



▶ POLITECNICO DI MILANO



Summer School 2015-2016

Politecnico di Milano – Polo Territoriale di Lecco



Summer School



Politecnico di Milano
Polo Territoriale di Lecco



Collegio dei Tecnici della
Industrializzazione Edilizia



Fédération internationale
du béton



Ordine degli Ingegneri di
Lecco



Summer School 2015

**Performance, Protection & Strengthening of Structures under
Extreme Loading** 3rd-8th July 2015





Summer School 2015

Performance, Protection & Strengthening of Structures under Extreme Loading - Speakers



GIUSEPPE MANCINI

Full Professor of Structural Design
at Politecnico di Torino



AVRAHAM N. DANCYGIER

Associate Professor of Structural
Engineering at the Faculty of Civil and
Environmental Engineering



ERIC BUZAUD

Senior scientist, Deputy Head of
Division "Detonics, Mechanical and
Thermal effects", Commissariat à
l'Énergie Atomique et Aux Énergies
Alternatives, Centre de Gramat



MARCO DI PRISCO

Full Professor of Structural Design at
the Department of Civil and
Environmental Engineering at
Politecnico di Milano.



Summer School 2015

FRIDAY, 3rd JULY 2015

- 09.00 - 10.30 Introduction to structural robustness.
(Prof. Mancini)
- 10.30 - 11.00 coffee break
- 11.00 - 12.30 General framework of safety for
exceptional loadings (Prof. Mancini)
- Lunch*
- 14:30-16:00 Blast effects (Dr. Buzaud)
- 16:00-16:30 *Coffee break*
- 16:30-18:00 Concrete material response under
extreme loadings. (Dr. Buzaud)

SATURDAY, 4th JULY 2015

- 9:00-10:30 Examples of exceptional loads
combinations (Prof. Mancini)
- 10:30-11:00 *Coffee break*
- 11:00-12:30 A case study (Prof. Mancini)



MONDAY, 6th JULY 2015

- 9:00-10:30 Progressive collapse: an introduction - phenomenology,
examples, modeling approaches. (Dr. Buzaud)
- 10:30-11:00 *Coffee break*
- 11:00-12:30 Predictive numerical simulation: methodology,
comparison to experimental results & validation for
blast diffraction & structural response against blast loading.
(Dr. Buzaud)
- Lunch*
- 14:30-16:00 Reinforced concrete barriers for fragments and
blast loads (Prof. Dancygier)
- 16:00-16:30 *Coffee break*
- 16:30-18:00 Analytical and experimental approaches (Prof.
Dancygier)



Social programme

SATURDAY, 4th JULY 2015

Trip on Lake Como

SUNDAY, 5th JULY 2015

Milan, visit to Expo



Summer School 2015

TUESDAY, 7TH JULY 2015

9:00-10:30 HPFRC Material behaviour at high strain rates and high temperature (Prof. di Prisco)

10:30-11:00 *Coffee break*

11:00-12:30 Meso-scale testing of FRC elements under blast and fire loads (Prof. di Prisco)

Lunch

14:30-16:00 Impact resistance of reinforced concrete barriers (without and with steel liner)
(Prof. Dancygier)

16:00-16:30 *Coffee break*

16:30-18:00 Advanced engineering solutions in RC protective structure (Prof. Dancygier)

WEDNESDAY, 8TH JULY 2015

9:00-10:30 Full-scale tests under blast and fire loads (Prof. di Prisco)

10:30-11:00 *Coffee break*

11:00-12:30 Design of tunnel segments taking into account exceptional loads. (Prof. di Prisco)

