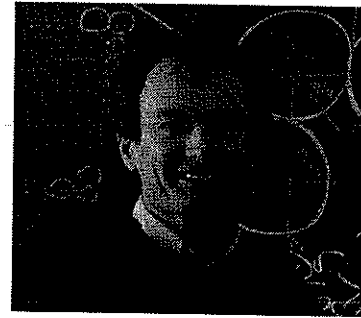


NICOT François

Research Professor
Ph-D, Eng. Civil Engineering
 - Central School of Lyon -



Born in October, 8th, 1967, Montélimar (France)
 Married, three children

□ **Professionnal line**

From 2009 until now	Research Professor at IRSTEA Head of Geomechanics Group
09/2004 – 08/2007	Professor at the University Joseph Fourier, Grenoble (France) Institute of technology, Dpt of Civil Engineering
08/2000 – 08/2004 09/2007 – 12/2009	Research fellow (first class), CEMAGREF (Grenoble, France) (Research Unit ETNA)

□ **Distinction, Prize**

- National federation of Civil Engineering: best researcher of the year (2002)
- High distinction delivered by the Foundation “Rhône-Alpes Futur », (11/2003) : laureat of the theme « Modeling and Numerical computation »

□ **Administrative and scientific responsibilities**

- Member of the Scientific Committee and Co-Editor of the Snow Conference 2007 (Moscow)
- Member of the Advisory Board of the 8th International Workshop on Bifurcations and Degradations in Geomaterials (May 2008, Lake Louise, Alberta, Canada).
- Member of the Editorial Board of ECT2008 (The Sixth International Conference on Engineering Computational Technology), Athens, from 2 to 5 September 2008.
- Member of the Scientific Committee of “*Colloque Science et Technologie des Poudres & Matériaux Frittés 2009*”, Montpellier, may 2009.
- Co-organization, with S. Bonelli (Cemagref) and C. Dascalu (L3SR), of the next International Workshop *Bifurcation and Degradation in Geomechanics (IWBDG)*, France, 2011.
- Member of the Scientific Committee of AGS (Euro Mediterranean Symposium in Advances in Geomaterials and Structures).
- Member of the Scientific Committee (Technical Advisory Panel) of COMGEO (International Symposium in Computational Geomechanics).
- Executive Member of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) – Technical Committee TC103 (Numerical Methods in Geomechanics)
- Over 70 Reviews in the international journals of solid mechanics (Int. J Numer. Anal. Meth. Geomech., Int. J. Plasticity, etc.)
- Member of the Editorial Board of the International journal *Computers and Geotechnics* (Elsevier)

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- Member of the Editorial Board of the *International journal for Numerical and Analytical Methods in Geomechanics* (Wiley)
- Director of the book series "Environmental Engineering" in ISTE-Wiley Publ.
- Editor-in-Chief of the *European Journal of Environmental and Civil Engineering* (Taylor and Francis Group)
- Co-director of the National Research Group MeGe (Multiphysics and multiscale couplings in geoenvironmental Mechanics).

□ **Research topics**

- Instability and bifurcation in geomaterials
- Interaction between natural hazards and structures
- Micromechanical analysis of the constitutive behavior of geomaterials
- Multiscale approaches

□ **Governemental research programs**

Head of the national programs:

PIR (Preventing rock instabilities, 2001-2004)

OPALE (Effects of avalanches on structures, 2005-2008)

GEODIS (Realistic modeling of geomaterials using Discrete Element Methods, 2006)

Participation to the programs:

PRANE (Protective structures subjected to snow forces, 2001-2004)

REMPARE (Modeling of geocomposite structures including re-engineering aspects, 2007-2010)

SNOW-WHITE (Micromechanical analysis of deformational mechanisms of snow, 2005-2008)

CEGEO (Modeling of geomaterials using micromechanical methods, 2007-2010)

□ **Publications**

INTERNATIONAL PAPERS

Over 100 international communications, among which, after 2005:

- [1] Nicot, F., and Darve, F. (2005): A multiscale approach to granular materials. *Mechanics of Materials*, Vol. 37 (9), pp. 980-1006.
- [2] Darve, F., and Nicot, F. (2005): On incremental non linearity in granular media: phenomenological and multi-scale views (Part I). *Int. J. Num. Anal. Methods in Geomechanics*, Vol. 29, pp. 1387-1409.
- [3] Darve, F., and Nicot, F. (2005): On flow rule in granular media: phenomenological and multi-scale views (Part II). *Int. J. Num. Anal. Methods in Geomechanics*, Vol. 29, pp. 1411-1432.
- [4] Bertrand, D., Nicot, F., Gotteland, P., and Lambert, S. (2005): Modelling a geocomposite cell using discrete analysis. *Computers and Geotechnics*, Vol. 32, pp. 564-577.
- [5] Nicot, F., and Darve, F. (2005): A micro-directional model for cohesive-frictional materials, application to snowpack. *Italian Geotechnical Review*, Italian Geotechnical Review, n°4, pp. 59-69.

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- [6] Nicot, F., and Darve, F. (2006): Micro-mechanical investigation of material instability in granular assemblies. *Int. J. of Solids and Structures*, Vol. 43, pp. 3569–3595.
- [7] Bertrand, D., Gotteland, P., Lambert, S., Nicot, F., and Derache, F. (2006): Multi-scale modelling of cellular geo-composite structure under localized impact. *Revue Européenne de Génie Civil*, Vol. 10(3), pp. 309-322.
- [8] Nicot, F., and Darve, F. (2006): On the elastic and plastic strain decomposition in granular materials. *Granular Matter*, Vol. 8(3-4), pp. 221-237.
- [9] Sibille, L., Nicot, F., Donze, F., and Darve, F. (2007): Material instability in granular assemblies from fundamentally different models. *Int. J. Num. Anal. Methods in Geomechanics*, Vol. 31, pp. 457-481.
- [10] Nicot, F., Darve, F., and Khoa, H.D.V. (2007): Bifurcation and second-order work in geomaterials. *Int. J. Num. Anal. Methods in Geomechanics*, Vol. 31, pp. 1007-1032.
- [11] Nicot, F., Bertrand, D., Gotteland, P., and Lambert, S. (2007): Multiscale approach for geo-composite cellular structures subjected to rock impacts. *Int. J. Num. Anal. Methods in Geomechanics*, Vol. 31, pp. 1477-1515.
- [12] Nicot, F., Sibille, L., Donzé, F., and Darve, F. (2007): From microscopic to macroscopic second-order works in granular assemblies. *Mechanics of Materials*, Vol. 39, Issue 7, pp. 664-684.
- [13] Nicot, F., and Darve, F. (2007): Basic features of plastic strains: from micro-mechanics to incrementally nonlinear models. *Int. Journal of Plasticity*, Vol. 23, pp. 1555-1588.
- [14] Nicot, F., and Darve, F. (2007): A micro-mechanical investigation of bifurcation in granular materials. *Int. J. of Solids and Structures*, Vol. 44, pp. 6630-6652.
- [15] Darve, F., Sibille, L., Daouadji, A., and Nicot, F. (2007): Bifurcations in granular media, macro- and micro-mechanics. *Compte-Rendus de l'Académie des Sciences – Mécanique*, Vol. 335, pp. 496-515.
- [16] Nicot, F., and Darve, F. (2007): Micro-mechanical bases of some salient constitutive features of granular materials. *Int. J. of Solids and Structures*, Vol. 44, pp. 7420–7443.
- [17] Sibille, L., Donzé, F., Nicot, F., Chareyre, B., and Darve, F. (2007): Bifurcation detection and catastrophic failure. *Acta Geotechnica*, Vol. 3(1), pp. 14-24.
- [18] Bourrier, F., Nicot, F., and Darve, F. (2008): Physical processes within a granular layer during an impact. *Granular Matter*, Vol. 10(6), pp. 415-437.
- [19] Bertrand, D., Nicot, F., Gotteland, P., and Lambert, S. (2008): DEM numerical modelling of double twisted hexagonal mesh. *Canadian Journal of Geotechnics*, Vol. 13(2), pp. 187-202.
- [20] Challamel, N., Nicot, F., Lerbet, J., and Darve, F. (2008): On the stability of non-conservative elastic systems under mixed perturbations. *EJCE*, Vol. 13(3), pp. 347-367.
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- [27] Bourrier, F., Eckert, N., Nicot, F., and Darve, F. (2010): Comparing numerical and experimental approaches for the stochastic modeling of the bouncing of a boulder on a coarse soil. *European J. Environmental and Civil Eng.*, Vol. 14(1), pp. 87–111.
- [28] Nicot, F., and Darve, F. (2010): Diffuse and localized failure modes: two competing mechanisms. *International Journal for Numerical and Analytical Methods in Geomechanics*, DOI: 10.1002/nag.912.
- [29] Scholtès, L., Chareyre, B., Nicot, F. and Darve, F. (2009): Discrete modelling of capillary mechanisms in multi-phase granular media. *Contact Mechanics in the Engineering Sciences*, Vol. 52(3), pp. 297–318.
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- [31] Nicot, F., Challamel, N., Lerbet, J., Prunier, F., and Darve, F. (2010): Bifurcation and generalized mixed loading conditions in geomaterials. *Int. J. of Num Anal Methods in Geomechanics*, Article first published online: 2 SEP 2010 | DOI: 10.1002/nag.959.
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- [39] Bonelli, S., Millet, O., Nicot, F., Rahmoun, D., and De Saxce, G. (2012): On the definition of the average strain tensor for two-dimensional granular material assemblies. *Int. J. of Solids and Structures*, Vol. 49, pp. 947–958.
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BOOK CHAPTERS

