



Professor Viggo Tvergaard

See:

<http://www.fam.web.mek.dtu.dk/vtny.html>

<http://imechanica.org/taxonomy/term/123>

<http://orlabs.oclc.org/identities/lccn-n96-103219/>

<http://www.worldcat.org/identities/lccn-n96-103219>

<http://65.54.113.26/Author/12805539/viggo-tvergaard>

<http://truebookstore.org/manufactureViggo-Tvergaard/mid129089/>

<http://orbit-dtu.dk/cvt.dk/en/persons/viggo-tvergaard%283c508e83-4946-4ec7-95da-bba8a8b57c80%29/publications.html?page=5>

<http://www.mek.dtu.dk/Forskning/Publikationer/Publikationer-2011.aspx?lg=showcommon&id=2519&type=publications&publicationtype=lc>

<http://www.sagepub.com/editorDetails.nav?contribId=525496>

http://www.aipuniphy.org/Profile.bme/129576/Viggo_Tvergaard

<http://www.asme.org/about-asme/honors-awards/achievement-awards/warner-t--koiter-medal>

CV for VIGGO TVERGAARD

Born: 19 April 1943, in Odense, Denmark

Degrees: Civilingeniør (Master of Science, Mech. Engng.), Techn. Univ. of Denmark 1969
Ph.D., Techn. Univ. of Denmark 1971
Dr.techn., Techn. Univ. of Denmark 1978

Employment: Graduate student, Dept. of Solid Mechanics, Techn. Univ. of Denmark 1969-71
Adjunkt (Assist. Prof.), Dept. of Solid Mechanics, Techn. Univ. of Denmark 1971-73
Lektor (Assoc. Prof.), Dept. of Solid Mechanics, Techn. Univ. of Denmark 1973-88
Docent, Dept. of Solid Mechanics, Techn. Univ. of Denmark 1988-89
Research Professor (spec. appointment by Ministry of Education), Dept. of Solid Mechanics, Techn. Univ. of Denmark 1989-94
Professor, Dept. of Mechanical Engineering, Solid Mechanics, Techn. Univ. of Denmark 1994-

Research visits: Visiting Assoc. Prof., Div. of Engineering, Brown Univ., Providence, Rhode Island, USA, Sept. 79 - Jan. 80.
Frequent research visits at Brown Univ. since 1983.

Honours: The Esso Prize 1982; for outstanding technical-scientific research.
The Villum Kann Rasmussen Prize 1989; for research on material mechanics and fracture mechanics.
Appointed Visiting Professor of Engineering, Brown University, 1989-94.
Honorary doctor degree, Royal Institute of Technology, Stockholm, Sweden, 1993.
The 1998 Koiter Medal of ASME; for seminal contributions to the understanding of instability and failure phenomena in solids and structures.
The 2009 EUROMECH Solid Mechanics Prize; for outstanding contributions to a broad spectrum of solid mechanics.
The Alexander Foss Gold Medal 2010, for scientific technical research.

Memberships: Member, Danish Academy of Technical Sciences, 1993.
Fellow of the Institute of Physics, London, UK, 1999.
Foreign member, Royal Netherlands Academy of Arts and Sciences, 1999.
Foreign associate, National Academy of Engineering, USA, 2001.
Honorary member, ESIS, Eur. Struct. Integrity Soc., 2002.

Publications:

1. V. Tvergaard, Free vibrations of beam-like structures. *Int. J. Solids Structures* 7, 789-803 (1971).
2. V. Tvergaard, Svingninger i bjælkelignende konstruktioner. Ph.D.-thesis, (in Danish), Department of Solid Mechanics, Technical University of Denmark (1971).
3. V. Tvergaard, Beam analysis of axisymmetrical shells. *Int. J. Solids Structures* 7, 1653-1672 (1971).
4. V. Tvergaard, Imperfection-sensitivity of a wide integrally stiffened panel under compression. *Int. J. Solids Structures* 9, 177-192 (1973).
5. V. Tvergaard, Influence of post-buckling behaviour on optimum design of stiffened panels. *Int. J. Solids Structures* 9, 1519-1534 (1973).
6. V. Tvergaard, On the optimum shape of a fillet in a flat bar with restrictions. in *Optimization in Structural Design* (eds. A. Sawczuk & Z. Mroz), 181-195, Springer-Verlag (1975).
7. V. Tvergaard and A. Needleman, Mode interaction in an eccentrically stiffened elastic-plastic panel under compression. in *Buckling of Structures* (ed. B. Budiansky), 160-171, Springer-Verlag (1976).
8. V. Tvergaard and A. Needleman, Buckling of eccentrically stiffened elastic-plastic panels on two simple supports or multiply supported. *Int. J. Solids Structures* 11, 647-663 (1975).
9. V. Tvergaard and A. Needleman, On the buckling of elastic-plastic columns with asymmetric cross-sections. *Int. J. Mech. Sci.* 17, 419-424 (1975).
10. A. Needleman and V. Tvergaard, An analysis of the imperfection-sensitivity of square elastic-plastic plates under axial compression. *Int. J. Solids Structures* 12, 185-201 (1976).
11. V. Tvergaard, Buckling of elastic-plastic oval cylindrical shells under axial compression. *Int. J. Solids Structures* 12, 683-691 (1976).
12. V. Tvergaard, Buckling behaviour of plate and shells structures. in *Theoretical and Applied Mechanics* (ed. W.T. Koiter), 233-247, North-Holland Publishing Company (1976). Russian translation (ed. G.K. Mikhailov *et al.*), 495-527, Moscow (1979).
13. V. Tvergaard, Effect of thickness inhomogeneities in internally pressurized elastic-plastic spherical shells. *J. Mech. Phys. Solids* 24, 291-304 (1976).
14. A. Needleman and V. Tvergaard, Necking of biaxially stretched elastic-plastic circular plates. *J. Mech. Phys. Solids* 25, 159-183 (1977).
15. V. Tvergaard, Buckling of elastic-plastic cylindrical panel under axial compression. *Int. J. Solids Structures* 13, 959-970 (1977).
16. V. Tvergaard, On the numerical analysis of necking instabilities and of structural buckling in the plastic range. in *Finite Elements in Nonlinear Mechanics* (ed. P.G. Bergan *et al.*), C9 1-20, Tapir Publishers, Trondheim (1977).
17. V. Tvergaard, On the burst strength and necking behaviour of rotating disks. *Int. J. Mech. Sci.* 20, 109-120 (1978).
18. V. Tvergaard, Structural collapse due to bifurcation and imperfection-sensitivity. Dr. thesis, Dept. of Solid Mech., Techn. Univ. of Denmark (1978).
