



## **Michel VIRLOGEUX**

Michel Virlogeux graduated from Ecole Polytechnique in 1967 (promotion 1965), and from Ecole Nationale des Ponts et Chaussées in 1970. He became Docteur Ingénieur of the Pierre et Marie Curie University (Paris) in 1973. In 2009 he became Doctor in Technology Honoris Causa of the Loughborough University.

He became Ingénieur des Ponts et Chaussées of the French Civil Service in 1970, and Ingénieur en Chef in 1984. He left the French Civil Service in 1995.

Between 1970 and 1973, he worked as civil servant in Tunisia, in Tunis, at the Highways Direction. He was first in charge of an important program of road construction contracts, funded by the World Bank; and after mid 1972 he became in charge of road planning at the Highways Direction. In this position, with two Tunisian colleagues, he organized and developed all large road projects which have been achieved in Tunisia until the mid eighties.

He came back to France in January, 1974 as engineer at the S.E.T.R.A., the technical service of the Highways Administration where he worked until January, 1994. In 1980,

he became head of the concrete bridge division, and in 1987 head of the large bridge division, steel and concrete.

With his team, he designed many bridges, among which the Ottmarsheim bridge over the Alsace Canal, the Abbeville Bridge across the River Somme, the la Flèche bridge across the River Loir, the Moulin sur Escaut railway bridge, the Seyssel cable-stayed bridge over the river Rhone, the Ré Island Bridge, the Cheviré Bridge over the river Loire, the Auray viaduct, the Chateaubriand arch bridge over the river Rance, the Burgundy cable-stayed bridge at Chalon-sur-Saône, the Bouran viaduct at Rodez, the overpasses at Antrenas and Le Truc de la Fare over the A75 Motorway, the Morbihan arch bridge at La Roche Bernard over the river Vilaine, the Kerkinstensalmi cable-stayed bridge in Finland, the Grand-Tressan pedestrian bridge at Bordeaux, the bridges over La Rivière des Pluies and La Rivière Saint-Denis in La Réunion island. He developed the project for the reconstruction of the Wilson Bridge at Tours, across the River Loire, a stone bridge of the 18<sup>th</sup> century partially destroyed by floods. He designed the Normandy Bridge and developed the preliminary design of the Millau Viaduct.

With his team he also controlled the execution design of several important bridges in addition to those of which he developed the project : the bridge over the river Marne and the Neuilly Plaisance viaducts and later the Ru de Maubuée viaduct for the Marne-la-Vallée line of the Paris Mass Transit System, the viaducts over the Gouet and Gouedic at Saint-Brieuc, the Fontenoy viaduct over the river Moselle, the Meylan and Illhof pedestrian cable-stayed bridges, the Tricastin bridge over the Donzère-Mondragon canal and the experimental bridges at La Ferté-Saint-Aubin, Cognac, Arbois and Charolles. With his team he also controlled the execution design of the Abidjan Cathedral in Ivory Coast.

He has been expert for the Moosou bridge in Ivory Coast and the Edea bridge in Cameroon, consultant for the Evripos bridge in Greece and many important bridges in France, specially on the A75 Motorway, such as the Truyère Viaduct at Garabit, the Piou and Rioulong viaducts and the bridge over the river Lot at la Mothe, and he took part in the preliminary design of the Tanus viaduct over the river Viaur.

He contributed to the development of several modern techniques, such as external prestressing, cable-stayed bridges and composite structures, steel and concrete.

Between January, 1994, and January, 1995, he worked as part time lecturer and consultant for the Highways Direction at the Ecole Nationale des Ponts et Chaussées. He left the French Administration in January, 1995.

