

Giancarlo Bernasconi short CV

Giancarlo Bernasconi was born in Buenos Aires in 1964. He graduated in Electronic Eng. (Politecnico di Milano) in 1988, and then he joined the remote sensing and digital signal processing group at the “Dipartimento di Elettronica, Informazione e Bioingegneria” (DEIB).

From 2002 G. Bernasconi is associate professor of geophysics.

GB research is multidisciplinary, with contributions in the following topics:

- ✓ utilization of the drill bit as a seismic source (Seismic While Drilling), optimization of the mud pulse telemetry, automatic tracking and monitoring of the bit.
- ✓ development of efficient seismic modeling tools, based on a regridding of rays and on the integration of local full elastic responses with efficient ray tracing propagators.
- ✓ joint inversion of multidomain geophysical data, with practical solutions to the regularization and ill conditioning problems
- ✓ pipeline monitoring by processing vibroacoustic data recorded on a discrete number of points along the conduit
- ✓ design and development of acoustic radars for the remote detection and classification of inner pipe deformations (buckles)
- ✓ application of machine learning techniques for the monitoring of fluid production and transportation systems

The research activity is supported by private and public institutions, with 5 patents filed and important technological transfers to industrial products: the Eni Vibroacoustic Pipeline Monitoring System (e-vpms) is detecting leaks on more than 2000 km of pipelines, the SAIPEM Integrated Acoustic Unit (IAU) permits the remote identification and localization of pipe deformations during pipe laying operations.

G. Bernasconi published more than 90 papers in international journals and conferences.

G. Bernasconi is associate of ARESYS, a spin off of Politecnico di Milano.