19. V. Tvergaard, Effect of kinematic hardening on localized necking in biaxially stretched sheets. *Int. J. Mech. Sci.* 20, 651-658 (1978).
20. V. Tvergaard, Creep buckling of rectangular plates under axial compression. *Int. J. Solids Structures* 15, 441-456 (1979).
21. V. Tvergaard, Bifurcation and imperfection-sensitivity at necking instabilities. *ZAMM* 60, T26-T34 (1980).
22. V. Tvergaard, Influence of voids on shear band instabilities under plane strain conditions. *Int. J. Fracture* 17, 389-407 (1981).
23. V. Tvergaard and A. Needleman, Structural collapse due to plastic instability. in *Proc. 5th Int. Conf. on Structural Mechanics in Reactor Technology* (eds. A. Jaeger and B.A. Boley), L1/3*, Berlin (1979).
24. J.W. Hutchinson and V. Tvergaard, Surface instabilities on statically strained plastic solids. *Int. J. Mech. Sci.* 22, 339-354 (1980).
25. V. Tvergaard and A. Needleman, On the localization of buckling patterns. *J. Appl. Mech.* 47, 613-619 (1980).
26. A. Needleman and V. Tvergaard, Aspects of plastic post-buckling behaviour. in *Mechanics of Solids, The Rodney Hill 60th Anniversary Volume* (eds. H.G. Hopkins and M.J. Sewell), 453-498, Pergamon Press (1981).
27. V. Tvergaard, A. Needleman and K.K. Lo, Flow localization in the plane strain tensile test. *J. Mech. Phys. Solids* 29, 115-142 (1981).
28. V. Tvergaard, On localization in ductile materials containing spherical voids. *Int. J. Fracture* 18, 237-252 (1982).
29. J.W. Hutchinson and V. Tvergaard, Shear band formation in plane strain. *Int. J. Solids Structures* 17, 451-470 (1981).
30. N. Triantafyllidis, A. Needleman and V. Tvergaard, On the development of shear bands in pure bending. *Int. J. Solids Structures* 18, 121-138 (1982).
31. V. Tvergaard and A. Needleman, On localized thermal track buckling. *Int. J. Mech. Sci.* 23, 577-587 (1981).
32. V. Tvergaard, Ductile fracture by cavity nucleation between larger voids. *J. Mech. Phys. Solids* 30, 265-286 (1982).
33. V. Tvergaard and A. Needleman, On the foundations of plastic buckling. in *Developments in Thin-Walled Structures - 1* (eds. J. Rhodes and A.C. Walker), Chap. 6, 205-233, Applied Science Publishers (1982).
34. M. Larsson, A. Needleman, V. Tvergaard and B. Storåkers, Instability and failure of internally pressurized ductile metal cylinders. *J. Mech. Phys. Solids* 30, 121-154 (1982).
35. V. Tvergaard, On the implementation of constitutive relations in finite strain computations. in *Plasticity of Metals at Finite Strain: Theory, Computation and Experiment*, (eds. E.H. Lee and R.L. Mallett), 480-498, Div. of Appl. Mech., Stanford University (1982).
36. V. Tvergaard, Material failure by void coalescence in localized shear bands. *Int. J. Solids Structures* 18, 659-672 (1982).
37. A. Needleman and V. Tvergaard, Crack tip stress and deformation fields in a solid with a vertex on its yields surface. in *Elastic-*

