

CURRICULUM VITAE

Prof. Silvio Valente

1 Posizione attuale/Present Position

Nato a Torino il 3 Marzio 1951, e' ora professore ordinario di Scienza delle Costruzioni , materia del Settore Scientifico Disciplinare ICAR/08 presso il Dipartimento di Ingegneria Strutturale, Edile e Geotecnica del Politecnico di Torino

Born in Torino on March, 3th 1951 is now full professor of Structural Mechanics (Scientific Area ICAR/08) at the Department of Structural,Geotechnical and Building Engineering of Politecnico di Torino.

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2 Formazione/Education

1969 Maturita' Classica from Liceo 'Vittorio Alfieri' di Torino

1974 Graduated in Civil Engineering from Politecnico di Torino.

3 Carriera accademica/Academic career

1974 'Assegnista' at Istituto di Tecnica delle Costruzioni, Politecnico di Torino

1980 Ricercatore/Research Assistant at Department of Structural and Geotechnical Engineering , Politecnico di Torino

1992 Professore Associato/Assistant Professor of Structural Mechanics at Faculty of Architecture , Politecnico di Torino

1994 Professore Ordinario/Full Professor of Structural Mechanics at First Faculty of Engineering , Politecnico di Torino

1994 Member of the Scientific Board of Doctorate on Structural Engineering at Politecnico di Torino

2015 Member of the Scientific Board of Doctorate on Civil and Environmental Engineering at Politecnico di Torino

4 Ricerca scientifica/ Scientific research

His research activities focus on numerical simulation of fracture mechanics of quasi-brittle materials (concrete,rock and masonry). 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).
- Interaction between cohesive crack and contact with friction at the joint between a gravity dam and the rock foundation.

5 Progetti di ricerca finanziati dal MIUR/Research Projects Funded by the Italian Ministry of Education, University and Scientific Research

Team leader of the research unit at Politecnico di Torino in the following projects cofunded by the Italian Ministry of Education, University and Scientific Research:

- *Scale effects, in space and time, on the structural response of concrete dams*, grant n. 9808160821.004, years 1999/2000
- *Time effect on ultimate limit state of large concrete dams*, grant n. MM08161945.005, years 2001/2002.
- *Influence of parameters uncertainties on structural behaviour of concrete dams: long-term cracking, water/fracture interaction, size-effects*, grant n. 2002087914.006, years 2003/2004
- *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 techniques*, grant n.:20077ESJAP_003, years 2008/2010

6 Progetti di ricerca finanziati da ENEL-CRIS/ Research Projects Funded by Centro Ricerca Idraulica e Strutturale of Enel

- Team leader of the research project on *Time induced crack propagation in concrete structures: cohesive crack model in mixed-mode conditions*, grant n.:A845_95, years 1995/96

7 Progetti di ricerca finanziati da Enel-University/ Research Projects Funded by Enel University through Eureka Program

- Team leader of the research project on *Gebbo dam: a deterministic model to control the dam behavior*, years 2008/2009

8 Servizi come revisore scientifico/Peer Review Services

Has served as a reviewer for the following international journals:

- *Engineering Fracture Mechanics*,
- *International Journal of Fracture*,
- *Rock Mechanics and Rock Engineering*,
- *Journal of Engineering Mechanics (ASCE)*,
- *Journal of Structural Engineering (ASCE)*,
- *Construction and Building Materials*,
- *Computers and Structures*,
- *Computational Methods in Applied Mechanics and Engineering*,
- *Materials and Structures*,
- *Fatigue and Fracture of Engineering Materials and Structures*
- *Meccanica*
- *European Journal of Mechanics - A/Solids*.
- *International Journal of Architectural Heritage*
- *Mathematical Problems in Engineering*
- *Scientific Research and Essays*

9 Appartenza ad associazioni scientifiche/Affiliation

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*).
- www.researchgate.net