



**UNIVERSITÀ
DEGLI STUDI
DI BERGAMO**

prof. Claudio Giardini

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Researcher at the Mechanical Engineering Department at Engineering Faculty of Brescia University, since 13th October 1986, confirmed since 28th October 1989.

Associated Professor in the ING/IND-16 scientific sector, namely: "Technologies and manufacturing systems" at the Mechanical Engineering Department at Engineering Faculty of Brescia University, since 1st March 2001. Confirmed as Associate Professor since 1st March 2004. Transferred at the Design and Technology Department at Engineering Faculty of Bergamo University. Full Professor at the same Department since 1st October 2006, confirmed since October 2009.

He was Dean of the School of Engineering of the University of Bergamo from January 2015 to June 2018.

He is President of the Quality Assurance Board of the University of Bergamo from January 2019.

Teaching activities were carried out at Brescia University and Bergamo University, and at the Engineering Faculty of Lecco and Bovisio of the Polytechnic of Milan. The main courses were: Mechanical Technologies, Machine Tools, Quality Industrial Management I and II, Mechanical Technologies II (CNC machines and non-conventional machining), Manufacturing Technologies and Machines. He held lessons in "Maintenance" and "Textile" Masters at Bergamo University and "Scholastic Managership" at several Universities.

The research fields of interest are:

- the plastic deformation processes of metal: deep drawing, stamping, extrusion forging, extrusion, ring test, tube rolling and drawing;
- innovative sheet and tube metal processes (incremental forming and hydroforming) for which he designed and developed several experimental and lab equipment;
- preliminary studies of formability in incremental forming of high strength materials;
- analysis of "fiction stir welding" operations on butt joint and overlapped sheets and between curved parts;
- development of optimization methods for plastic deformation processes; study of limit formability, damage and welding criteria; development of corresponding analytical and numerical models;
- optimization (in stochastic environment) of cutting operations: turning, milling, tool reliability, optimal cutting speed determination in stochastic environment;
- studies of tool behavior (wear mechanism and growth) and workpiece behavior (residual stress distribution, surface finishing) varying lubrication conditions and working parameters through experimental tests and development of simulation models in 2D and 3D environment;
- analysis of the tool breakage causes realizing on-line (vibration and force gauges) and off-line (neural network) control systems;
- studies of micro-electrodischarging machining on metallic and ceramic materials;
- optimization in the use of flexible working cells and systems with particular attention to the tool resource;
- application of quality systems in bettering the working management and the relative tools and control systems.

The studies within these sectors have been carried out by means the realization of experimental tests and of analytical and simulative models of the processes.

He carried out many applied researches with several industrial companies in the field of process optimization and design studying the several problem with both experimental and simulative approaches.

He had various collaboration with foreign research centers in USA and in Germany aiming to plastic deformation processes and friction definition. He collaborated with Italian research centers, too.

He is member of the Associazione Italiana di Tecnologia Meccanica (AITeM).

He participated and he was responsible of research projects financed by the Ministry of University and Research, by the Ministry of Industry and by the National Research Council.

He is author and co-author of more than 120 papers presented at International Conferences and more than 60 papers published on International Journals. He contributed in the preparation of 6 books.

He is reviewer for several International Journals publishing within the research fields.