The International Connections.

The Start Of The International Trail.

- At SLAC we decided that the lab should try to follow the CERN example of building the detector, and carrying out the science program within a large international partnership.

- With this encouragement, I made several trips to CERN.

- I then worked with our lab staff to translate that experience into something that we could manage at the lab.

- **Another Cern visit, this time with Jonathan Dorfan to meet with Lorenzo Foa and Marcello Giorgi.**

* **This was a successful trip, beginning a fruitful discussion with the INFN HEP community.**

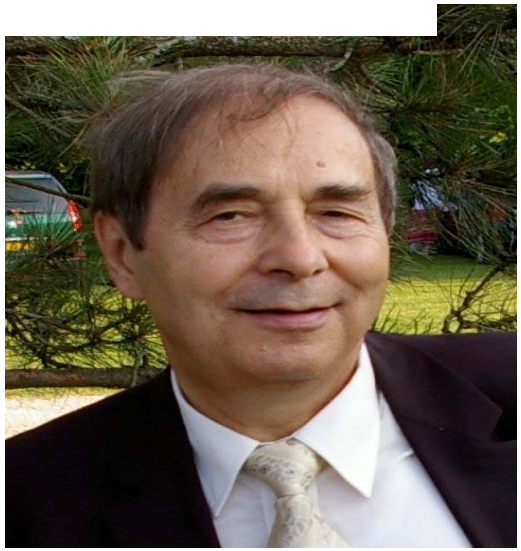
1992

* Next day, we went to Paris, to explore with the French community. We met with Jean Paul Reppelin [IN2P3]. He advised contacting Guy Wormser at Orsay and Jaques Cheveau at Paris VI.

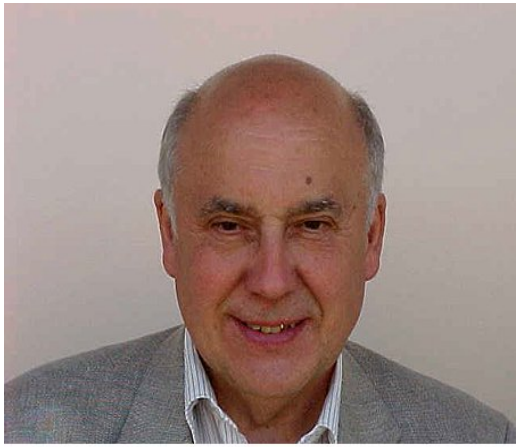
* We met Roy Aleksan, and his team, at Saclay. He was very interested to join the project, and was sure that Saclay would bring financial and engineering resources in addition to those from IN2P3.

And indeed they did !

The International Advisory Committee.

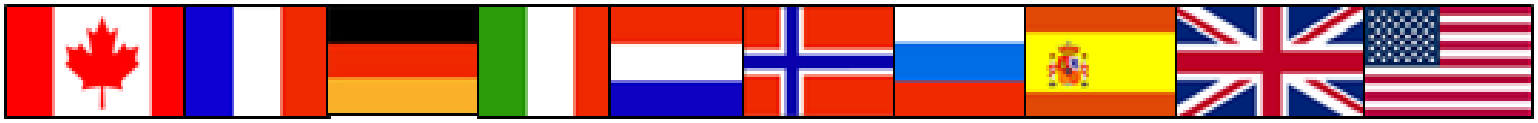


- **Another trip to CERN to meet the non-US members of our interim International Advisory Committee.**



Gabathuler, Erwin

1994



* **This CERN visit also included useful discussions with the International Advisory Committee on setting up both an international technical review committee and an international finance committee.**

- **Although a lot of this meeting was with the Int. Adv. Group, I also benefitted greatly from long conversations with CERN staff. In addition to Pierre Darriulat and Lorenzo Foa, David Williams, Richard Mount and Hans Jurgen Hilke were specially helpful.**

1994

The International Advisory Committee.

Doug Stairs [**Canada**] who was at DESY on sabbatical,
Lorenzo Foa [**Italy**]
Michel Davier and Jaques Haissinski [**France**]
Konrad Kleinknecht [**Germany**]
Erwin Gabathuler [**UK**] –
Garry Feldman [**US**]
Uriel Nauenberg [**US**]
Pierre Oddone [**US**]
Stew Smith [**US**]
David Leith [**SLAC**]

recruited to help the lab and the BaBar collaboration, to identify an interim International Steering Committee, and a formal inter-national technical advisory, and a finance review committee structure.