- Plastic Fracture, Second Symposium, Vol. 1, Inelastic Crack Analysis (eds. C.F. Shih and J.P. Gudas), 80-115, ASTM-STP803 (1983).
38. A. Needleman and V. Tvergaard, On the finite element analysis of localized plastic deformation. in *Finite Elements, Special Problems in Solid Mechanics*, Vol. 5 (eds. J.T. Oden and G.F. Carey), 95-157, Prentice-Hall, Inc. (1984).
 39. V. Tvergaard, Influence of void nucleation on ductile shear fracture at a free surface. *J. Mech. Phys. Solids* 30, 399-425 (1982).
 40. V. Tvergaard, Analysis of plastic flow localization in ductile metals. in *Proc. Seminar on Problems in Mechanics of Materials and Structures* (ed. F. Maceri), 57-81, II University of Rome (1984).
 41. V. Tvergaard and A. Needleman, On the development of localized buckling patterns. in *Collapse: The Buckling of Structures in Theory and Practice* (eds. J.M.T. Thompson and G.W. Hunt), 1-17, Cambridge University Press (1983).
 42. V. Tvergaard, Plastic buckling of axially compressed circular cylindrical shells. *Int. J. Thin Walled Structures* 1, 139-163 (1983).
 43. V. Tvergaard, On the transition from a diamond mode to an axisymmetric mode of collapse in cylindrical shells. *Int. J. Solids Structures* 19, 845-856 (1983).
 44. A. Needleman and V. Tvergaard, Limits to formability in rate-sensitivity metal sheets. in *Proc. 4th Int. Conf. on Mechanical Behaviour of Materials* (eds. J. Carlsson and N.G. Ohlson), 51-65, Pergamon Press (1983).
 45. V. Tvergaard, Rate-sensitivity in elastic-plastic panel buckling. in *Aspects of the Analysis of Plate Structures, A volume in honour of W.H. Wittrick* (eds. D.J. Dawe *et al.*), 293-308, Clarendon Press (1985).
 46. V. Tvergaard, On bifurcation and stability under elastic-plastic deformation. in *Plasticity Today* (eds. A. Sawczuk and G. Bianchi), 377-398, Elsevier Appl. Sci. Publishers (1985).
 47. V. Tvergaard and A. Needleman, Analysis of the cup-cone fracture in a round tensile bar. *Acta Metallurgica* 32, 157-169 (1984).
 48. V. Tvergaard, On the creep constrained diffusive cavitation of grain boundary facets. *J. Mech. Phys. Solids* 32, 373-393 (1984).
 49. A. Needleman and V. Tvergaard, An analysis of ductile rupture in notched bars. *J. Mech. Phys. Solids* 32, 461-490 (1984).
 50. V. Tvergaard, Influence of grain boundary sliding on material failure in the tertiary creep range. *Int. J. Solids Structures* 21, 279-293 (1985).
 51. V. Tvergaard, Constitutive relations for creep in polycrystals with grain boundary cavitation. *Acta Metallurgica* 32, 1977-1990 (1984).
 52. V. Tvergaard, Effect of grain boundary sliding on creep constrained diffusive cavitation. *J. Mech. Phys. Solids* 33, 447-469 (1985).
 53. V. Tvergaard, Analysis of material failure by the nucleation, growth and coalescence of voids. in *Constitutive Equations: Macro and Computational Aspects* (ed. K.J. Willam), 179-192, ASME, New York (1984).
 54. A. Needleman and V. Tvergaard, Material strain-rate sensitivity in the round tensile bar. in *Plastic Instability* (eds. J. Salencon *et al.*), 251-262, Presses de l'École Nationale des Ponts et Chaussées, Paris (1985).
