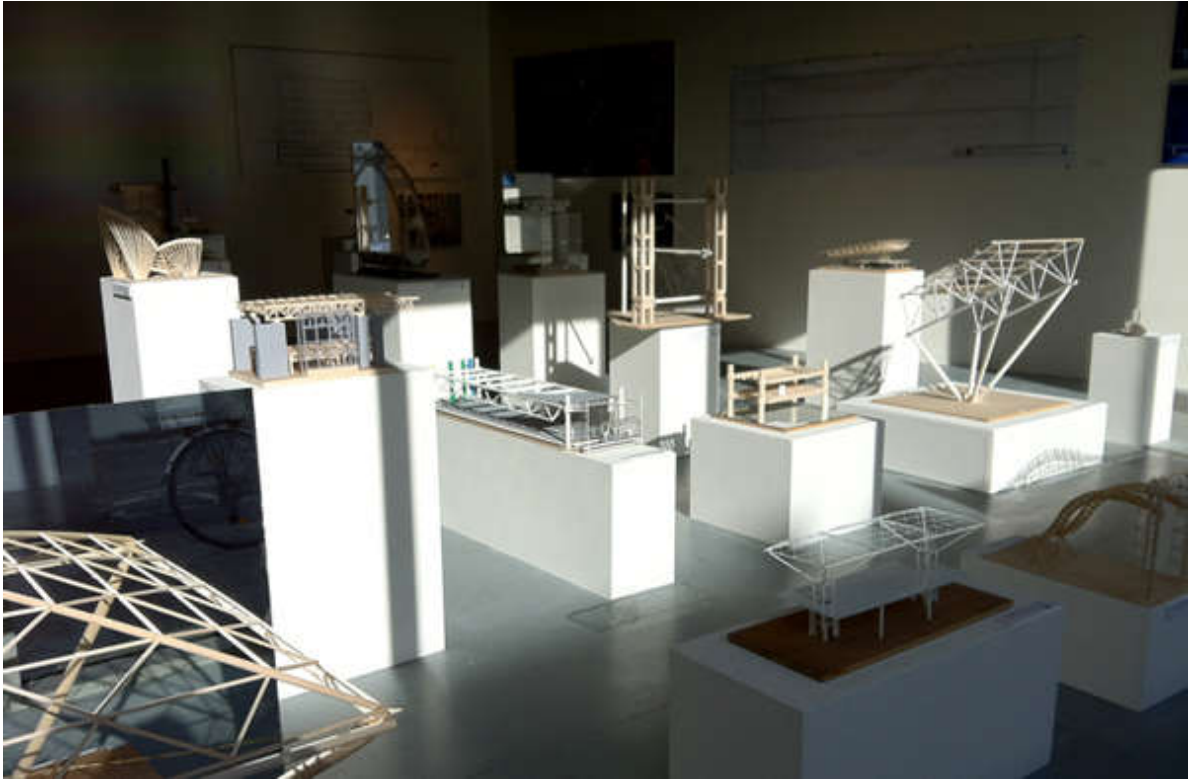


LEARNING FROM PETER RICE – a collaborative pedagogic project

I would distinguish the difference between the engineer and the architect by saying the architect's response is primarily creative, whereas the engineer's is essentially inventive.

Peter Rice



DSA's students' models at the exhibition at Dublin's National College of Art and Design

This 3-week collaborative project on the work of Irish engineer Peter Rice was undertaken at DSA in the fall semester of 2012 involving 3rd and 4th year architectural technology students as their first project in their Technical Design Studio (TDS) module. The students were asked to research and analyze Rice's buildings and represent their findings through freehand sketches and physical and digital models. In addition six 4th year architectural students each wrote a short analytical text on one of the projects for their History Theory Criticism (HTC) module.

Eleven of Rice's projects were chosen, students were divided into groups of 5-7, with both years equally represented in each group, and asked to systematically research, analyse, reverse engineer under specific topics and represent their findings about the building and the collaborative process through annotated sketches, 3-d digital models and physical models. For three weeks joint studio sessions were held as well as workshops and reviews with invited guests Architect Seán O Laoire, Engineer Peter Flynn from Arups and Gerard Crowley from Gerard Modelmakers, along with DSA staff. (Fig. 2)

During the project it became clear to us all that Rice's innovations in materials and design had greatly advanced the nature of modern architecture as he stretched the boundaries of materials and instability. The pedagogic exploration thus enhanced the students' learning of the integral nature of structure and architecture.

