

## i - structures

- F compréhension intuitive des structures
- I comprensione intuitiva delle strutture
- D intuitives verständnis von tragwerken
- E intuitive understanding of structures

EPFL  
CH - 1015 Lausanne  
<http://is-beton.epfl.ch>

ETHZ  
CH - 8092 Zurich  
[www.ibk.baum.ethz.ch](http://www.ibk.baum.ethz.ch)

SUPSI  
CH - 6928 Manno  
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USI - Comunicazione  
CH - 6900 Lugano  
[www.unisi.ch](http://www.unisi.ch)

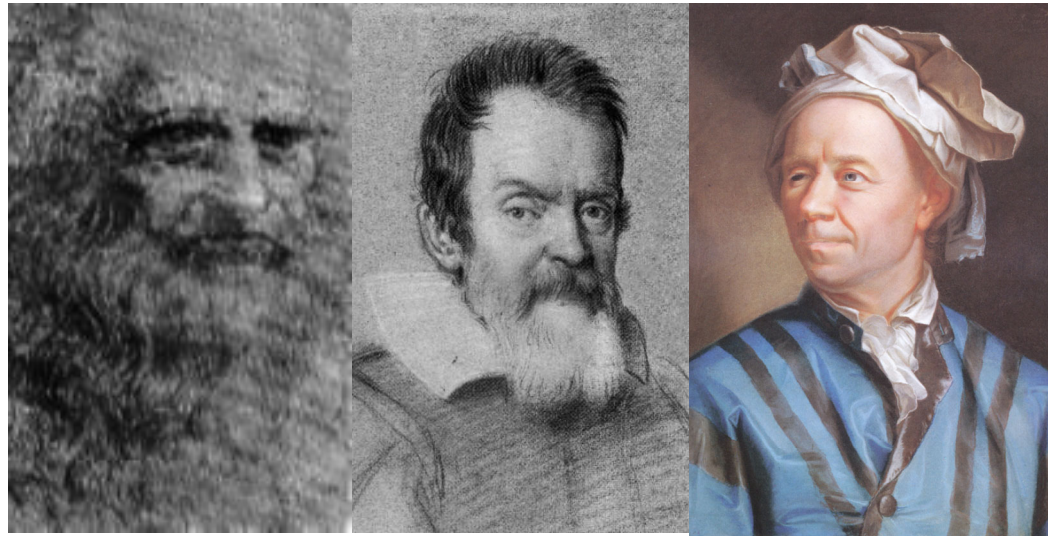
USI - Accademia  
CH - 6850 Mendrisio  
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Prof. Dr A. Muttoni, Ecole Polytechnique Fédérale de Lausanne

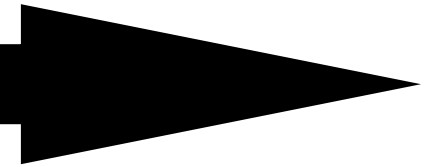
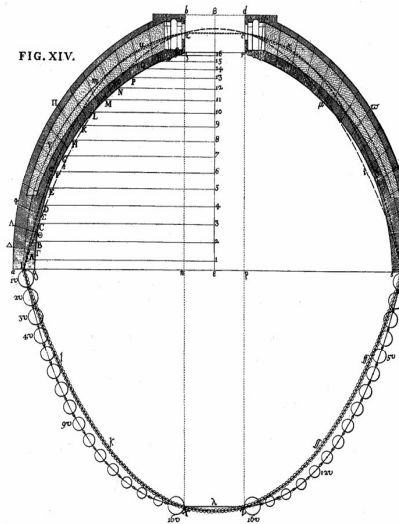
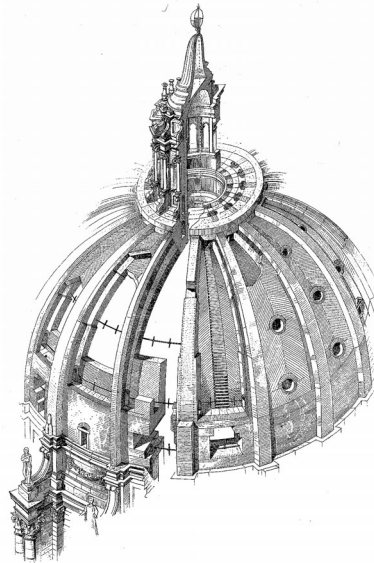