 55. V. Tvergaard, Analysis of creep rupture in a notched tensile bar. *Mechanics of Materials* 4, 181-196 (1985).
 56. V. Tvergaard and A. Needleman, Effect of material rate sensitivity on failure modes in the Charpy V-notch test. *J. Mech. Phys. Solids* 34, 213-241 (1986).
 57. V. Tvergaard, On the stress state dependence of creep rupture. *Acta Metallurgica* 34, 243-256 (1986).
 58. V. Tvergaard, Analysis of creep crack growth by grain boundary cavitation. *Int. J. Fracture* 31, 183-209 (1986).
 59. V. Tvergaard, Effect of yield surface curvature and void nucleation on plastic flow localization. *J. Mech. Phys. Solids* 35, 43-60 (1987).
 60. A. Needleman and V. Tvergaard, An analysis of ductile rupture modes at a crack tip. *J. Mech. Phys. Solids* 35, 151-183 (1987).
 61. V. Tvergaard, Creep failure by degradation of the microstructure and grain boundary cavitation in a tensile test. *Acta Metallurgica* 35, 923-933 (1987).
 62. V. Tvergaard, Bifurcation and post-bifurcation behaviour for elastic-plastic solids. in *Bifurcation: Analysis, Algorithms, Applications* (eds. T. Küpper, R. Seydel and H. Troger), 334-348, Birkhäuser Verlag, Basel (1987).
 63. V. Tvergaard, Ductile shear fracture at the surface of a bent specimen. *Mechanics of Materials* 6, 53-69 (1987).
 64. V. Tvergaard, Mechanical models of the effect of grain boundary sliding on creep and creep rupture. *Revue de Physique Appliquée* 23, 595-604 (1988).
 65. V. Tvergaard and J.W. Hutchinson, Micro-cracking in ceramics induced by thermal expansion or elastic anisotropy. *J. Am. Ceram. Soc.* 71, 157-166 (1988).
 66. J.W. Hutchinson and V. Tvergaard, Softening due to void nucleation in metals. in *ASTM STP 1020* (eds. R.P. Wei and R.P. Gangloff), 61-83, Amer. Soc. for Testing and Materials, Philadelphia (1989).
 67. V. Tvergaard, Effect of anisotropic hardening on ductile failure of a material containing two size-scales of particles. in *Yielding, Damage, and Failure of Anisotropic Solids* (ed. J.P. Boehler), 695-709, Mech. Engng. Publ. Ltd., London (1990).
 68. V. Tvergaard, Mechanical modelling of failure. in *Constitutive Relations and Their Physical Basis* (eds. S.I. Andersen *et al.*), 173-189, Risø National Laboratory, Roskilde, Denmark (1987).
 69. V. Tvergaard and A. Needleman, An analysis of the temperature and rate dependence of Charpy V-notch energies for a high nitrogen steel. *Int. J. Fracture* 37, 197-215 (1988).
 70. R. Becker, A. Needleman, O. Richmond and V. Tvergaard, Void growth and failure in notched bars. *J. Mech. Phys. Solids* 36, 317-351 (1988).
 71. V. Tvergaard, Effect of plasticity on post-buckling behaviour. in *Buckling and Post-Buckling* (eds. J. Arbocz *et al.*), 143-183, Springer-Verlag (1987).
 72. J.W. Hutchinson and V. Tvergaard, Effect of particle-void interaction on void growth in tension and shear. in *Innovations in Ultrahigh Strength Steel Technology* (eds. G.B. Olson, M. Azrin and E.S. Wright), 347-355, Sagamore Army Mat. Res. Conf. Proc. 34, Lake