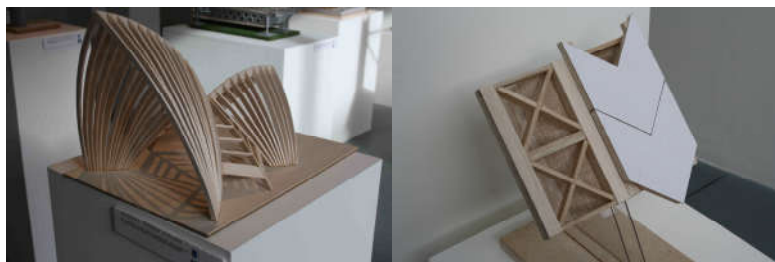
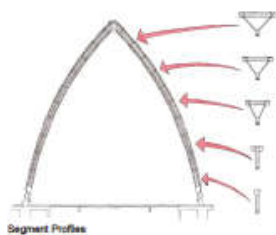


DSA students and staff involved in the project along with guests - architect Seán O Laoire and ARUP Engineer Peter Flynn

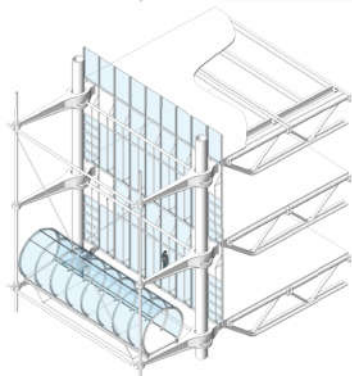
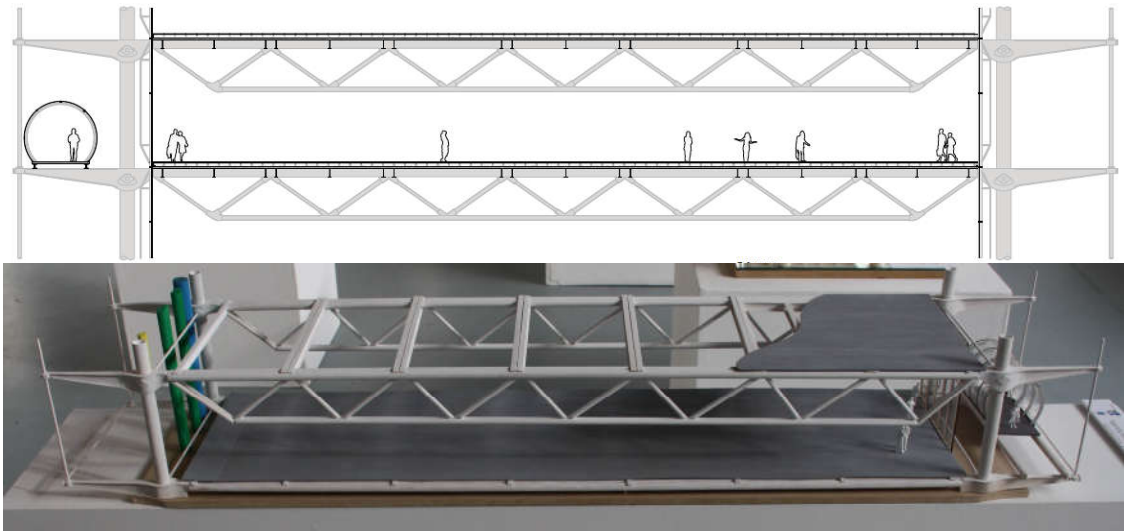
Through their explorations the students learned much and taught us all about the buildings but also about the collaborative process between architect, engineer, other related professionals and industry, a process Peter Rice believed essential to the success of each project.

Multiple themes dominating Rice's work became evident in the students' analysis and in the joint studio sessions and workshops including the incredible lightness of the structure across huge spans, the innovative choice of materials, the expression of the joints and of course the multi-disciplinary collaboration.