experience and intuition



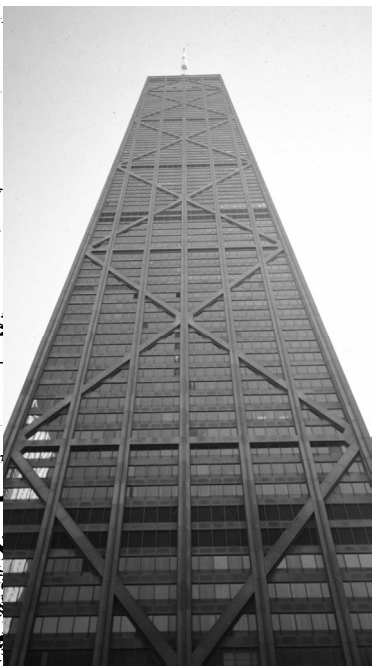
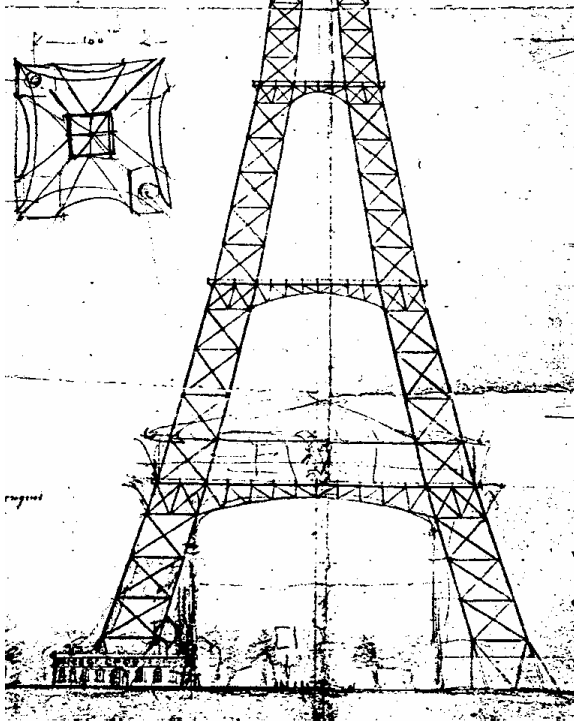
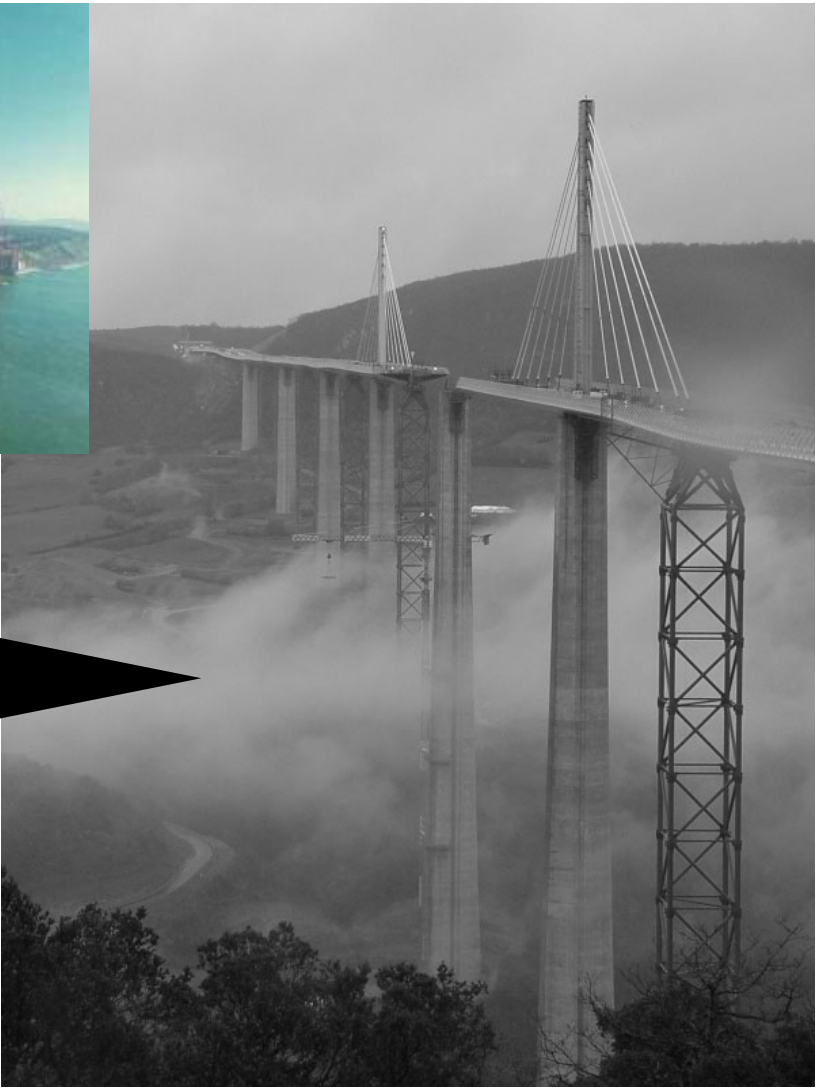
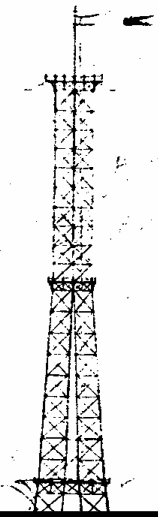
Leonardo da Vinci, Galileo Galilei, Leonhard Euler, ...  
1451-1519                      1564-1642                      1707-1783



