

议程 Programme

Arches and domes as structural shapes

第一周 Week 1

6月10日星期一 Monday 10th June

8:30-12:00 学生登记与暑期班介绍
Enrollment and Introduction

14:00-17:30 福州大学与实验室介绍
Introduction to FZU and Labs

6月11日星期二 Tuesday 11th June

8:30-12:00 开展课题活动 Start of Project Activities

14:00-17:30 陈述结构形态的方法
Presentation on Methodology in
Structural Morphology

6月12日星期三 Wednesday 12th June

8:30-12:00 结构优化原则
Principles of Structural Optimization

14:00-17:30 课堂作业 Classroom Work

6月13日星期六 Thursday 13th June

8:30-12:00 天桥结构优化
Structural Optimization in Footbridges

14:00-17:30 课堂作业 Classroom Work

6月14日星期一 Friday 14th June

8:30-12:00 课堂作业
Classroom Work

14:00-17:30 课堂作业
Classroom Work

6月15-16日星期四-星期五 Saturday-Sunday 15th-16th June

参观学习 (例如: 土楼)
Guided Site learning (eg. 土楼 Tulou)

第二周 Week 2

6月15日星期天 Monday 17th June

8:30-12:00 OCP结构优化的方法和软件
Approaches and Software for
Structural Optimization-OCP

14:00-17:30 课堂作业
Classroom Work

6月16日星期二 Tuesday 18th June

8:30-12:00 / 14:00 - 17:30 课堂作业
Classroom Work

6月17日星期三 Wednesday 19th June

8:30-12:00 / 14:00 - 17:30 课堂作业
Classroom Work

6月19日星期四 Thursday 20th June

8:30-12:00 / 14:00 - 17:30 课堂作业
Classroom Work

6月20日星期五 Friday 21st June

8:30-12:00 项目汇报和成果准备
Project reporting and results
preparation
14:00-17:30 最终成果展示、颁奖与闭幕典礼
Final Presentation of Projects
Awarding and Closing Ceremony



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第三届“结构形态”夏令营

SSSM19

Third International

Summer School

“Structural Morphology”

福州, 2019年06月10-21号

Fuzhou, June 10-21, 2019

摘要 Abstract

One of the deepest and central theme in design is the relationship between geometry and structures. How geometrical shapes influence forces' flow into elements is a basic point to better understand and design structures.

The so-called "optimal" geometrical shape has a strong influence on structure definition, as the coupling between form and forces, usually called structural morphology, is a key point for success to solve challenging structural problems, both using conventional materials or innovative shapes and technologies.

This School is focused on a practical approach to the coupling between form and forces in design, with emphasis on harmonizing the architectural and engineering vision.

设计中最深刻、最核心的主题之一是几何与结构的关系。几何图形如何影响力的流动是一个基本点，以更好地理解设计结构。

所谓“最优”的几何形状对结构定义有强大的影响力，形与力之间的耦合，通常称为结构形态，是成功解决结构问题的一个关键点，无论是使用传统材料还是使用创新的形状和技术。

这次活动的重点是找到一个实用的方法，在设计中形成形式和力之间的耦合，强调达成工程和建筑形象之间的和协。



主题介绍 Contents

The Summer School starting point is the reinterpretation of the main consolidated "forms" and the relationships between the spatial configurations and structures. Particular importance will be given to the possible morphological - structural "forms" (through geometric, static and materials logics), rethought in order to obtain new design and production methods.

Footbridges will be used as case study, analysing both the architectural applications and structural solutions for a number of real configurations.

Computer supports for the geometrical and analytical aspects of structural design are a specific tool that will be used by students to develop the case studies.

暑期班从对主要整合“形式”重新解读出发，探讨空间形态与结构的关系。尤其重视可能的形态结构的“形式”

（通过几何、静态和材料的逻辑），反思以获得新的设计和制造方法。

以人行桥作为研究案例，从建筑应用和结构方案来分析大量实际的布局。

计算机支持的结构设计方面的几何和分析作为一个特别的工具，将用于学生发展自己的研究案例。



比赛 Contest

The summer school will be based on a group design approach and specific lessons done by expert in different fields involved in structural morphology.

Working groups will be organised in teams composed by students from different countries, both with engineering and architecture backgrounds, to guarantee a complete contamination between form and structure.

Each group will produce a final project, comprehensive of drawings, animation, 3D rendering and real scale models. As final result, solution developed to properly satisfy both architectural aspects and structural safety requirements will be presented to a public evaluation committee.

暑期班将基于小组设计的方法，由与结构形态相关的不同领域专家授课。

小组将由中国和国外学生构成，兼有工程和建筑背景，以达成满足形式和结构的充分交流。

每个小组将产生一个最终的方案，以详细的图纸，动画，三维透视图和实体模型表达。作为最终的结果，应适当地满足建筑方面和结构安全的要求，提交给公共评估委员会。