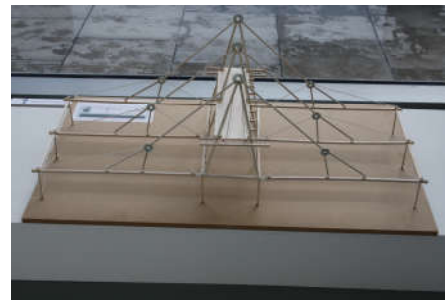
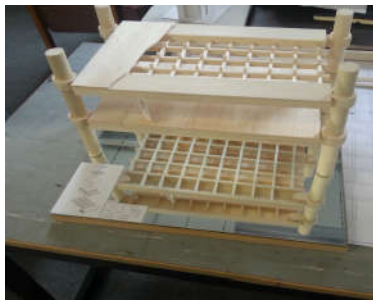
These themes were avidly discussed and analysed and their representations resolved through the studio sessions, the reviews and at one 6-hour long non-stop workshop with structural engineer Peter Flynn from ARUPs and then DSA Structures lecturer John Lauder.

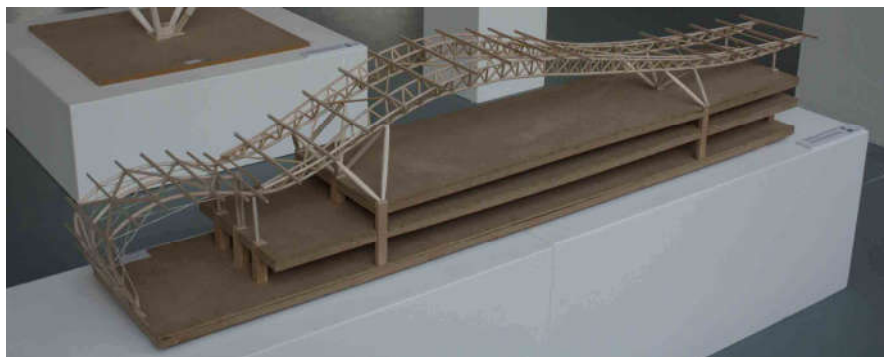
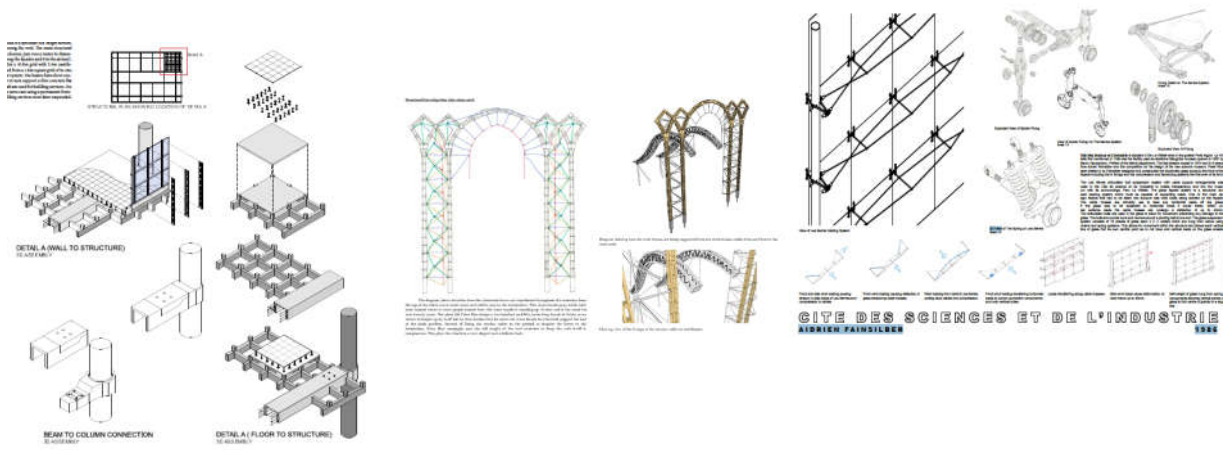


Sketch showing the tapering curved ribbed beams and physical models of the Sydney Opera House