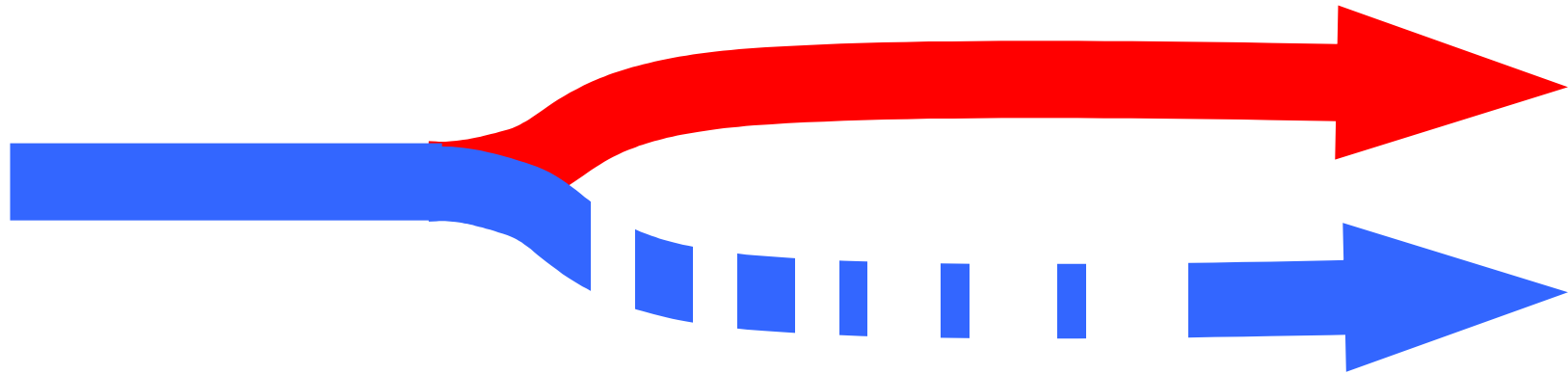


G. Poleni, 1748,  
first calculation of a structure

*Pylone de 300<sup>m</sup> de hauteur  
pour la ville de Paris. 1889  
Auteur: Eugène et Gustave Eiffel*