1994

The International Steering Group

MacFarlane	[Canada]
Fry	[UK]
Aleksan	[France]
Giorgi	[Italy]
Schubert	[Germany]

Hitlin	west
Witherell	west
Roe	LBL
Schindler	SLAC
Oreglia	mid
Marlowe	east

Dorfan (ex officio)

1994

The Steering Committee –

* advised on the **R&D program**;
* helped in choosing the **EXEC BOARD**;
* wrote the draft **governance document** and socialized it within the collaboration;
* choose the first **collaboration council**;

which, in turn, - chose a **Nominating Committee** to choose the **Spokesman**;

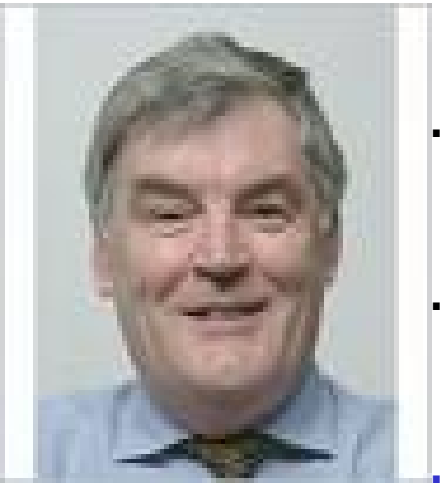
- **passed** the **Governance** document;
- **ratified** the **Spokesman** selection;
- ratified the **EXEC BOARD** selection.

And BaBar was off and running !

And this Steering group dissolved.

1994

- **David Hitlin and I took a four day, four nation trip to visit the HEP agencies in the countries we hoped would become the backbone of our International Finance Committee.**



. **Ian Corbett and George Kalmus in London;**

. **Jaques Haissinski and Jean Paul Repellin in Paris;**

. **Herman Shunk and Klaus Schubert in Bonn;**

. **and Sandro Bettini together with Marcello Giorgi and Cesare Voci in Padova.**

- **It was a very successful trip.**

The IFC in 1995:

Sandro Bettini	Italy
Bob Carnegie	Canada
Ian Corbett	Great Britain
Jaques Haissinski	France [IN2P3]
David Hitlin	BaBar Spokesman
Jerry Jobe	SLAC BSD
David Leith (chair)	SLAC Research Director
John O'Fallon	DOE/OHEP
Jean Paul Repellin	France [Saclay]
Herman Schunk	Germany

1995

The IFC evolved over time with the following replacements serving for their respective regions -

France - **Claude Detraz, Joel Feltesse, Bernard d'Allemange and Guy Wormser for IN2P3 ;**

Catherine Cesarsky, Michel Spiro, Bruno Mansoulie and Ursula Bassler for CEA ;

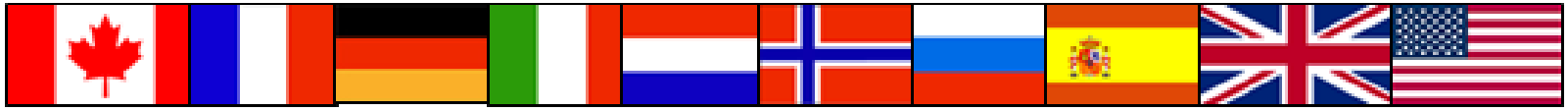
Germany - Dieter Mueller and Frau I. Reinhard

UK - **George Kalmus, Ken Peach, John Wormersley, Norman McCubbin, Nicolo de Groot and Fergus Wilson.**

US - **Robin Staffin and Dennis Kovar**

Canada - **Mike Roney**

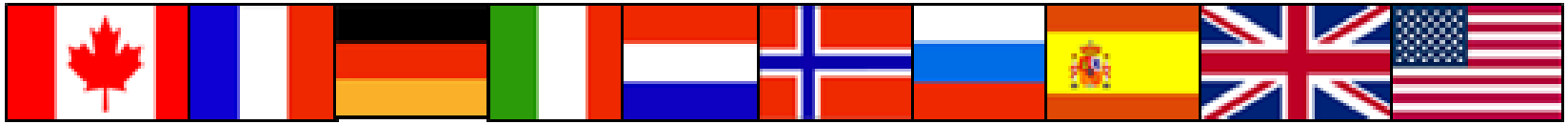
1996/2008



International Technical Review Committee.

Paul Avery	U Florida
Chris Bebek	LBL Berkeley
Ed Blucher	U of Chicago
Marty Breidenbach	SLAC
Jim Christenson	FNAL
Misha Danilov	ITEP Moscow
Gil Gilchriese (chair)	LBL Berkeley
Werner Hofmann	MPI Heidelberg
George Kalmus	Rutherford Lab
Bob Kephart	FNAL
Leonardo Rossi	INFN Genoa
Pekka Sinervo	U. Toronto
Gerard Smadja	U. Lyon
Stew Smith	Princeton U.
Paul Tipton	Yale U.
Weiguo Li	IHEP Beijing

1994/2002



Computing

* By the second half of 2000, it was clear that the cost of BaBar computing and data analysis would become impossibly expensive for SLAC with the increased luminosites delivered by PEP II.

* Jonathan proposed that the computing costs beyond that required for the design luminosity be carried by the whole collaboration.

* The Gilchreise Com. and the IFC were asked to review the computing situation, and eventually accepted the model proposed by the BaBar collaboration.