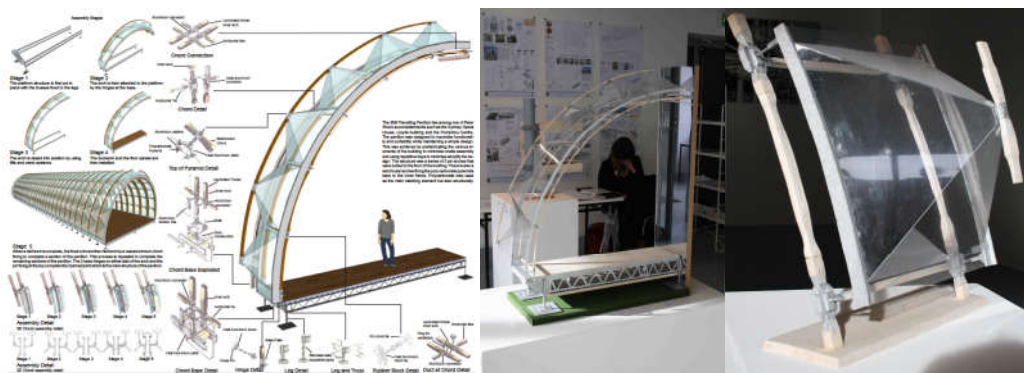


Student Andrei Triffo's Revit and physical models of the Centre Pompidou

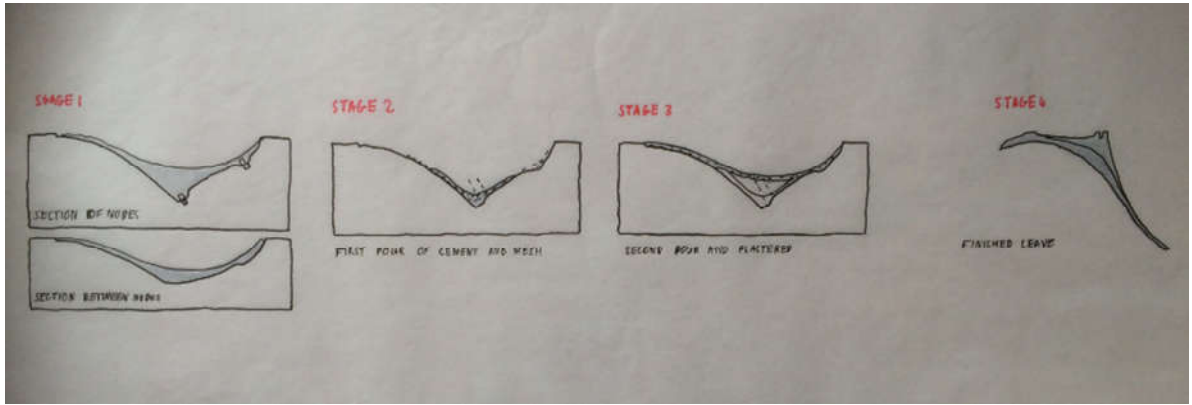




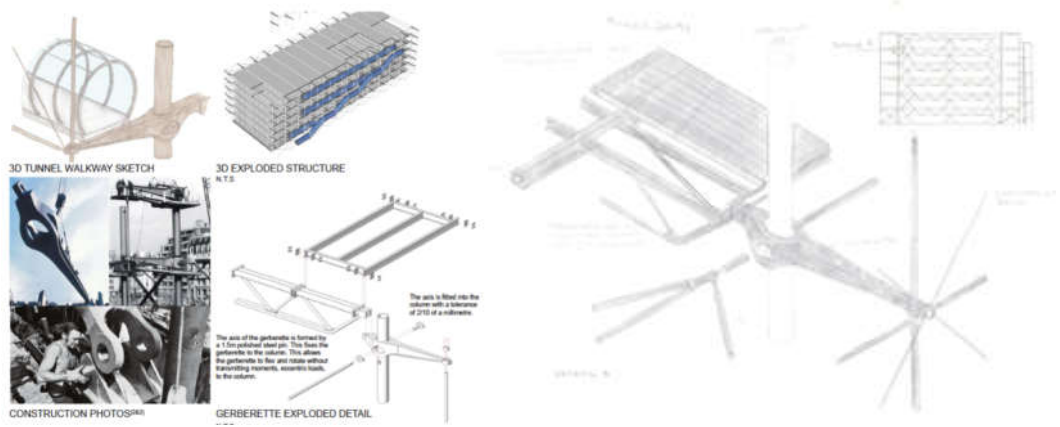
DSA Students' models and drawings of the Lloyd's Building, the Pat's Centre, the Pavilion of the Future in Seville, La Villette Pavilion in Paris and Kansai Airport