George, N.Y. (1990).

73. R. Becker, A. Needleman, S. Suresh, V. Tvergaard and A.K. Vasudevan, An analysis of ductile failure by grain boundary void growth. *Acta Met.* 37, 99-120 (1989).
74. V. Tvergaard, 3D-analysis of localization failure in a ductile material containing two size-scales of spherical particles. *Engng. Fracture Mechanics* 31, 421-436 (1988).
75. V. Tvergaard, Mathematical modelling for non-classical materials. in *Trends in Applications of Mathematics to Mechanics* (eds. J.F. Besseling and W. Eckhaus), 174-185, Springer-Verlag (1988).
76. V. Tvergaard, Effect of microstructure degradation on creep crack growth. *Int. J. Fracture* 42, 145-155 (1990).
77. V. Tvergaard, On the analysis of ductile fracture mechanisms. in *Advances in Fracture Research, Proc. Int. Conf. Fracture, ICF7* (eds. K. Salama *et al.*), 159-179, Pergamon Press (1989).
78. A. Needleman and V. Tvergaard, Analysis of crack growth in ductile solids. in *Advances in Fracture Research, Proc. Int. Conf. Fracture, ICF7* (eds. K. Salama *et al.*), 2041-2048, Pergamon Press (1989).
79. N.A. Fleck, J.W. Hutchinson and V. Tvergaard, Softening by void nucleation and growth in tension and shear. *J. Mech. Phys. Solids* 37, 515-540 (1989).
80. V. Tvergaard, Material failure by void growth to coalescence. *Adv. in Appl. Mech.* 27 (eds. J.W. Hutchinson and T.Y. Wu), 83-151, Academic Press (1990).
81. E. van der Giessen and V. Tvergaard, Effect of creep cavitation at sliding grain boundaries. in *Mechanics of Creep Brittle Materials* (eds. A.C.F. Cocks and A.R.S. Ponter), 277-289, Elsevier Applied Science (1989).
82. V. Tvergaard, Plasticity and creep at finite strains. in *Theoretical and Applied Mechanics* (eds. P. Germain, M. Piau and D. Caillerie), 349-368, North-Holland Publ. Co. (1989).
83. V. Tvergaard, Numerical study of localization in a void-sheet. *Int. J. Solids Structures* 25, 1143-1156 (1989).
84. K. Ravn-Jensen and V. Tvergaard, Effect of residual stresses on plastic buckling of cylindrical shell structures. *Int. J. Solids Structures* 26, 993-1004 (1990).
85. V. Tvergaard, Analysis of tensile properties for a whisker-reinforced metal-matrix composite. *Acta Metall. Mater.* 38, 185-194 (1990).
86. V. Tvergaard, Effect of fibre length in a metal reinforced by short fibres. in *Advances in Plasticity 1989* (eds. A.S. Khan and M. Takuda), 141-144, Pergamon Press (1989).
87. F. Ghahremani, J.W. Hutchinson and V. Tvergaard, Three dimensional effects in microcrack nucleation in brittle polycrystals. *J. Am. Ceram. Soc.* 73, 1548-1554 (1990).
88. E. van der Giessen and V. Tvergaard, A creep rupture model accounting for cavitation at sliding grain boundaries. *Int. J. Fracture* 48, 153-178 (1991).
89. V. Tvergaard, Bifurcation in elastic-plastic tubes under internal pressure. *Eur. J. Mech., A/Solids* 9, 21-35 (1990).
90. A. Needleman and V. Tvergaard, An analysis of dynamic, ductile crack growth in a double edge cracked specimen. *Int. J. Fracture* 49, 41-67 (1991).
91. A. Needleman and V. Tvergaard, A numerical study of void distribution effects on dynamic, ductile crack growth. *Engng. Fracture Mechanics* 38, 157-173 (1991).
92. E. van der Giessen and V. Tvergaard, On cavity nucleation effects at sliding grain boundaries in creeping polycrystals. in *Proc. 4th Int. Conf. on Creep and Fracture of Engng. Mater. and Structures* (eds. B. Wilshire and R.W. Evans), 169-178, Elsevier Appl. Sci. Publishers, London (1990).
93. Y. Huang, J.W. Hutchinson and V. Tvergaard, Cavitation instabilities in elastic-plastic solids. *J. Mech. Phys. Solids* 39, 223-241 (1991).
94. V. Tvergaard, Effect of fibre debonding in a whisker-reinforced metal. *Materials Science and Engng. A125*, 203-213 (1990).
95. V. Tvergaard and E. van der Giessen, Effect of plastic spin on localization predictions for a porous ductile material. *J. Mech. Phys. Solids* 39, 763-781 (1991).
96. V. Tvergaard, Micromechanical modelling of creep rupture. *ZAMM* 70, T23-T32 (1991).
97. V. Tvergaard, Failure by ductile cavity growth at a metal/ceramic interface. *Acta Metall. Mater.* 39, 419-426 (1991).
98. V. Tvergaard, Micromechanical modelling of fibre debonding in a metal reinforced by short fibres. in *Inelastic Deformation of Composite Materials* (ed. G.J. Dvorak), 99-111, Springer-Verlag (1991).
99. V. Tvergaard and A. Needleman, Analysis of dynamic ductile crack growth. *Appl. Mech. Rev.* 43, S258- S259 (1990).
100. V. Tvergaard, Effect of thermally induced residual stresses on the failure of a whisker-reinforced metal. *Mechanics of Materials* 11, 149-161 (1991).
101. E. van der Giessen and V. Tvergaard, On microcracking due to cavitation and grain boundary sliding in creeping polycrystals. in *Creep in Structures* (ed. M. Zyczkowski), 295-302, Springer-Verlag (1991).
102. V. Tvergaard and A. Needleman, Ductile failure modes in dynamically loaded notched bars. in *Damage Mechanics in Engineering Materials* (eds. J.W. Ju, D. Krajcinovic and H.L. Schreyer), ADM-Vol. 109, 117-128, ASME, New York (1990).
103. V. Tvergaard, Y. Huang and J.W. Hutchinson, Cavitation instabilities in a power hardening elastic-plastic solid. *Eur. J. Mech., A/Solids* 11, 215-231 (1992).
104. V. Tvergaard, Mechanical modelling of ductile fracture. *Meccanica* 26, 11-16 (1991).
105. V. Tvergaard and E. van der Giessen, Effect of triaxial tension on flow localization for different plastic spins. in *Anisotropy and*

