Monte Carlo school 2009](#)

DESY Hamburg, Germany  
20-24 April 2009

The Letters of Intent (LOIs) for the three ILC [detector concepts](#) were submitted on 31 March 2009. These documents are now publicly available:

- International Large Detector ([ILD](#))
- Silicon Detector ([SiD](#))
- 4th Concept Detector ([4th](#))

For more information:

- Read "[Physics and Detector](#)" pages on the ILC website.
- Read also "[IDAG prepares to review Letters of Intent](#)" (*ILC NewsLine*, 4 December 2008)

## In the News

From *Discover Magazine*  
4 April 2009

### Where Do Old Colliders Go to Die?

With the LHC's ascendancy also comes a seismic shift in the pecking order of particle physics as once-great colliders suddenly become also-rans

[Read more...](#)

From *Scientific American -60-Second Science*

4 April 2009

### How Can We Peer Closer to the Beginning of the Universe?

"Within Einstein's theory of general relativity, the big bang is a singularity—we can't go beyond that singularity."

[Read more...](#)

From *Cern Courier*  
April 2009

### Knowledge transfer: from creation to innovation

A study of five LHC experiments – ALICE, ATLAS, CMS, LHCb and TOTEM – provides an insight into how knowledge is generated and transferred as a result of the collaborative nature of scientific and technological processes.

[Read more...](#)

From *Cern Courier*  
April 2009

### LHC consolidation work proceeds apace

The consolidation campaign for the LHC, which aims to ensure a safe final commissioning and reliable running of the collider is now well under way.

[Read more...](#)

From *Cern Courier*  
April 2009

### Jefferson Lab starts its 12 GeV physics upgrade

-- Barry Barish

## Director's Corner Archive

## Announcements

### Have you transferred?

Do you have an example of technology transfer that is directly linked with work done on the ILC? Then please [let the communicators know](#) about it!

### 4th POSIPOL Workshop

The fourth edition of POSIPOL workshop series will take place this year from 23 to 26 June at IPNL, Lyon in France. The workshop addresses the progress realised in the generation of polarised positron sources dedicated to the future electron-positron colliders (ILC, CLIC, Super B). New methods, like those using channelling radiation in oriented crystals, being of interest for unpolarised sources, will also be discussed. The workshop is open to experts in particle and accelerator Physics concerned by the research and development on future positron sources.

More information at:

[posipol2009.in2p3.fr](#)

### arXiv preprints

[0904.0166](#)

Grid porting of Bhabha scattering code through a master-worker scheme

[0904.0122](#)

Polarimeters and Energy Spectrometers for the ILC Beam Delivery System

### EUROTeV Reports

[2008-070](#)

EUROTeV WBCM final report

[2008-071](#)

EUROTeV PBPM final report

[2008-072](#)

A Prototype S-Band Cavity BPM System for the ILC Energy Spectrometer

[2008-073](#)

ILC Crab Cavity Phase Control System Development and Synchronisation Testing in a Vertical Cryostat Facility

[2008-074](#)

[School on Calorimetry at the International Linear Collider](#)  
China Center of Advanced Science and Technology, Beijing, China  
22-26 April 2009

---

[GDE Meetings calendar](#)

[View complete ILC calendar](#)

The resulting 12 GeV facility – with upgraded experimental halls A, B and C and a new Hall D – will provide new experimental opportunities for Jefferson Lab's 1200- member international nuclear-physics user community.  
[Read more...](#)

BDS Deliverable 3: Prototype Intra-Train Feedback Stabilisation and Scanning System