Coordination

- Coordonnateur (avec R. Wan, Univ. Calgary) d'un traité MIM (Mécanique et Ingénierie des Matériaux ; Ed. Hermès), 10 chapitres, environ 300 pages (2008) : *Micromécanique de la rupture dans les milieux granulaires*.
- Coordonnateur (avec R. Wan, Univ. Calgary) d'un ouvrage (Ed. ISTE-Wiley), 10 chapitres, environ 300 pages (2009) : *Micromechanics of failure in granular geomaterials*.
- Coordonnateur d'un traité MIM (Mécanique et Ingénierie des Matériaux ; Ed. Hermès), 10 chapitres, environ 300 pages (2010) : *Neige, paravalanches et constructions*.
- Coordonnateur (avec S. Lambert, Cemagref) d'un traité MIM (Mécanique et Ingénierie des Matériaux ; Ed. Hermès), 13 chapitres, environ 400 pages (2010) : *Géomécanique des instabilités rocheuses : du déclenchement à l'ouvrage*.
- Coordonnateur (avec S. Lambert, Cemagref) d'un ouvrage : Lambert Stéphane, Nicot François (eds), *Rockfall Engineering*, John Wiley & Sons, New York, ISTE ltd, London, 2011. ISBN 978-1-84821-256-5. 464 pages.

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- Darve, F., and Nicot, F. (2008): Analyse multi-échelle de la rupture. In *Micromécanique de la rupture dans les milieux granulaires*. Nicot, F., and Wan, R., Eds. Collection MIM, Hermès Publ.
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- Nicot, F. Sibille, L., and Darve, F. (2009) : The concept of sustainability in granular materials. In *Bifurcation and Degradation in Geomaterials*. Wan, R. Ed., Springer-Verlag.
- Givry, M., and Nicot, F. (2010): Influence des recherches et des avancées d'OPALE sur les pratiques constructives : confirmation, infirmation ou inflexion ? In *Neige, paravalanches et constructions*. Nicot, F., and Limam, A. Eds. Collection MIM, Hermès Publ.
- Nicot, F., Duret, P., and Givry, M. (2010): Vulnérabilité physique des structures en maçonnerie. In *Neige, paravalanches et constructions*. Nicot, F., and Limam, A. Eds. Collection MIM, Hermès Publ.
- Bertrand, D., Gotteland, P., Lambert, S., and Nicot, F. (2010): Les merlons à structures cellulaires. In *Géomécanique des instabilités rocheuses : du déclenchement à l'ouvrage*. Lambert, S., and Nicot, F. Eds. Collection MIM, Hermès Publ.
- Nicot, F., and Cambou, B. (2010): Modélisation des filets pare-pierres, une approche discrète. In *Géomécanique des instabilités rocheuses : du déclenchement à l'ouvrage*. Lambert, S., and Nicot, F. Eds. Collection MIM, Hermès Publ.
- Bourrier, F., Berger, F., and Nicot, F. (2010): Analyse trajectographique des chutes de blocs, une approche stochastique. In *Géomécanique des instabilités rocheuses : du déclenchement à l'ouvrage*. Lambert, S., and Nicot, F. Eds. Collection MIM, Hermès Publ.
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