

**11TH INTERNATIONAL CONFERENCE ON "TEXTILE COMPOSITES AND INFLATABLE STRUCTURES -  
STRUCTURAL MEMBRANES 2023 "  
VALENCIA (SPAIN) – OCTOBER 2023**

**A FOLDING COVER ON THE SUZANNE LENGLEN COURT, ROLAND-GARROS, PARIS  
BERNARD VAUDEVILLE – T/E/S/S**

It is increasingly expected that courts used for major international tennis tournaments can be covered in case of rain. Following the covering of the Roland Garros centre court (Philippe Chatrier), the French Tennis Federation launched the project for a mobile roof to cover the Suzanne Lenglen court. This project, designed by architect Dominique Perrault and T/E/S/S, will be nearing completion in October 2023, at the time of the conference.

The project comprises a fixed roof, in the form of a U, and a canvas roof that unfolds between the two branches of the U, made up of a succession of 21 canvas pleats. When the roof is opened, these pleats are held in tension between ridge cables and valley cables, using catenary action to span 45 metres. When the roof is folded away, the pleats close so as to be as compact as possible for storage in a casing positioned in the base of the U. A mobile beam is provided for traction during opening and closing. This beam also serves to shore up the two fixed arms when the roof is open.

The innovative nature of this project lies mainly in the choice of a mobile roof that is simply in tension, despite its large dimensions (45m wide by 80m long). Managing the tensions in the cables and the canvas required the development of sophisticated rolling and winch mechanisms.

The conference will present the conception, technical principles and pictures hot off the press of the realisation of the project.

