

## Curriculum Vitae Annalisa Pola

Scopus ID 8616888900

ORCID 0000-0002-0722-6518



Associate Professor in Metallurgy in the Department of Mechanical and Industrial Engineering (DIMI), at the University of Brescia since 2014.

In 2017 she obtained the habilitation as full professor.

Since 2013 she's also fly-in professor at the GUTech (German University of Technology – Oman) for Material Science courses.

She took her degree in Mechanical Engineering at University of Brescia in December 1997. From 1998 to 2000 she obtained a fellowship on Metallurgical Plants.

She had the habilitation as Assistant professor in 2000 and from 2000 to 2014 she was Assistant Professor in Metallurgy at the Mechanical and Industrial Engineering Department - University of Brescia.

She's member of the academic board of the DRIMI PhD program at the University of Brescia, she's chair for the section of Materials since 2017.

Since 2005 she's tutor/advisor of PhD students and fellows.

Member of International Scientific Committees (e.g. Semi-Solid Processing of Alloys and Composites – S2P since 2010, International Conference High Tech Diecasting, etc..)

She's author of more than 100 papers published on international and national conference proceedings and journals, mainly indexed (see Scopus ID).

Reviewer of several international scientific journals and Guest editor of Metals journal ("Microstructure and Mechanical Properties of Casting Alloys").

Inventor in 3 patents about new zinc alloys development (patent number: 0001407307, 0001407308, 0001407309).

Member of international research groups and representative person for the University of Brescia in international cooperation agreements (RWTH at University of Aachen, KMUTNB-TGGS in Bangkok, German University of Technology in Oman, Chulalongkorn University in Bangkok, IUT in Isfahan).

External advisor at the Engineering Department of the GUTech.

Member of the organizing and scientific committees of Summer schools in "Materials for industry" (University of Brescia, 2017) and "Simulation of phase transformations in metal processing" (AIM-Comet, 2018).

### **PARTICIPATION AS RESPONSIBLE OR MEMBER TO FINANCED RESEARCH PROJECTS**

Responsible of different financed projects (e.g. ECO-ZINC - Regione Lombardia, HAF – Hybrid aluminum forging - Cariplo-Regione Lombardia, Studio e messa a punto di un lega di zinco innovativa - Regione Lombardia, etc..).

Member of several financed projects (e.g. SteelPro 4.0, SMART BREAK, LIGHT-FORK, TECNOENERGY, REMS, ENERCLEAN, etc.).

From Industrial point of view, responsible and/or member of more than 50 contracts financed by Italian companies.

### **RESEARCH ACTIVITY**

Since the enrolment, the research activity that has been articulated over the years on specific topics of the – Metallurgy field, as shown by the publications in scientific journals and conference. In particular, she is involved in:

- study of conventional and innovative foundry processes (mainly HPDC, LPDC, sand and gravity casting) from metallurgical, technological and simulation of mold filling and casting solidification point of view;
- study and characterization of powders and components for additive manufacturing;
- treatment of alloys in liquid state (e.g. by ultrasound, developing a properly designed apparatus);
- study of rheological behavior of alloys in liquid and semi-solid state;
- development and characterization of standard and new non ferrous alloys (3 patents about zinc alloys);
- semi-solid processing of non ferrous alloys;
- correlation between mechanical properties and microstructure;
- characterization of thin films,
- failure analysis of metallic components;
- simulation of innovative heat treatments (e.g. spray cooling for heavy forging);
- etc.

### **TEACHING ACTIVITY**

Since 2000 she gives classes on the following courses at the University of Brescia:

- “Foundry” (Master Degree in Mechanical and Materials engineering, since 2003),
- “Non ferrous metals” (Master Degree in Mechanical and Materials engineering, since 2003),
- “Metallic Biometaterials and Coatings” (Master Degree in Mechanical engineering, since 2018),
- “Technical requirements for products – module I” (Bachelor Degree in Industrial, course active from 2008 to 2012);
- “Laboratory of product engineering – module II” (Bachelor Degree in Industrial, course active from 2008 to 2012);
- “Metallurgical technologies, die-casting processes and plants” (Mechanical Engineering Diploma, course closed in 2004).

Additionally, she supports the following courses (lectures and exams) since 2003: “Metallurgy”, “Metallurgical technologies”, “Metallurgical plants” and “Metallurgy lab.”

Since 2013 she gives classes on the following courses at the GUTech University – Oman, since 2013:

- Materials Science I – module 1 (Bachelor Degree in Mechanical and Process engineering)
- Material Science II – module 1 (Bachelor Degree in Mechanical engineering).

Tutor of more than 100 thesis (master and bachelor), tutor of internship (also of students coming from other universities).

## **OTHER ACADEMIC and INDUSTRIAL ACTIVITIES**

Today academic roles:

- Member of the University Orientation Committee since 2016,
- Member of the Central Guarantee Committee since 2011,
- Member of the Board of directors of the Library of the University since 2012,
- Member of the Equal Opportunity Committee from 2004 to 2011
- Responsible of the Department Orientation Committee.

*Member of the:*

- Study center on High Pressure Die-casting in the Italian Association of Metallurgy,
- Foundry Committee of AIM-Assofond (Italian Association of foundries)
- Scientific-Technical Committee the High Pressure DieCasting School for foundries (organized by AQM & CSMT with the support of NADCA, DIMI, di Amafond, Assofond, Assomet, Metef, Industria fusoria ed Aluplanet)
- Scientific-Technical Committee of Low Pressure DieCasting School for foundries (organized by AQM & CSMT),

Technical director of the Italian industrial journal "Fonderia e pressofusione" (i.e. Foundry and diecasting) - Ed. Tecniche Nuove " ISSN 0015-6078 since 2017 and member of the editorial committee of the industrial journal "Stampi Progettazione e Costruzioni" ISSN: 1121-063X since 2010.