scientific and analytical approach



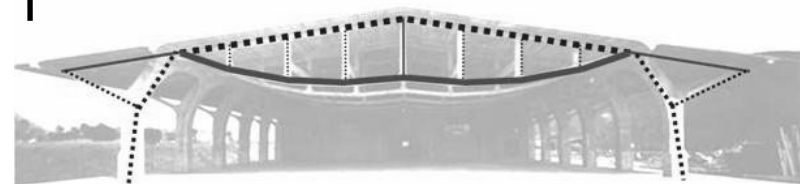
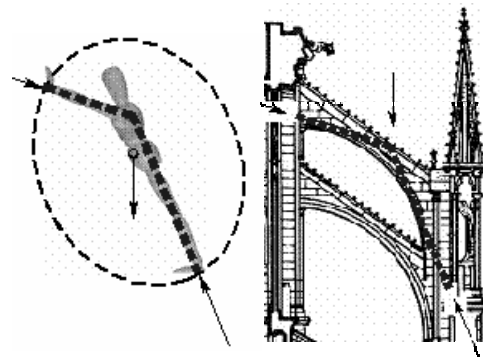
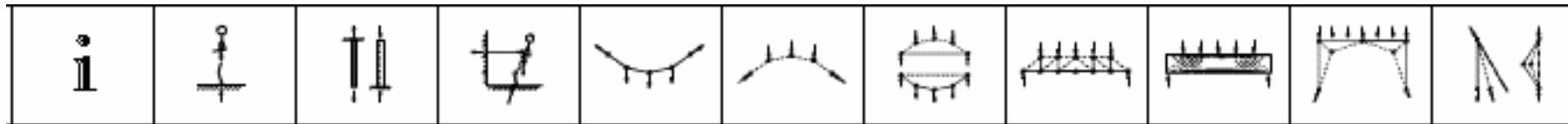
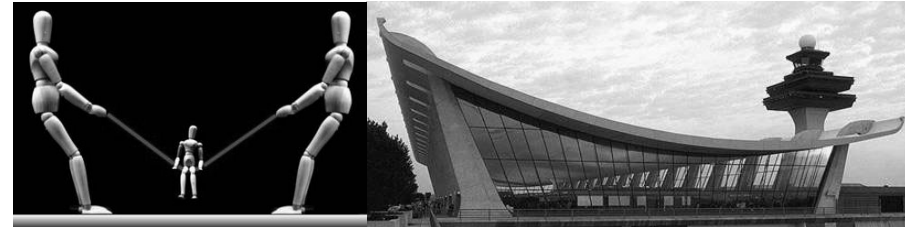
intuitive and creative approach

