

Giovanni Di Luzio's short biography

Giovanni Di Luzio received his MS Degree in Civil Engineering in October 1998 from Politecnico di Milano. After one year spent in the Italian military corps of engineers, in 2002 Di Luzio obtained his Ph.D. in Structural Engineering. In 2003 he had a post-doctoral research fellowship in the research group of Prof. Cedolin and he joined the Department of Structural Engineering at Politecnico di Milano in 2006 as Assistant Professor. After obtaining the Italian national qualification as Associate Professor in January 2015, he joined the Department of Civil and Environmental Engineering as Associate Professor in 2016. Di Luzio has been teaching courses of structural design at the School of Architecture and Society and Civil Engineering of Politecnico di Milano since 2004. He obtained the Italian qualification as Full Professor in May 2019.

Di Luzio has been visiting researcher at Rensselaer Polytechnic Institute (Troy, USA) in 2006 and at Northwestern University (Evanston, USA) in 2000 and 2012. He is voting member of ACI technical committees: Committee 446 -- Fracture Mechanics of Concrete and Subcommittee 209-0D -- Numerical Methods and 3D Analyses. Di Luzio is a reviewer for journals published by ASCE, ELSEVIER, SPRINGER, KCI, JSCE, ICE and he was awarded as outstanding reviewer by many journals. He was speaker at numerous conferences and workshops in US, Europe and Asia. He is the author of more than 50 papers published in peer-reviewed international journals and international conference proceedings.

Di Luzio is a researcher, with more than twenty-year experience, in the field of computational and applied mechanics, in particular for concrete and reinforced concrete structures. His research topics includes: linear and nonlinear fracture mechanics, nonlinear constitutive modeling of quasi-brittle materials, mechanical behavior of concrete under variable hygro-thermal conditions, concrete creep and rate effect, moisture and heat transfer in porous materials, concrete-steel interface behavior, anchors in reinforced concrete structures, fiber-reinforced cementitious materials, thermally damaged concrete, and alkali-silica reaction in concrete. He has participated in many international and national research projects.

List of selected publications

- Z. P. Bažant and G. Di Luzio “**Nonlocal microplane model with strain-softening yield limits**”, *International Journal of Solids and Structures*, 41/24-25 (2004), 7209–7240.
- G. Di Luzio and Z. P. Bažant “**Spectral analysis of localization in nonlocal and over-nonlocal materials with softening plasticity or damage**”, *International Journal of Solids and Structures*, 42/23 (2005), 6071-6100.
- G. Di Luzio “**A symmetric over-nonlocal microplane model M4 for fracture in concrete**”, *International Journal of Solids and Structures*, 44/13 (2007), 4418-4441.
- G. Di Luzio “**Numerical model for time-dependent fracturing of concrete**”, *Journal of Engineering Mechanics (ASCE)*, 135/7 (2009), 632-640.
- G. Di Luzio and G. Cusatis “**Hygro-thermo-chemical modeling of high performance concrete. I: Theory**”, *Cement and Concrete Composites*, 31/5 (2009), 301–308.
- G. Di Luzio, G. Muciaccia and L. Biolzi “**Size effect in thermally damaged concrete**”, *International Journal of Damage Mechanics*, 19/5 (2010), 631-656.
- G. Di Luzio and G. Cusatis “**Solidification-Microprestress-Microplane (SMM) Theory for Concrete at Early Age. Theory, Validation and Application**” *International Journal of Solids and Structures*, 50 (2013), 957–975.
- M. Alnagar, G. Cusatis, and G. Di Luzio, “**Lattice Discrete Particle Modeling (LDPM) of Alkali Silica Reaction (ASR) Deterioration of Concrete Structures**” *Cement and Concrete Composites*, 41 (2013), 45-59.
- G. Di Luzio, G. Cusatis. “**Cohesive crack analysis of size effect for samples with blunt notches and generalized size effect curve for quasi-brittle materials**” *Engineering Fracture Mechanics*, 204 (2018), 15-28.
- M. Pathirage, D.P. Bentz, G. Di Luzio, E. Masoero, G. Cusatis. “**The ONIX model: a parameter-free multiscale framework for the prediction of self-desiccation in concrete**” *Cement and Concrete Composites*, 103 (2019), 36-48.
- G. Di Luzio and L. Cedolin “**Concrete response under dynamic loading**”, *Studies and researches*, 25 (2005), 155-176.