

ALL, M. Q. B

CURRICULUM VITÆ

1^{er} octobre 2014

B E N A L L A L Ahmed
Born on july 1954

Research Professor (Directeur de Recherche au CNRS), LMT-Cachan
Head of LMT-Cachan (01/01/2010-)

1 Education

Docteur Es-Sciences, Université Pierre et Marie Curie, 1989
Docteur Ingénieur, Université Pierre et Marie Curie, 1981
DEA de Mécanique Théorique des Solides, Université Pierre et Marie Curie, 1978
Engineer, Mechanical Engineering, ESTP, Paris, 1977

2 Responsibilities

Head of LMT-Cachan (01/01/2010- 28-02-2014)
Head of the Mechanics Materials Division (01/01/1993-31/12/1997 et 01/10/2002-30/04/2008)
Member, National French Committee of Mechanics (CNFM) (2004-)
French Representative at IUTAM (Inter. Union of Theoretical and Applied Mechanics) (2004-2012)
EUROMECH Council member, elected (European Mechanics Society) (élu) (2000-2007)
Associate Editor European Journal of Mechanics/A Solids (1996-2011)

3 Selected Publications

3.1 Edited book

J. Lemaitre, J.L. Chaboche, A. Benallal and R. Desmorat, *Mécanique des Matériaux Solides*, Dunod, 2009.

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3.2 Articles in referred journals

- A. Benallal and D. Marquis, Constitutive equations for non-proportional cyclic elasto-viscoplasticity, *International Journal for Engineering Materials and Technology*, Vol 109, 326-336, 1987.
- A. Benallal, R. Billardon and I. Doghri, An integration algorithm and the corresponding consistent tangent operator for fully coupled elastoplastic and damage equations, *Communications in Applied Numerical Methods*, Vol. 4, 731-740, 1988.
- A. Benallal, G. Cailletaud, J.L. Chaboche, D. Nouailhas and M. Rousset, Description and Modelling of nonproportional effects in cyclic plasticity, *Biaxial-Multiaxial Fatigue*, M.W Brown et al Eds, 107-129, E.G.F Publication 3, 1989.
- A. Benallal and G. Pijaudier-Cabot, Strain localization in a nonlocal continuum, *International Journal of Solids and Structures*, Vol 30, 1761-1775, 1993.
- A. Benallal, R. Billardon and G. Geymonat, Bifurcation and Localization in rate-independent materials, *C.I.S.M Lecture Notes on Bifurcation and stability of dissipative systems*, 327, N.Q.SON Editor, Springer-Verlag, 1993.
- A. Benallal and V. Tvergaard, Non local continuum effects in bifurcation in the plane strain tension compression test, *Journal of the Mechanics and Physics of Solids*, Vol. 43, 5, 741-770, 1995.
- J. Lemaitre, A. Benallal, R. Billardon and D. Marquis, Thermodynamics and Phenomenology, *In Continuum Thermodynamics : the Art and Science of Modelling Materials Behaviour*, Paul Germain Anniversary Volume, G.A. Maugin et al. Eds, Kluwer Acad. Publ., 76, 209-223, 2000.
- A. Benallal and C. Comi, Perturbation growth and localization in fluid-saturated inelastic porous media under quasi-static loadings, *Journal of the Mechanics and Physics of Solids*, 51(5) : 851-899, 2003
- A.H. Clausen, T. Borvik, O.S. Hopperstad and A. Benallal, Flow and fracture characteristics of aluminium alloy AA5083-H116 as function of strain rate, temperature and triaxiality, *Materials Science and Engineering*, A364, 260-272, 2004.
- Benallal, A., Berstad, T., Borvik, T. Clausen, A.H., Hopperstad, O.S. Dynamic strain aging and related instabilities : experimental, theoretical and numerical aspects, *European Journal of Mechanics / A Solids*, 25 (3), p.397-424, 2006.
- Hopperstad, O.S., Borvik, T., Berstad, T., Benallal, A. Finite element simulations of the Portevin-Le Chatelier effect in aluminium alloy, *Journal de Physique IV*, 134 :435-441, 2006.
- A. Benallal and J. J. Marigo Bifurcations and stability issues in gradient theories with softening, soumis *Modelling and Simulation in Material Science Engineering*, , 15 (1), p.S283-S295, 2007.
- Kane, A., Borvik, T., Berstad, T., Benallal, A. and Hopperstad O.S., Failure criteria with unilateral conditions for simulation of plate perforation, *European Journal of Mechanics*, Vol. 30, Issue 4, Pages 468-476, 2011.
- Fourmeau, M., Borvik, T., Benallal, A. and Hopperstad, O.S., On the plastic anisotropy of an aluminium alloy and its influence on constrained multiaxial flow, *International Journal of Plasticity*, Vol. 27, Issue 12, Pages 2005-2025, 2011.

Fourmeau, M., Borvik, T., Benallal, A., Hopperstad, O.S. Anisotropic failure modes of high-strength aluminium alloy under various stress states. Int J of Plasticity, Vol 48. Pages 34-53,2013.

Benallal, A., Desmorat, R. Fournage, M. An assessment of the role of the third stress invariant in the Gurson approach for ductile fracture, European Journal of Mechanics/A. Vol.47.400-414. 2014.