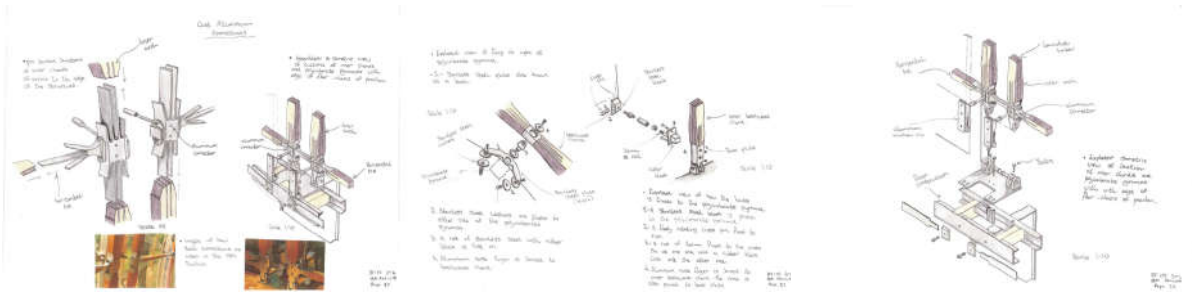
DSA Students' Akvile Klapautauskaite, Mark Doyle, James Maguire and their team's drawings and models of the IBM Pavilion



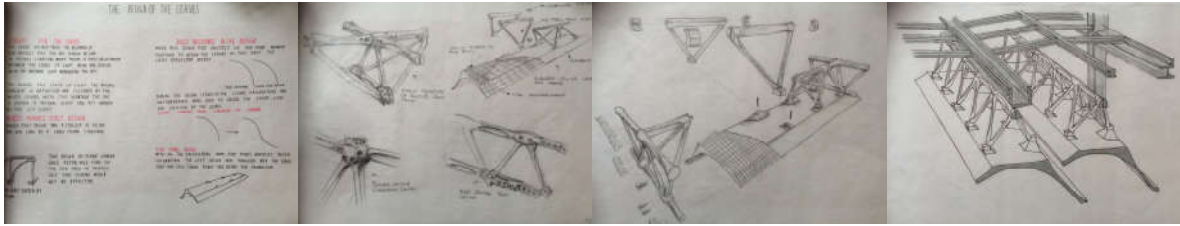
Student sketch of the process of casting the fiberglass moulds for the Menil Museum



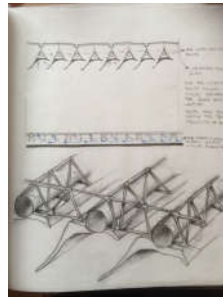
Students' sketches, archive photos and Andrei Triffo's Revit model image of the gerberette ensemble at the Pompidou Centre



DSA Students' Akvile Klapautauskaite, Mark Doyle, James Maguire and their team's drawings of the detail joints on the IBM Pavilion



DSA Student Dominika Zubianka's freehand analytical sketches of the ensemble of the Menil Museum's truss and light reflector



DSA Students model, Dominika Zubianka's sketches and picture of the Menil Museum
 (Ref:https://www.google.ie/search?q=menil+museum&espv=2&biw=1164&bih=531&source=Inms&tbm=isch&sa=X&ved=0ahUKEwiapoW939fQAhVsJsAKHfDQA_UQ_AUIBigB#imgsrc=ccJhXCT7RP5xmM%3A)

The analytical workbooks, A1 posters and models by the architectural technology students along with the analytical texts on Rice's work by the fourth year architecture students and an interpretative model of the Full Moon Theatre, Peter Rice's last project, by then recent DSA architectural graduates Samuel Teo and Mark Walker were publicly exhibited for two weeks at the exhibition *Learning from Peter Rice – Under the Skin* at the NCAD Gallery in October 2013.

Through the students' detailed interrogation of these buildings and their often innovative and highly professional ways of representing their findings, much of the richness of Peter Rice's genius as an engineer was revealed – a classic example of learning through doing. Both students and staff learned much from this collaborative analysis, from each other's critiques, from our visiting reviewers but most of all - we learned from Peter Rice.

The students' analytical sketch workbooks, A1 posters, physical models and the analytical texts on Rice's work has now found a home as part of a permanent exhibition to be opened in late February 2018 in the County Museum in Dundalk - a fitting tribute to their efforts and to the legacy of one of Dundalk's famous sons – Peter Rice.

Jim Roche
 3rd Year Architectural Technology Year Head
 January 2018