

CURRICULUM VITAE GIORGIO DIANA

Giorgio Diana received his Degree in Mechanical Engineering (MSc equivalent) from Politecnico di Milano in 1963.

Since 1971 he is a full professor of Applied Mechanics. Since 1980 he is a full professor at Politecnico di Milano.

He has had several offices at Politecnico di Milano: Director of the Computation Centre, Director of the Department of Mechanics, member of the Administration Board, member of the Senato Accademico and co-ordinator of the Council of the Department Directors.

In December 2010 he has been appointed Professor Emeritus of Politecnico di Milano.

At present he is Director of the Research Centre for Wind Engineering (CIRIVE), whose wind tunnel is the largest Boundary Layer Wind Tunnel in Europe. Many bridge models for recent projects worldwide have been tested in this structure: Messina Straits Bridge (Italy), Talavera de la Reina Cable-stayed Bridge (Spain), Forth Replacement crossing (Spain), Adige river (Italy), Izmit Bay Bridge (Turkey), Second and Third Bosphorus Bridge (Turkey).

He is President of the Steering Committee of the Joint Research Centre (JRC) on Transportation, a research centre constituted by the Fondazione Politecnico with FS (the Railway State Company), Ansaldo Breda, Bombardier and ABB with the aim of tracing the guidelines for the design of an Italian High Speed Train.

He is the President of the Italcertifer Consortium Certification Committee (Consortium among Trenitalia (FS Group), RFI (FS Group) and some Universities). The Consortium has been created for the certification in the Rolling Stock field.

As a professor at Politecnico di Milano, he taught the following classes: Applied Mechanics, Dynamics and Vibrations of Machines, Mechanical Systems Dynamics, Actuation and Control of Mechanical Systems. All of these classes, except for Applied Mechanics, were held at the fourth year of the five-years degree in Mechanical Engineering.

Since 2010 he teaches the course of Wind Engineering at the fifth year of the five-years degree in Mechanical Engineering.

In the nearly 50 years of activity at the Politecnico di Milano, he has been the tutor of many graduate students for their final dissertation and of many PhD Students.

During the Academic Year 2003 – 2004 he has been the Director of the Master in Wind Engineering, organised by the Politecnico di Milano and the University of Genova – prof. Giovanni Solari.

His actual main research fields are: bridges dynamics, railway vehicle - infrastructure dynamic interaction and aeroelasticity problems.

He has an extensive knowledge on research and design in the fields of dynamic aspects, fluid-elasticity, aero-elasticity (vibrations of bridges and structures), rotor-dynamics, vibration problems in mechanical engineering, railway vehicles dynamics and interaction between vehicle and infrastructures (bridges, viaduct, road, railroad).

As an expert in the field of aeroelasticity, he has been called from the first beginning as a consultant of the Stretto di Messina Society for the project of the Messina Straits Bridge: in particular he is the responsible for the Messina Straits Bridge aeroelastic design and for the rail and road runnability.

The unifying character of the research applications is the development of very powerful numerical models allowing for predictive analysis of the wind-structure interaction problems,

always supported by the experimental definition of the core parameters governing the numerical models, whose reliability is thoroughly validated both by specific Wind-Tunnel procedures and by a strong tradition of full scale testing.

At present he is the Chairman of the Cigré (Conférence Internationale des Grandes Réseaux Electriques à Haute Tension) Working Group B2-46 (Mechanical Behaviour of Conductors and Fittings - Wind induced motion on bundled conductors).

He is a Member of IEEE. He is a member of the Italian Association for Wind Engineering (ANIV) and of the Italian Association for Theoretical and Applied Mechanics (AIMETA). He is associated to the Register of Professional Engineers, Milan.

In the field of the mechanical behaviour of conductors and fittings excited by the wind action, his researches brought to very well known publications, spanning from the first ones published together with Rodolfo Claren in 1966 to nowadays.

He is the leading author of the 'Aeolian Vibration' Chapter of the new EPRI Orange Book.

The results of the research and activities in these fields are reported in a wide number of papers (about 300) published on International Reviews and International Conferences Proceedings as well as Invited Papers and Keynote Lectures held at several International Conferences.

As a result of his work and achievements prof. Diana received the following awards:

- **The European Railway Award 2014** from the Community of European Railway and Infrastructure Companies (CER) and the European Rail Industry Association (UNIFE). Award motivation: *"For the significant contributions throughout his career to research and innovation in the field of rail vehicle dynamics"*

- **The CIGRE SC B2 Technical Committee Award 2012.** Award citation: *"Prof. Giorgio Diana of the renowned Politecnico di Milano, is one of the internationally acclaimed experts on structural dynamics. He is member of quite a few prestigious engineering societies, has numerous seminal publications and an intensive academic career with emphasis on teaching young engineers. With all his activities, it is more than remarkable - and we from SC B2 consider ourselves very lucky - that he has been since a long time a very active member of our community. In particular he has been Convenor of at least three working groups, which have published a well reputed Electra "trilogy" on vibration theories; these papers are considered state-of-the-art in this field and are regularly referenced."*

- **2009 Robert H. Scanlan Medal** from the American Society of Civil Engineers (ASCE) on June 26th 2009. Award citation: *"For his fundamental contributions to experimental analysis, modelling and simulations of dynamic load effects and their applications to structures under wind and other loads"*.

- **ICARO Award** on November 12th 2007 from the University of La Coruna (Mecánica de Estructuras) – SPAIN (speech pronounced at the Award Offering Ceremony: "Behaviour of flexible structures excited by dynamic loads"). Award motivation: *"Investigadores que por su grado de excelencia académica, reconocido internacionalmente, hayan conseguido avances relevantes en alguno de los ámbitos de la ingeniería de estructuras"*.

He is in the Editorial Board of the Journal of Wind Engineering and Industrial Aerodynamics and he is reviewer for other Journals, among which: Engineering Structures, Journal of Bridge Engineering, Journal of Rail and Rapid Transit, IEEE Transactions on Power Delivery, Computers and Structures, Journal of Structural Engineering, Journal of Sound and Vibration, Wind and Structures.