Since February, 1995 he works as a private consultant. As such he developed the conceptual design of the Avignon viaducts for the High Speed Train, and was later consultant for the French Railways (SNCF) for its erection. He leaded the control of the design of the Vasco de Gama Bridge for the Portuguese Administration (GATTEL). He made the preliminary design of the Verrières Viaduct on the A75 Motorway. He developed the Millau Bridge project with Sir Norman Foster, Europe Etudes Gecti, SERF and Sogelerg, and later has been consultant of the Eiffage Group for the erection of this major bridge. He developed for GTM the concept of the continuous, completely suspended deck of the Rion-Antirion

Bridge. He has been expert for the replacement of the suspension of the Tancarville Bridge and for the analysis of cable vibrations in the Saint-Nazaire Bridge. He was consultant for Freyssinet in the call for tenders for the replacement of the suspension of the Aquitaine Bridge (not selected). He has been also consultant for the Japan Highway Public Corporation for the design and construction of the Ibi and Kiso river bridges. He had some participation as consultant in the Stonecutters Bridge project in Hong Kong, and prepared a proposal for the Chacao Bridge in Chile (two main suspension spans about 1100 metres long each). He has been a member of the Panel of Advisers for the Sutong bridge in China. He also won several design competitions and later developed the corresponding projects: the Avignon Viaducts, the Sarreguemines pedestrian bridge (a suspension bridge), the bridges on the river Charente at Jarnac, the Givet cable-stayed bridge over the river Meuse (which has been abandoned), the Gustave Flaubert mobile bridge over the river Seine at Rouen, the Languedoc Bridge over the river Hérault at Gignac, the bridge over the River Vienne at Limoge, the Altiani Bridge over the Tavignano in Corsica, the Saône Bridge at Macon and the Jacques Chaban Delmas mobile Bridge over the River Garonne at Bordeaux. He designed with the SETRA the Térénez curved cable-stayed bridge and later became consultant for the owner during construction. He took part as consultant in the design and erection of the Reynes Bridge over the River Tech.

These last years he mainly works outside France. He has been in charge of the review of the City Island Bridge for the New York City DOT; with Hardesty and Hanover, and with Parsons Brinckerhof he developed a preliminary design for the Kosciusko Bridge in New York; he developed with Cima+ the preliminary design of the Rivière des Prairies cable stayed bridge on the Autoroute 25, North of Montréal; with Dessau a preliminary design of the Champlain Bridge on the Saint-Laurent River and of the Canal Lachize Bridge for the Turcot interchange: with Cima+ the preliminary design of the Ile des Soeurs Bridge on the Saint-Laurent River; with Cima+ and SNC Lavalin the preliminary design of the Boulevard Saint-Jacques Bridge for the Turcot Interchange. With two Spanish and one Irish design offices, he developed the preliminary design of the fourth Panama Canal Bridge. With a Turkish architect he designed the Golden Horn Metro Crossing in Istanbul; Turkey, which has been erected with some alterations; with Setec he developed the preliminary design of the South Approach Viaduct to the Izmit Bay Bridge, also in Turkey; with Pondio he developed an alternative design for widening of the Rande cable stayed bridge in Spain. He has designed with Jean-François Klein the Third Bosphorus Bridge. He made with Jacques Combault an Expert report on the problem of snow accretion after the Portman Bridge incident.

Recently, he un-successfully took part with Jean François Klein in a competition for the erection of the Canakkale bridge in Turkey, a suspension bridge with a main span of 2023 metres; within a large international team, he won the design competition for a cable stayed bridge across a Saint-Laurent river branch; and he works with Eiffage for a large contract in Norway with a medium size cable stayed bridge they just won.

He works frequently with Les Grands Travaux de Marseille (GTM), Freyssinet, Eiffage, Vinci, Astaldi (Italy), Ictas (Turkey), Ferrovial (Spain), and SE Corporation (Japan).

He has taken part in several legal disputes, Adjudications and Arbitrations, as expert, which are covered by confidentiality agreements.

