

Michel Davier chairs the International Detector Advisory Group

Michel Davier, senior French physicist at LAL and Professor at University Paris-Sud 11, will chair the International Detector Advisory Group (IDAG) of the ILC project. "It is an honour for me to serve the ILC project, especially in this particularly interesting stage when the experimental landscape is being established," says Davier. He has worked on electron-positron colliders for more than 30 years and he was LAL director for ten years in the eighties. Playing a leading role in particle physics in France, especially within the CELLO (DESY), ALEPH (CERN) and BaBar (SLAC) experiment collaborations, he is also a member of the French Academy of Sciences. In another aspect of his scientific career, he has been one of the leaders of the French-Italian Virgo project aiming at the detection of gravitational waves with a giant interferometer, thus sharing common scientific background with Global Design Effort Director Barry Barish, former director of the LIGO project in the US.

As a physicist, Davier's interest lies in data analyses and particle physics phenomenology. His primary expertise is less in detector construction, but he knows very well how important the performance of detectors is with respect to the quality of data and of the physics results. Among other topics, he is a specialist of the tau lepton, a very transient particle that decays quickly in the first layers of a detector. To understand this particle's behaviour, he had to push the understanding of detectors to its maximum, especially at ALEPH, one of the four experiments of CERN's previous accelerator LEP.

The IDAG will have to examine the detectors in terms of physics performance and the capability of the research groups to conduct the necessary studies. Davier sees two major challenges in the task he has been assigned to. First, the ILC is expected to operate with two detectors in push-pull configuration and these will need to be as complementary as possible. "How you define 'complementary' is of course difficult, but I think it will be one of the roles of IDAG to orientate the detector collaborations toward this final goal." They will have the tough task to converge on a good compromise between general-purpose detectors and more specialised ones, even though we don't know in advance the new territories that will be explored.



Michel Davier, physicist at LAL in Orsay, France, will chair the International Detector Advisory Group.

The second challenge for IDAG will be to validate the Letters of Intent for the detector groups without freezing the chosen technologies completely. "We know that some teams work on detector R&D that may not be mature enough to be included in the initial detector designs. We must encourage the most promising ones to continue their work, because we want to build ambitious detectors for this future machine. Also we need to keep some flexibility in case LHC first results indicate some desirable changes in the designs," says Davier.

IDAG members come from detector, theory and accelerator communities. The main reason why this group needs accelerator experts is that the machine-detector interface is a very important topic at the ILC. "It is always the case for collider experiments, but maybe it is much stronger with the ILC than with any previous machine. Because of the beam's unusual parameters, the detectors will endure severe radiation and backgrounds, especially at low angles," says Davier.

Davier is very enthusiastic about the ILC project. First, he thinks that whatever the LHC results will indicate, the ILC will definitely be the major instrument for the future of particle physics, especially in its relationship with the early universe. He is also thrilled by the truly international collaboration around the project. "I already know many of the collaborators of the ILC community and I have some prior experience on how the different labs work since I took part in scientific evaluation committees at DESY, SLAC, Frascati, KEK, CERN, IHEP-Beijing, LIGO and a few more, but now I'm facing something new: the geographic extension of the project, since the beginning, is much bigger than ever before, which also makes it very attractive to me."

During the last [TILC08](#) meeting, Sakue Yamada, ILC Research Director, announced the nearly full list of the IDAG members, as approved by the International Linear Collider Steering Committee (ILCSC). The first IDAG meeting will take in place during the next [ILC European Committee for Future Accelerators \(ECFA\) workshop](#) in Warsaw.

-- Perrine Royole-Degieux