- Localization of Plastic Deformation (eds. J.-P. Boehler and A.S. Khan), 91-94, Elsevier Appl. Sci. (1991).
106. V. Tvergaard and A. Needleman, Effect of crack meandering on dynamic, ductile fracture. *J. Mech. Phys. Solids* 40, 447-471 (1992).
107. V. Tvergaard, A numerical analysis of 3D localization failure by a void-sheet mechanism. *Engng. Fract. Mech.* 41, 787-803 (1992).
108. V. Tvergaard and J.W. Hutchinson, The relation between crack growth resistance and fracture process parameters in elastic-plastic solids. *J. Mech. Phys. Solids* 40, 1377-1397 (1992).
109. V. Tvergaard, Numerical analyses of ductile crack growth. in *Applied Solid Mechanics - 4* (eds. A.R.S. Ponter and A.C.F. Cocks), 1-4, Elsevier Applied Science (1991).
110. A. Needleman and V. Tvergaard, Comparison of crystal plasticity and isotropic hardening predictions for metal-matrix composites. *J. Appl. Mech.* 60, 70-76 (1993).
111. V. Tvergaard, On the computational prediction of plastic strain localization. in *Mechanical Behaviour of Materials - VI* (eds. M. Jono and T. Inoue), Vol. 1, 189-196, Pergamon Press (1991).
112. E. van der Giessen and V. Tvergaard, On the linking-up of microcracks in creeping polycrystals with grain boundary cavitation and sliding. in *Mechanics of Creep Brittle Materials - 2* (eds. A.C.F. Cocks and A.R.S. Ponter), 134-145, Elsevier Appl. Sci. (1991).
113. V. Tvergaard, On the numerical modelling of metal matrix composites. in *Metal Matrix Composites - Processing, Microstructure and Properties* (eds. N. Hansen *et al.*), 173-188, Risø National Laboratory, Roskilde, Denmark (1991).
114. V. Tvergaard and A. Needleman, Elastic-viscoplastic analysis of ductile failure. in *Finite Inelastic Deformations - Theory and Applications* (eds. D. Besdo and E. Stein), 3-14, Springer-Verlag (1992).
115. A. Needleman, S. Suresh and V. Tvergaard, Deformation of a metal-ceramic composite with a crystal matrix: Reinforcement distribution effects. in *Local Mechanics Concepts for Composite Material Systems* (eds. J.N. Reddy and K.L. Reifsnider), 199-213, Springer-Verlag, Berlin (1992).
116. V. Tvergaard, Tensile instabilities at large strains. in *Bifurcation and Stability of Dissipative Systems* (ed. Q.S. Nguyen), 251-291, Springer-Verlag, Wien (1993).
117. A. Needleman, V. Tvergaard and J.W. Hutchinson, Void growth in plastic solids. in *Topics in Fracture and Fatigue*, Frank A. McClintock anniversary volume (ed. A.S. Argon), 145-178, Springer-Verlag (1992).
118. V. Tvergaard, Effect of ductile particle debonding during crack-bridging in ceramics. *Int. J. Mech. Sci.* 34, 635-649 (1992).
119. V. Tvergaard, Z.C. Xia and J.W. Hutchinson, Cracking due to localized hot shock. *J. Am. Ceram. Soc.* 76, 729-736 (1993).
120. V. Tvergaard and J.W. Hutchinson, Effect of initial void shape on the occurrence of cavitation instabilities in elastic-plastic solids. *J. Appl. Mech.* 60, 807-812 (1993).
121. V. Tvergaard and A. Needleman, An analysis of the brittle-ductile transition in dynamic crack growth. *Int. J. Fracture* 59, 53-67 (1993).
122. A. Needleman and V. Tvergaard, Analyses of plastic flow localization in metals. *Appl. Mech. Rev.* 45, S3-S18 (1992).
123. E. van der Giessen and V. Tvergaard, Interaction of cavitating grain boundary facets in creeping polycrystals. *Mechanics of Materials* 17, 47-69 (1994).
124. N. Sørensen, A. Needleman and V. Tvergaard, 3D analysis of creep in a metal matrix composite. *Mater. Sci. and Engng.* A158, 129-137 (1992).
125. V. Tvergaard, Applications of plastic material models. in *Modelling of Plastic Deformation and its Engineering Applications* (eds. S.I. Andersen *et al.*), 147-160, Risø National Laboratory, Roskilde, Denmark (1992).
126. V. Tvergaard and A. Needleman, Tensile properties of whisker reinforced metals: Variations with grain size. in *Optimal Design with Advanced Materials* (ed. P. Pedersen), 97-112 (1993).
127. V. Tvergaard and A. Needleman, Shear band development in polycrystals. *Proc. Roy. Soc. Lond. A* 443, 547-562 (1993).
128. K.K. Mathur, A. Needleman and V. Tvergaard, Dynamic 3D analysis of the Charpy V-notch test. *Modelling Simul. Mater. Sci. Eng.* 1, 467-484 (1993).
129. V. Tvergaard and J.W. Hutchinson, The influence of plasticity on mixed mode interface toughness. *J. Mech. Phys. Solids* 41, 1119-1135 (1993).
130. V. Tvergaard, Computational micromechanics. in *Modeling of Defects and Fracture Mechanics* (ed. G. Herrmann), 119-164, Springer-Verlag, Wien (1993).
131. V. Tvergaard, Necking in tensile bar with rectangular cross-section. *Computer Meth. in Appl. Mech. and Engng.* 103, 273-290 (1993).
132. A. Needleman, S.R. Nutt, S. Suresh and V. Tvergaard, Matrix, reinforcement and interfacial failure. in *Fundamentals of Metal Matrix Composites* (eds. S. Suresh *et al.*), 233-250, Butterworth-Heinemann (1993).
133. A. Chandra and V. Tvergaard, Void nucleation and growth during plane strain extrusion. *Int. J. Damage Mechanics* 2, 330-348 (1993).
134. A. Needleman and V. Tvergaard, Mesh effects in the analysis of dynamic ductile crack growth. *Engng. Fracture Mechanics* 47, 75-91 (1994).
135. V. Tvergaard, Model studies of fibre breakage and debonding in a metal reinforced by short fibres. *J. Mech. Phys. Solids* 41, 1309-1326 (1993).
136. K.K. Mathur, A. Needleman and V. Tvergaard, Ductile failure analyses on massively parallel computers. *Comput. Methods Appl.*