He received the I.A.B.S.E. Price in 1983, for its first attribution, the Guerite Silver Medal of the British Section of the Ingénieurs et Scientifiques de France in 1985, the Practical Construction Award of the American Concrete Institute in 1992, the Reed and Mallik Medal of the Institution of Civil Engineers in 1994, and the George S. Richardson Medal of the Engineers' Society of Western Pennsylvania in 1995. In France, he received the silver-gilt medal of the Société d'Encouragement au Progrès in 1993, and one of the five « Vinci de la Construction » which have been attributed in 1994 by the Société d'Encouragement pour l'Industrie Nationale. In February, 1995, he received the Award of Excellence from the Engineering News Record, for the first time given outside America. In February, 1997, he received the Gold Medal of the Institution of Structural Engineers, and, in May, the Silver Medal of the French Académie d'Architecture. In 1997 also, he received the Leadership Award of the American Segmental Bridge Institute; in 1999 the Fritz Leonhardt Price for its first attribution, and the Gustave Magnel Gold Medal. In 2002 he received the Award of the Italian Prefabrication Industry (CTE), in 2003 the Turner Medal of the American Concrete Institute, the International Award of Merit of the International Association for Bridge and Structural Engineering (IABSE), and the Bridge Design Award of the Bridge Engineering Association (USA). In 2004 he was elected the Engineer of the Year by the French engineering associations, and in 2005 he received the Hills Millenium Award of the Institution of Engineering Designers and the Gold Metal of the Institution of Civil Engineers. In 2006 he received the Freyssinet Medal of the Fédération Internationale du Béton and the Isambard Kingdom Brunel Award of Institution of Civil Engineers, and in 2007 the Albert Caquot Medal of the Association Française de Génie Civil. In 2008 he received the Icarus Award of the La Coruña University and in 2013 the Swedish Concrete Association Award.

Several of the bridges which he designed, or for which he has been consultant, have received architectural awards: the Seyssel bridge in 1988 received an Award of the Steel Construction Industry, and the Antrenas bridge was nominated in 1994. At the "Rubans d'or de la Route", the Cheviré, Chateaubriand – over the river Rance - and Bouran bridges received an award in 1991 ; the Truyère viaduct at Garabit in 1993; the Antrenas overpass and the Normandie Bridge in 1995, with a special award for the latter ; the Morbihan Bridge at la Roche Bernard in 1997, the Tanus Viaduct in 1999 and the Verrières viaduct in 2002. In 1998, the Normandie Bridge received a FIP Outstanding Structure Award. The Millau Viaduct received several awards, and the Gustave Flaubert Bridge an Award of the Steel Construction Industry. In 2000 the Normandie Bridge has been elected the most famous bridge of the last ten years by the IABSE Members, and in 2015, for the 25<sup>th</sup> anniversary of Structural Engineering International, the Millau Viaduct has been elected the most famous of these 25 years.

He has been Professor of Structural Analysis at the Ecole Nationale des Ponts et Chaussées from 1978 to 1994, of Bridge Design at the Ecole Spéciale des Travaux Publics from 1973 to 1993, and of stability of concrete structures at the Centre des Hautes Etudes de la Construction from 1985 to 2006. In 2008 he became Professor of Bridge Design and Construction at the Ecole Nationale des Ponts et Chaussées.

He has been Secretary, Secretary General and Executive Vice-President of the Association Française Pour la Construction during more than twenty years (1974-1997), and President of

the Fédération Internationale de la Précontrainte since September, 1996 until the merger with the Comité Euro-international du Béton in May, 1998 to constitute the Fédération Internationale du Béton, *fib*, of which he has been elected President ; he became Honorary President of *fib* at the end of his term in September, 2000. He has been elected President of the European Construction Institute in 2008 and remained President until 2014.

He was a member of the Comité des Applications de l'Académie des Sciences (CADAS) until the transformation of the CADAS into the new Académie des Technologies in 2000, of which he became member. He is Fellow of the Institution of Structural Engineers, of the Institution Civil Engineers, of the Indian National Academy of Engineering, of the Royal Society of Arts, of the Royal Society of Edinburgh and of the Royal Academy of Engineering.

He has been nominated expert at the Paris Appeal Court from 2003 to 2007, and at the Versailles Appeal Court since January, 2009 until 2017.

He was made « Chevalier de l'Ordre National du Mérite » in 1989, "Officier" in 2000 and « Chevalier de la Légion d'Honneur » in 2005, and « Officier » in 2016.



Michel Virlogeux Consultant SAS  
24, RUE DE LA DIVISION LECLERC  
78830 BONNELLES  
Mobile : + 33 6 14 24 35 90  
Fax : + 33 1 30 88 43 44  
E-mail : [virlogeuxconsultant@orange.fr](mailto:virlogeuxconsultant@orange.fr)

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