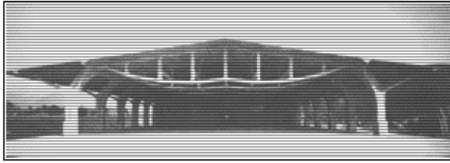


i-structures



# contents : the path of structures





i-structures

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Aurelio Murtoni

L'art des structures

Une introduction au fonctionnement des structures en architecture

Presses polytechniques et universitaires romandes

**online :**

- course material
- exercises
- exams with automatic correction

**ex-cathedra :**

- course
- models
- demonstrations

**textbook**

# strong features of the online course

- interactivity
- use of applets
- coaching by student assistants

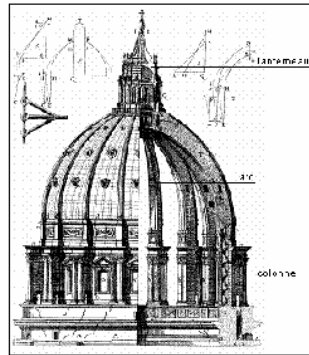


Figure 2: Vue & coupe de la Coupole de la basilique Saint-Pierre à Rome

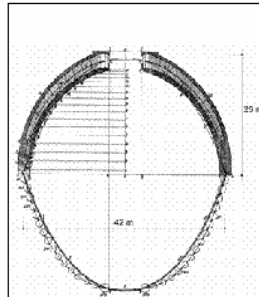
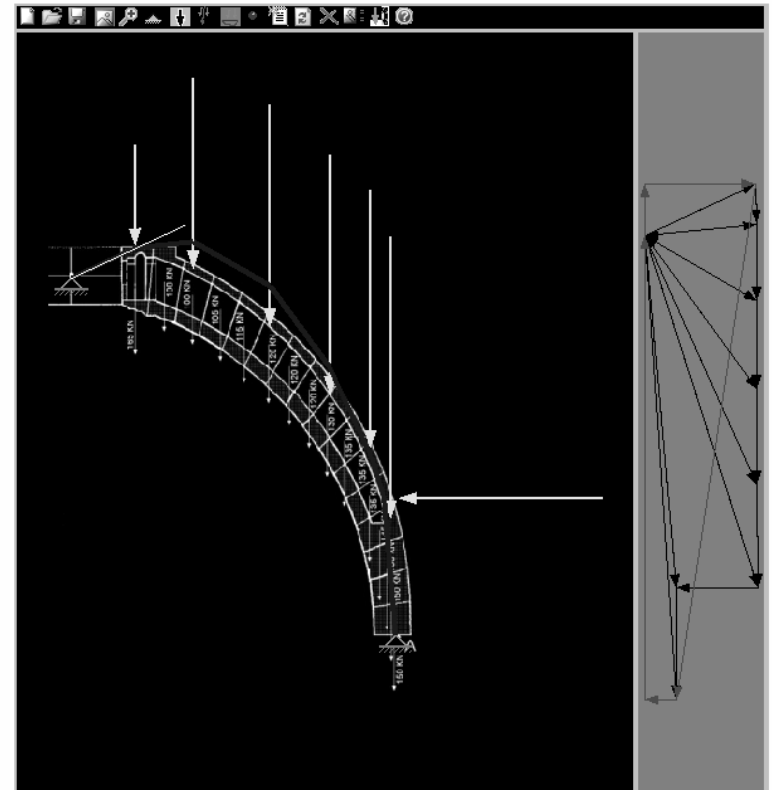
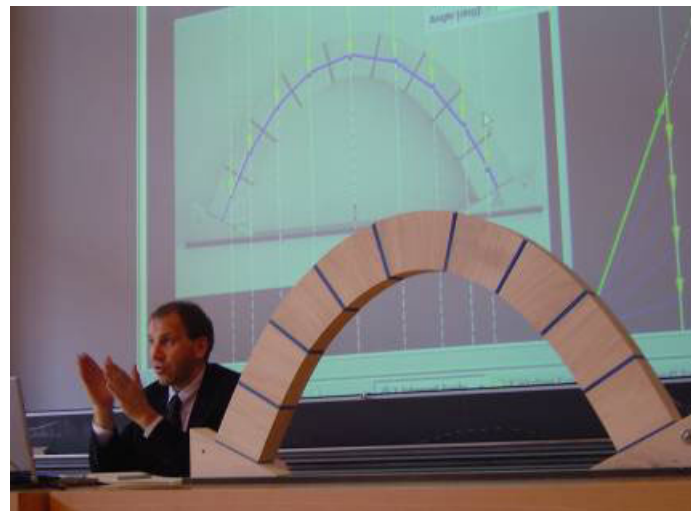


Figure 3: Coupe de la coupole montrant un arc, et la comparaison entre la forme idéale et celle réalisée.



# in practice

- Two-semester course starting in 2003
  - Accademia : 2 x 100 students
  - EPFL : 2 x 300 students
- Classical ex-cathedra teaching with frequent use of the online material



# Conclusions and outlook

- thank-you for the opportunity
- positive feedback from the 2003 students
- apply our experience to our other courses



<http://i-structures.epfl.ch>

Welcome onboard!