

Title:

Knitted Membranes: rethinking the design, fabrication and application of membrane architecture

Organizers:

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Abstract:

Designing for and with knitted textiles brings new opportunities to membrane structures. This lecture will discuss emerging methods for predicting material behaviour of functionally graded membranes using knit as a method of locally tuning performance. By taking point of departure in the breadth of textile systems examined by CITA (Centre for Information Technology and Architecture) across the last 10 years, the plenary lecture will discuss means of form finding, integrating simulating and steering fabrication to create highly bespoke membranes that incorporate detailing and change knit structure detailing to shape performance. The presentation will further examine explorations into using machine learning for fabrication of highly complex topology free knitted membranes.