

# Gustave Magnel Gold Medal

Twelfth award in honor of a prestressed concrete pioneer to be given in 2014

Every 5 years, the Association of Engineers of Ghent University (AIG), Ghent, Belgium, bestows the Gustave Magnel Gold Medal award on the designer of a structure deemed to be an important and remarkable application of reinforced or prestressed concrete. The award memorializes Gustave Magnel, an engineer who developed a new prestressing method during World War II.

## Gustave Magnel

Magnel graduated from Ghent University in 1912 as a civil engineer, and returned to the school in 1919 as Chief Assistant in the Laboratory for Strength of Materials. He became a Professor in 1937 and taught classes on the design of concrete structures and structural analysis until his death in 1955.

He developed his own prestressing system during World War II—the “Belgian” or “Magnel-Blaton” post-tensioning system<sup>1</sup>—which featured wires arranged in a cable in a predetermined pattern anchored by sandwich plates and tensioned two at a time. Magnel authored more than 200 publications, including several textbooks and a manual that was translated into English and Spanish. His publications and worldwide lectures contributed to the rise in use of prestressed concrete throughout Europe. Magnel was instrumental in the construction of the first prestressed concrete girder bridge in the United States—the Walnut Lane Memorial Bridge, Philadelphia, PA, completed in 1951.

Magnel was also an active member of numerous international organizations, including ACI. As part of his legacy, the concrete research laboratory he founded at Ghent University now bears his name.

## Award Requirements

The medal is given out every 5 years, with the first award presented in 1959. The award is granted to the designer of a structure that has been built and completed within the 5-year term and can be considered an important or innovative use of prestressed concrete. The competition is open to designers and projects worldwide. Those who wish to apply must present a short description of the structure, a declaration proving the applicant designed the structure, a letter from the applicant agreeing to provide project details upon request, and the applicant’s curriculum vitae.

After an initial review by the Board of Administration, potential honorees are considered by a scientific jury comprising representatives from several European universities.

From the jury’s report, a winner is named and then honored at an award ceremony, which, for this upcoming medal, will be held in the autumn of 2014. The winning individual receives a physical gold medal and diploma naming him or her as Laureate of the Gustave Magnel Gold Medal.

## Past Winners

Since 1959, 11 individuals have received the Gustave Magnel Gold Medal. They include:

- 1959: Nicolas Esquillan, France, for the triangular vault shell of the Center of New Industries and Technologies, Puteaux, France;
- 1963: P. Blokland, the Netherlands, for the Nabla beams of the Haringvliet Dam, South Holland, the Netherlands;
- 1968: Fritz Leonhardt, West Germany, for the Caroní River Bridge, Ciudad Guayana, Venezuela;
- 1973: Ulrich Finsterwalder, West Germany, for the Maintenance Hall V of the Rhine-Main Airport, Frankfurt, Germany;
- 1979: R. De Keyser, Belgium, for the Houffalize Viaduct, Houffalize, Belgium;
- 1984: Hans Wittfoht, West Germany, for the Siegtalbrücke highway bridge, Siegen-Eisfeld, Germany;
- 1988: René Greisch, Belgium, for the Pont de Wandre Bridge, Liege, Belgium;
- 1994: Olav Olsen, Norway, for the Draugen Platform, Norway;
- 1999: Michel Virlogeux, France, for Le Pont de Normandie Bridge, Le Havre–Honfleur, France;
- 2004: Jörg Schlaich, Germany, for the Auerbachstraße Bridge, Stuttgart, Germany; and
- 2009: Juan José Arenas de Pablo, Spain, for the Third Millennium Bridge over River Ebro, Zaragoza, Spain.

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## References

1. Taerwe, L.R., “Contributions of Gustave Magnel to the Development of Prestressed Concrete,” *Ned H. Burns Symposium on Historic Innovations in Prestressed Concrete*, SP-231, B.W. Russell and S.P. Gross, eds., American Concrete Institute, Farmington Hills, MI, Oct. 2005, pp. 1-14.

Selected for reader interest by the editors.