

Prof. Elisabetta Ceretti
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1. Academic activities

Elisabetta Ceretti is Full Professor in Manufacturing at the University of Brescia. She graduated in Mechanical Engineering at the University of Brescia, in 1990 with a final dissertation on the "Development of on line tool status monitoring systems".

Since November 1993 to October 2001 she was Researcher at the University of Brescia and from 2001 to 2010 she was Assistant Professor at the same University.

During her carrier she covered different roles inside the academic organization, especially in the organization and improvement of the education; today she is responsible of the curriculum of Manufacturing within the degree in Mechanical Engineering, responsible of the exchange student programme ERASMUS and of the PhD programme in Production Engineering.

2. Scientific activities

Elisabetta Ceretti's scientific activity was mainly focused on:

1. study of innovative manufacturing processes of metal sheet such as stamping, tube and sheet hydroforming, sheet incremental forming with particular attention to material formability and final part quality;
2. identification and implementation in FE codes of ductile fracture criteria to simulate the material breakage in machining operations, sheet blanking, chevron crack defects in extrusion and tube piercing;
3. analysis of the influence of process parameters on friction phenomena in hot and cold forming processes by means of ring test and Pin On Disk;
4. study of cutting processes considering the aspects of on line tool monitoring, analysis of tool wear and of part residual stresses by means of experiments and of suitable developed simulation codes.
5. study of ultraprecision machining processes with particular attention to the realization of part precision and surface finishing for realizing microcomponents or dies and moulds for micro part production for precision mechanics and biomedical fields.

6. In the last year she started a research group on analysis and improvement of medical device in close cooperation with Medical Doctors. New solution were identified in the fields of prosthesis for orthopaedics, laparoscopic tools and tracheal stents. She patented an innovative solution for a new hip stem.

More in detail, the approach followed in the above mentioned researches is based on the use of the numerical simulation and on the development of ad hoc tooling in order to carry out reliable experiments.

Elisabetta Ceretti was involved in different research projects and cooperates with several universities and research centres in Italy and in other countries.

Some of the projects in which she was involved in the last years are:

1. 2003-2004: New aspects in formability, design and simulation of hydroforming process, funded by Italian Ministry of University and Research as Nationally Relevant Project (PRIN), in partnership with other Italian Research groups, as member of a Research Unit;
2. 2004-2005: ULTRAFLEX: Ultraflexible system for stamping, funded by Italian Ministry of University and Research as Applied Research (PIA), in partnership with other Italian Research groups, as responsible of the Research Unit;
3. 2005-2006: Analysis of warm-forming of lightweight alloys, funded by Italian Ministry of University and Research as Nationally Relevant Project (PRIN), in partnership with other Italian Research groups, as responsible of the Research Unit.
4. 2008-2012: Analysis and optimization of hot and warm forming processes, funded by Italian Ministry of University and Research as Nationally Relevant Project (PRIN 2008), in partnership with other Italian Research groups, as responsible of the Research Unit.
5. 2011-2013: REMS Research on Micromaching, funded by Regione Lombardia.
6. 2011-2013: MICHELANGELO a project on the improvement of the intelligence of machine tools, funded by MISE, in partnership with other Italian Research groups, as responsible of the Research Unit.
7. 2011-2013: IREBID a project on the development and improvement of medical devices, funded by the EU under the Mari Curie Actions.

Elisabetta Ceretti is co-author of more than 120 technical papers published into International Journals and on the Proceedings of conferences.

3. Industrial research

Elisabetta Ceretti promoted a number of joint-ventures between industries and university with the aim to develop new knowledge in metal forming processes, machining and quality management. Since June 2014 she is member of the Borad of a2a SpA a muliutiliy working in the field of energy production, energy management, plant efficiency and services for the environment (production of energy by means of waste).

Elisabetta Ceretti

A handwritten signature in black ink that reads "Elisabetta Ceretti". The signature is written in a cursive, flowing style with a small dot at the end of the last letter.