2000

- **Guy Wormser came forward with a persuasive argument on how the IFC should share these extra costs, with a very clever algorithm for encouraging contributions 'in- kind'.**

- **The scope of the cost estimate included the hardware acquisition costs of the additional required devices, their support software and licenses. The tape and disc media dominated the costs. Careful estimates were made for latencies. The proposal set up a standing committee to examine and review twice per year, and report to the IFC. Richard Mount produced the complicated costs analysis, which adequately persuaded the reviewing bodies.**

* **A Computing Model Working Group was created to do these twice yearly reviews, initially chaired by Richard Mount.**

- **The original model had SLAC and Lyon [IN2P3] as the Tier A sites. But Mauro Morandin worked to bring on Padova as a new Tier A site, and before long, Karlsruhe Germany, RAL UK and Canada all had Tier A sites.**

- **Mauro took over the chair of the Computer Model Committee in 2004, and held that role until the end.**

- **This was perhaps the greatest achievement of the IFC ! It built on the large investment by everyone on grid computing, and good networking, but was the first successful large scale production distributed computing in HEP. And it would not have worked without the IFC !**

Our International partners and the IFC.

* They certainly were a great gift to SLAC in bringing this kind of international partnership to the lab.

* It was a help financially, but it was more – much more.

* It brought a very large, strong international community to the lab, which changed its culture !

* It brought a different kind of management layer into the lab, different from DOE, and different from the university, but very involved in our success.

* And I think we were lucky – with the timing; the LHC committees are very large, and find it very hard to work in the collegial, partnering, way our IFC could.

a big thank you to all who helped in the B Factory story, but for this talk …

……. specially to our ……..

international partners !

Thank You.

THE END

Milestones.

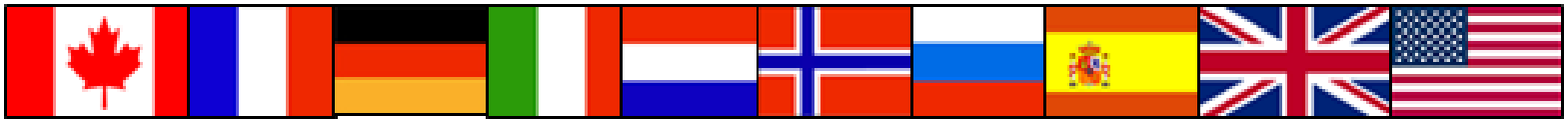
LOI June 1994

TDR May 1995

Gilchreise Review summer 1995

Lehman baseline budget November 1995

Detector assembled and tested, BaBar ready to go onto beam line.



cost of BaBar	$ 60 M
Common Fund	$ 7.7 M to US
	68 M
Other	38 M
Total	106 M (or $ 7.5 M per annum)

Operating was ~ $ 5 M per year, growing to $ 7 m when computing grew.

Investment into SLAC by IFC is 12x 6x0.5 ~ $ 36 M

An annual income to the lab to support one of their programs at ~ $ 6 M over twelve to fourteen years.

BaBar

At this time BaBar was 10 countries, 78 institutions and 483 members.

It had a collaboration Council chaired by Piemontse, with Wilson as deputy,
Hitlin as Spokesman, and Aleksan as deputy,
Luth as Tech Coord and Bob Bell as Chief Eng

Exec Board with Macfarlane, Wormser, Schubert, Giorgi, Fry, McDonald, Seiden, Witherell, Pripstein, and Dorfan.

Tech Board with Luth, Bell, Haller, Quarrie, Lynch, Dorfan, O'Neill and system managers.

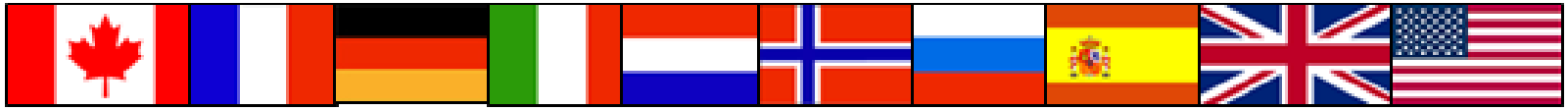
1996/7

The Lab's "Other Connections Come" To The Rescue.

The fabrication of the s/c cable for the BaBar solenoid had problems at the beginning, and then the actual coil winding had troubles, resulting in a serious threat to the detector assembly schedule.

In steps our friend Sid Drell with his connections to the US armed forces. He was able to arrange a 'training flight" for a C5A crew to Italy to pick up the completed s/c coil, and have it dropped off at Moffet Field to be transported by truck (when the roads were not
busy) to SLAC. [December, 1997]

In good time to preserve the BaBar schedule !



The iron order for the flux return for the BaBar magnet went to Kawasaki Heavy Industries, who did a magnificent job.

The BaBar assembly schedule was very tight and we arranged an incentive clause for faster completion, which they did ! This meant another telephone IFC meeting to approve a second increase on Common Fund costs – as usual with this group, they returned a supportive vote.

Kawasaki delivered within a year, matching the air force delivery of the s/c coil from Italy, allowing assembly and field measurement in spring of ’98, and detector ready to move on to beamline a year later.