

Name: SILVIO CARLO MARIA
Surname: VALENTE
Email: silvio.valente@polito.it
National insurance number: VLNSLV51C03L219S
Gender: Male
Date of birth: 1951-03-03
Nazionalità: ITALIAN
Document number: AH0949569
Passport number:

Address

Province: TO
City: TORINO
Address: Corso Duca degli Abruzzi
Number: 24
CAP: 10129
Telephone: +390115644853
Fax: +390115644899

Mobile:

Organization type: Politecnico di Torino
Role: Full Professor or research directors
Department name: (Politecnico di Torino) DISTR
Education: Civil Engineering Degree

Work experience in the last 5 years: Full professor of Structural Mechanics at the Faculty of Engineering of Politecnico di Torino.

He is member of Teaching Council for the PhD Program in Structural Engineering at the Politecnico di Torino.

Technical, organizational and social skills: His research activities focus on numerical simulation of fracture mechanics of quasi-brittle materials (concrete and rock). One of the main goals of the scientific community working in this field is the analysis of the damage evolution in dams. These research topics can be summarized as follows.

- Size-related phenomenon of bifurcation of equilibrium path.
- Interaction of viscous phenomena and crack growth (Mode I and Mixed Mode conditions):

Phenomenological models (cylinder tests, three point bending tests, dam models),
– Models based on non-integer derivatives coupled with micromechanical models,
– Influence of imprecise (fuzzy) parameters on the response of the model.

- Cyclic loading and crack growth.
- Dam-foundation joint behaviour.
- Scale effects on:
 - maximum load and rupture mechanisms,
 - dam model,
 - failure lifetime (creep),
 - fatigue limit (cyclic loading).

Has served as a reviewer for the following international journals:

- Computers and Structures,
- Computational Methods in Applied Mechanics and Engineering,
- International Journal on Numerical and Analytical Methods in Geomechanics ,
- Engineering Fracture Mechanics,
- International Journal of Fracture,
- European Journal on Earthquake Engineering.

Is member of:

- IACM (International Association of Computational Mechanics),
- EUROMECH (European Mechanics Society),
- FraMCoS (Fracture Mechanics of Concrete Structures),
- ESIS (European Structural Integrity Society),
- AIMETA (Associazione Italiana di Meccanica Teorica e Applicata),
- GIMC (Gruppo Italiano di Meccanica Computazionale),
- IGF (Gruppo Italiano Frattura).

Since 2004 has been a member of the “Experimental Laboratory of Innovative and Salvaged

Materials for Civil Engineering Infrastructures”.

Loans managed for the last 5 years: Responsible of the research program on Gebbo Dam: Deterministic model to control Dam Behavior Progetto Eureka! Un’idea per l’energia, years 2008/09

Engineering evaluation of concrete gravity dam safety: an approach based on computational fracture mechanics grant n.:2004084599 004, years 2005/2006

•Mixed-mode fracture of concrete dam joints: damage assessment through nonlinear vibration technique grant n.:20077ESJAP 003, years 2008/2010

Publications for the last 5 years, licences or other products of research: Papers on National/International journals:

1. BARPI F., VALENTE S. (2004). A fractional order rate approach for modeling concrete structures subjected to creep and fracture. INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, 41/9-10:2607–2621.
2. BARPI F., VALENTE S.(2005). Lifetime evaluation of concrete structures under sustained postpeak loading. ENGINEERING FRACTURE MECHANICS, 72:2427–2443
3. BARPI F., VALENTE S.(2008). Modeling water penetration at dam-foundation joint. ENGINEERING FRACTURE MECHANICS, 75/3-4:629–642

Papers on National/International Congresses:

4. BARPI F., VALENTE S. (2004). Cracked concrete structures under cyclic load. In Fracture Mechanics of Concrete Structures, pages 685–690. Ia-FraMCoS.
5. BARPI F., VALENTE S. (2005). Fatigue fracture in concrete structures. In 11th International Conference on Fracture, March 20-25, 2005 (Torino), Proceedings on CDROM.
6. BARPI F., VALENTE S. (2005). Subcritical crack propagation in concrete structures. In XVII Congress of the Italian Association of Theoretical and Applied Mechanics (AIMETA), Firenze, September 11-15, 2005. Proceedings on CD-ROM.
7. BARPI F., VALENTE S. (2005). Non planar crack propagation in concrete specimens. In 11th International Conference on Fracture, March 20-25, 2005 (Torino). Proceedings on CD-ROM.
8. BARPI F., VALENTE S. (2006). Water/fracture interaction at dam-foundation joint. In III European Conference on Computational Mechanics Solids, Structures and Coupled Problems in Engineering, Lisbon, Portugal, June 5-8, 2006. Proceedings on CD-ROM.
9. BARPI F., VALENTE S. (2006). Hydraulic fracture at dam-foundation joint. In An. Carpinteri, L.P. Pook, and A. Spagnoli, editors, International Conference on Crack Paths (CP 2006), Parma, September 14-16, 2006. Proceedings on CD-ROM.
10. BARPI F., VALENTE S.(2007). Mixed-mode pressurized fracture at the dam

foundation joint. In G.Ferro G.Plizzari A.Carpinteri, P.Gambarova, editor, Fracture Mechanics of Concrete Structures, pages 181–186. Ia-FraMCos.

11. BARPI F., VALENTE S. (2007). Analisi del comportamento meccanico del giunto digafondazione.

In Secondo convegno sui problemi strutturali nell'ingegneria delle dighe, Roma 12-13 Aprile 2007. Accademia Nazionale dei Lincei.

12. BARPI F., VALENTE S. (2007). Hydromechanical coupling at dam-foundation joint. In A. Carini, G. Mimmi, and R. Piva, editors, XVIII Congress of the Italian Association of Theoretical and Applied Mechanics (AIMETA), Brescia, September 11-14, 2007. Proceedings on CD-ROM.

Type of the role in the search: Researcher