

Name: PIETRO
Surname: CORNETTI
Email: pietro.cornetti@polito.it
National insurance number: CRNPTR70T31G337Z
Gender: Male
Date of birth: 1970-12-31
Nazionalità: ITALIAN
Document number: AN5262978
Passport number:

Address

Province: TO
City: TORINO
Address: Corso Duca degli Abruzzi
Number: 24
CAP: 10129
Telephone: +390115644901
Fax: +390115644899

Mobile:

Organization type: Politecnico di Torino

Role: Researcher

Department name: (Politecnico di Torino) DISTR

Education: Civil Engineering degree.

Ph.D. in Structural Engineering

Work experience in the last 5 years: TEACHING

Lecturer of the course "Strength of Materials" for Civil Engineers in the academic years 2004/05, 2005/06. Tenure teacher professor Chiaia.

Tenure teacher of the course "Solid Mechanics" for Mathematical Engineers since the academic year 2003/04.

Tenure teacher of the course "Strength of Materials" for Civil Engineers since the academic year 2006/07.

In 2005, 15 lectures of the course of Structural Mechanics were filmed for the "Consorzio Nettuno". Nettuno is the Italian University that, by means of TV lectures, gives the opportunity of studying to people that cannot attend traditional university courses.

RESEARCH INTERESTS

Fractional calculus in damage mechanics and non-local elasticity.

Fractals and size effect in the mechanical behaviour of disordered materials.

Debonding mechanisms in beams strengthened by FRP.

Failure loads of V-notched specimens.

Finite fracture mechanics and asymptotic matching technique.

Stereological and statistical analysis of concrete microstructure and aggregate grading.

Dry snow slab avalanche release.

Technical, organizational and social skills: Member of the Local Organizing Committee of the 11th International Conference on Fracture (ICF XI), Torino, March 2005.

Loans managed for the last 5 years: In 2006, 2007, 2008 Politecnico di Torino awarded a grant of 3,000 €/ year to dr. Cornetti to attend international conferences. The grants were

for outstanding young researchers.

2004-2005: membership of the National Project (PRIN) "Nanotribology"

- Publications for the last 5 years, licences or other products of research:** [1] A fractal theory for the mechanics of elastic materials. A. Carpinteri, B. Chiaia, P. Cornetti. *Materials Science & Engineering-A*, Vol. 365, No. 1-2, pp. 235-240, 2004.
- [2] The elastic problem for fractal media: basic theory and finite element formulation. A. Carpinteri, B. Chiaia, P. Cornetti. *Computers & Structures*, Vol. 82, No. 6, pp. 499-508, 2004.
- [3] Calculation of the tensile and flexural strength of disordered materials using fractional calculus. A. Carpinteri, P. Cornetti, K. M. Kolwankar. *Chaos, Solitons & Fractals*, Vol. 21, No. 3, pp. 623-632, 2004.
- [4] A mesoscopic theory of damage and fracture in heterogeneous materials. A. Carpinteri, B. Chiaia, P. Cornetti. *Theoretical and Applied Fracture Mechanics*, Vol. 41, No. 1-3, pp. 43-50, 2004.
- [5] Numerical modelization of disordered media via fractional calculus. A. Carpinteri, B. Chiaia, P. Cornetti. *Computational Material Science*, Vol. 30, No. 1-2, pp. 155-162, 2004.
- [6] A stereological analysis of aggregate grading and size effect on concrete tensile strength. A. Carpinteri, P. Cornetti, S. Puzzi. *International Journal of Fracture*, Vol. 128, No. 1, pp. 233–242, 2004.
- [7] Size effect upon grained materials tensile strength: the increase of the statistical dispersion at the smaller scales. A. Carpinteri, P. Cornetti, S. Puzzi. *Theoretical and Applied Fracture Mechanics*, Vol. 44, No. 2, pp. 192-199, 2005.
- [8] The fracture mechanics of finite crack extension. D. Taylor, P. Cornetti, N. Pugno. *Engineering Fracture Mechanics*, Vol. 72, No. 7, pp. 1021-1038, 2005.
- [9] Scale effects on strength and toughness of grained materials: an extreme value theory approach. A. Carpinteri, P. Cornetti, S. Puzzi. *Strength, Fracture and Complexity*, Vol. 3, No. 2-4, pp. 175-188, 2005.
- [10] A generalized Paris' law for fatigue crack growth. N. Pugno, M. Ciavarella, P. Cornetti and A. Carpinteri. *Journal of the Mechanics and Physics of Solids*, Vol. 54, No. 7, pp 1333-1349, 2006.
- [11] Finite fracture mechanics: a coupled stress and energy failure criterion. P. Cornetti, N. Pugno, A. Carpinteri and D. Taylor. *Engineering Fracture Mechanics*, Vol. 73, No. 14, pp 2021-2033, 2006.
- [12] Scaling laws and multi-scale approach in the mechanics of heterogeneous and disordered materials. A. Carpinteri, P. Cornetti, S. Puzzi. *Applied Mechanics Reviews*, Vol. 59, No. 5, pp. 283-305, 2006.
- [13] New unified laws in fatigue: from the Wöhler's to the Paris' regime. N. Pugno, P. Cornetti, A. Carpinteri. *Engineering Fracture Mechanics*, Vol.74, No. 14, pp. 595–601, 2007.
- [14] Comments on “Is the cause of size effect on structural strength fractal or energeticstatistical?”

by Bažant & Yavari [Engng Fract Mech 2005;72:1–31]. A. Carpinteri, B. Chiaia, P. Cornetti, S. Puzzi. Engineering Fracture Mechanics, Vol. 74, No. 17, pp. 2892–2896, 2007.

[15] A finite fracture mechanics approach to structures with sharp V-notches. A. Carpinteri, P. Cornetti, N. Pugno, A. Sapora, D. Taylor. Engineering Fracture Mechanics, Vol. 75, No. 7, pp. 1736-1752, 2008.

[16] On the impossibility of separating nanotubes in a bundle by longitudinal tension. N. Pugno, P. Cornetti, A. Carpinteri. Journal of Adhesion, Vol. 84, No. 5, pp. 439-444, 2008.

[17] Triggering of dry snow slab avalanches: stress versus fracture mechanical approach. B. Chiaia, P. Cornetti, B. Frigo. Cold Regions Science and Technology, Vol. 53, No. 2, pp. 170-178, 2008.

[18] Strength of hierarchical materials. A. Carpinteri, P. Cornetti, N. Pugno, A. Sapora. Microsystem Technologies, DOI 10.1007/s00542-008-0644-x, available on-line, May 2008..

Type of the role in the search: Researcher