### RESEARCH TOPICS

**INNOVATIVE MATERIALS FOR CIVIL ENGINEERING**

- Fiber-reinforced materials (FRC) for tunnel linings: capacity based design
- Analysis and design of self-compacting concrete (SCC)
- Design of structures based on sustainability (durability, environmental friendly materials)
- Materials for structural repair and rehabilitation of ancient manufacts

### REFERENCE PROFESSOR(S)

BERNARDINO CHIAIA, full professor of Structural Mechanics

### INTERNATIONAL AND INDUSTRIAL COOPERATION

ETH Zurich, prof. H. Herrmann  
Bekaert, Belgium  
Buzzi Spa, Italy  
Cemex Intl., Biel, Switzerland  
Interbau Spa, Milano
RESEARCH GROUP

Bernardino Chiaia
Alessandro Fantilli
Mauro Borri Brunetto
Anna Carbone (DIFIS)
Enrico Masoero
Christian Turk

REFERENCE PAPERS

1. “Multiscale modelling of stick-slip transition of rough (fractal) surfaces”
   B. Chiaia & M. Borri-Brunetto

   B. Chiaia, A. Fantilli, P. Vallini

3. “Evaluation of minimum reinforcement ratio in FRC members and application to tunnel linings”
   B. Chiaia, A. Fantilli, P. Vallini
   Materials and Structures, Vol. 40, no. 6, pp. 593-604, 2007

   B. Chiaia, A. Fantilli, P. Vallini, G.S. Kalamaras, C. Alessio, C. Santucci, G. Ciravegna

5. “Minimum reinforcement and fiber contribution in tunnel linings: the italian experience”
   B. Chiaia, A. Fantilli and P. Vallini
   Fourth International Structural Engineering and Construction Conference ISEC IV, Melbourne, Australia,

CONTACTS

Prof. Dr. Bernardino Chiaia
Dept. of Structural and Geotechnical Engineering, Politecnico di Torino
10129 Torino Italy
tel. +39.011.5644866
e-mail: bernardino.chiaia@polito.it