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SAMPE Europe Award goes to EMPA's Prof. Urs Meier

Prize for pioneering achievements in field of structural post-strengthening

Prof. Urs Meier from the Swiss Federal Laboratories for Materials Testing and Research (EMPA) has won the SAMPE Europe Award 2002 for his work on the application of carbon-fibre-reinforced polymers to structural engineering.

The Society for the Advancement of Material and Process Engineering (SAMPE) is an international association comprising some 9,000 engineers and materials scientists that keeps its members abreast of the latest trends in materials and process technology by staging conferences and forums and disseminating books and information. Founded in 1944 by a group of American aircraft engineers, SAMPE's activities now extend far beyond aviation materials research to embrace, for instance, product innovations in the construction industry.

The history of carbon-fibre-reinforced polymers (CFRP) in fact mirrors that of SAMPE. Originally, their application was confined to the aviation and aerospace sectors, probably due to the high cost. The material's outstanding properties – which include low weight, high strength and corrosion resistance – subsequently led to its use in other areas such as vehicle and machine component design. Even the leisure industry seized on it for top-of-the-range bicycle frames and tennis racquets.

Prof. Urs Meier first had the idea of using this high-tech material in the construction industry in the early 1970s. At EMPA he launched an intensive programme of research and development focused on structural applications of CFRP, specifically for post-strengthening. Success – indeed a world first – came in 1991 with the reinforcement of a motorway bridge at Ibach in the Canton of

Lucerne, Switzerland. The prestressed concrete bridge, whose structural integrity had been compromised by damage, was repaired using three bonded CFRP strips and reopened to traffic after only a short interval. The technique has since recorded a string of successes and is now state-of-the-art. Prof. Meier has also demonstrated CFRP's potential applications with other construction materials, for instance, as cable in cable-stayed bridges, in strengthening historic timber structures, consolidating masonry in earthquake zones or stiffening light-alloy components in automotive engineering.

Prof. Urs Meier was honoured with the SAMPE Europe Award 2002 in recognition of his outstanding and pioneering contribution to developments in materials and process engineering. The award was presented during a special ceremony at SAMPE's annual conference in Paris on 11 April 2002. A triumph for both Prof. Meier and EMPA.

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You can order the portrait of Prof. U. Meier at martina.peter@empa.ch.