

FIRRAO Donato  
(home) Piazza Carlo Felice 7  
10123 Torino, ITALY  
Born in Bari, ITALY on 12/16/1944  
Fiscal Code FRRDNT44T16A662T  
VAT Number: 11381920013  
[donato.firrao@polito.it](mailto:donato.firrao@polito.it)  
cell.: +393351494032

### ***Curriculum Vitae of Professor Donato Firrao***



1. **Donato Firrao** was born in Bari, Italy, on December 16<sup>th</sup> 1944 and obtained there the Diploma of *Maturità Classica* (Classical Lyceum) in July 1962 (Grades 8.1/10, which was in the top grading at the time).
2. After being awarded a boarding scholarship at the "Renato Einaudi" Collegio Universitario di Torino, Turin, Italy, in October 1962, he **graduated** in Chemical Engineering at the *Politecnico di Torino* in 1968 with the *Laurea* degree – the highest education degree in Italy at the time (Grades 110/110).
3. **Awarded a Fulbright scholarship**, he obtained the Master of *Science Degree in Metallurgical Engineering* in 1970 at the *Ohio State University*, Columbus, Ohio, USA.
4. *Teaching activity*
  - **Assistant Professor in Ferrous extractive metallurgy** at the Faculty of Engineering of *Politecnico di Torino* since 1969 and **Deputy Professor** of the same subject from 1977 to 1983.

- **Adjunct Lecturer in Chemistry** at this same University from November 1971 to February 1983.
- **Associate Professor in Technology of Metallic Materials** from 1983 to 1986, position he has been holding since 1986 as
- **Full Professor in Technology of Metallic Materials** within the Faculty of Engineering, **up to his retirement on Nov. 1<sup>st</sup> 2015.**

He also taught **Mechanical Metallurgy** and **Ferrous Extractive Metallurgy** **up to his retirement on Nov. 1<sup>st</sup> 2015.**

5. **Awarded a NATO scholarship provided through C.N.R.** (Italian National Research Center) in 1978 for a study and research stay at the *Department of Metallurgical Engineering* of the *Ohio State University*, Columbus, Ohio, USA, where he acted as *Visiting Fellow*, he performed research there during the 1978/79 academic year. In 2003 he was nominated *Distinguished Alumnus* of the same department and invited to hold a *Lectio Magistralis*. He is a member of the *Department of Materials Science and Engineering Advisory Board* at this same University ever since.
6. **National Coordinator** of the Italian Metallurgical Engineering Doctorate from 1996 to 2007.
7. *Service activities within the University.*
  - He has been the **Director** of the “**Special purpose School for Experts of Industrial Production**” since 1986, i.e. the year such school was established at the College of Engineering of the *Politecnico di Torino*. This was a cross-country BSc. Sandwich 4 years course, awarding a double degree, developed in cooperation with the *University of Brighton*, UK, and then also with the *Pôle Universitaire Léonard de Vinci* of Paris, France. He continued to coordinate the activity of the study course until September 2001, after the course was transformed into a “European University Diploma in Industrial Production in 1998 and then – in 2000 – into “Laurea Degree in Industrial Production”.
  - Elected to be a member of the Integrated Constituent Academic Senate in 1990, he participated in the drafting of the new Statute of *Politecnico di Torino* in conditions of autonomy. He was re-elected in the Senate in 1991, 1993 and 1997, always as a representative of the Full Professors (1<sup>st</sup> rank) and was a member of such Senate in this position until October 2001.

- Since October, 1<sup>st</sup> 2005, he was the **Dean** of the 1<sup>st</sup> Faculty of Engineering of the *Politecnico di Torino* up to September 30, 2012. As a Dean he accomplished doubling the number of Freshmen in his College, with peaks in Mechanical and Aerospace Engineering. During his staying as a Dean, Prof. Firrao has established students exchange programs with 10 USA SEC Universities; they have given raise to bidirectional students flows in the **Automotive and Mechanical Engineering** fields. He continued to be the Responsible of such a students exchange between Politecnico di Torino and USA Universities up to his retirement. He has enlarged the field of exchanges also to **Computer and Electrical Engineering**, as well as, more recently, to **Materials Engineering**.
- He has acted as the **OBDSMAN** at Politecnico di Torino from March 20, 2014, up to Nov. 15, 2015.
- Since 1993, and up to April 2018, he has been the **President** of the "Renato Einaudi" Collegio Universitario di Torino, a private non profit university student housing Foundation in Turin. From 1997 to 1999 he was Deputy Chairman of the Conference of the legally acknowledged Italian University Colleges (an Association of 14 University Colleges, amongst which the *Borromeo* and *Ghislieri Colleges* in Pavia) and **Chairman** of this same Conference from 1999 to 2000 and, again, since July 2013 to February 2015.

#### 8. *Service activities outside the University.*

- **2011 Fellow** of ASM International - The Materials Information Society, **Member** of The Minerals, Metals and Materials Society (TMS), of the American Society for Testing and Materials (ASTM), and of the Italian Association of Metallurgy (AIM).
- He was **Founding Partner of the Italian Group on Fracture** (IGF) and its Secretary since its establishment in 1982. He was its President between 1988 and 1994, leading the Group to become one of the most important Scientific Associations of Italy, with a remarkable balance surplus. He has been the Vice President of the Association from 2005 to 2009. In 2011, he was named **Honorary Member** of the Gruppo Italiano Frattura.
- Member since 1980 of the European Group on Fracture (currently European Structural Integrity Society-ESIS) and former member of its President Council from 1984 to 1992; he has been Co-Chairman of ESIS Technical Committee (Elasto-Plastic Fracture Mechanics) from 1987 to 1996. He was named ESIS **Fellow** in June 2016.

- He was **one of the five Directors** of the International Congress on Fracture (ICF) from 1993 to 1997. He was member of the committee for the granting of awards of this same organization.
- In April 1997 he was elected **Vice-President** of the Federation of European Materials Societies (FEMS), whose offices were in Frankfurt (Germany), for the 1998-2000 two-years period. He was its **President** in 2000-2001. In 2002-2003, he was appointed **Past President** with mandate to act as coordinator of the intercontinental affairs.
- He is a **corresponding member** of the Turin's Academy of Sciences since 1994.
- He served in the Executive Committee F5 (Mechanical Characteristics) of the European Community for Coal and Steel (ECSC) in the 1998-2004 period.
- He is associate to the ASM Failure Analysis Society and has been one of its **Board Members** for the 2016-2017 term.

#### 9. *Research activities*

- Author of over 240 articles published by the most important international magazines of the field of Metallurgy, he has been member of the editorial board of international magazines and has organized various national and international conventions in Italy and abroad.

He has coordinated 5 two-year research programs of national (Italian) significance (PRIN) which began respectively in 1998, 2001, 2003, 2005, and 2008.

His research have dealt with:

- Influence of heat treatments on structure, tensile strengths and fracture toughness of Q&T steels.
- The interplay among chemical composition, microstructure and fracture toughness of structural steels.
- Blunt notch fracture mechanics.
- Physical-mathematical models of ductile fracture nucleation.
- Nitrocarburizing and surface coatings of iron and steel.
- Phase diagrams of Fe-N-Transition metals.
- Cast iron properties.
- Fracture mechanics properties of Al-Li alloys.
- Microstructural effects of small charge explosions on FCC metals and alloys.
- Fracture toughness of die steels.

- Mechanical properties of innovative automotive steels
- Fractographic analysis of fatigue surfaces in complex microstructures
- Laser welding of dissimilar steels.

#### *10. Professional activity*

- **Expert in "failure analysis"**, he has acted as technical advisor of the judge in sensible trials of national and international relevance (such as, for instance, Ustica DC-9 aircraft crash, Mattei - 1<sup>st</sup> ENI CEO - affair, Sgrena/Calipari case, Volpe 132 helicopter case in Sardinia).
- He has also participated in national and international (France, Iran, Switzerland, Slovak Republic) arbitrations and control activities for claims raised on projects relevant to marine diesel motors and on aluminum thin sheet production plants, as well as nuclear and steelworks plants .
- He is also currently engaged into technical education activities both for basic and advanced metallurgy within metalworking and shaping factories.
- He is a member of the OdV (Safety and security surveillance board) for one of the first steel producing Italian Companies.