- Mech. Engng. 119, 283-309 (1994).
137. E. van der Giessen and V. Tvergaard, Development of final creep failure in polycrystalline aggregates. *Acta Metall. Mater.* 42, 959-973 (1994).
138. V. Tvergaard and J.W. Hutchinson, Effect of T-stress on Mode I crack growth resistance in a ductile solid. *Int. J. Solids Structures* 31, 823-833 (1994).
139. E. van der Giessen and V. Tvergaard, Effect of random variations in microstructure on the development of final creep failure in polycrystalline aggregates. *Modelling Simul. Mater. Sci. Eng.* 2, 721-738 (1994).
140. K.K. Mathur, A. Needleman and V. Tvergaard, 3D analysis of failure modes in the Charpy impact test. *Modelling Simul. Mater. Sci. Eng.* 2, 617-635 (1994).
141. A.B. Richelsen and V. Tvergaard, Dilatant plasticity or upper bound estimates for porous ductile solids. *Acta Metall. Mater.* 42, 2561-2577 (1994).
142. V. Tvergaard, Effect of volume fraction on fibre cracking and debonding in a whisker reinforced metal. in *Mecamat 93, Int. Seminar on Micromech. of Mater.* (eds. J.-J. Marigo *et al.*), 177-187, Editions Eyrolles, Paris (1993).
143. A.B. Richelsen and V. Tvergaard, Comparison of porous ductile material models and upper bound estimates. in *Advanced Computational Methods for Material Modeling* (eds. D.J. Benson *et al.*), 33-39, ASME, AMD-Vol. 180, New York (1993).
144. V. Tvergaard, On the micromechanics and fracture of ceramics. in *Fracture of Brittle Disordered Materials* (eds. G. Baker and B.L. Karihaloo), 361-375, E&FN Spon, London (1995).
145. A. Needleman and V. Tvergaard, Analysis of brittle-ductile transition under dynamic shear loading. *Int. J. Solids Structures* 32, 2571-2590 (1995).
146. E. van der Giessen, M.W.D. van der Burg, A. Needleman and V. Tvergaard, Void growth due to creep and grain boundary diffusion at high triaxialities. *J. Mech. Physics Solids* 43, 123-165 (1995).
147. N.J. Sørensen, S. Suresh, V. Tvergaard and A. Needleman, Effects of reinforcement orientation on the tensile response of metal matrix composites. *Materials Sci. and Engng. A197*, 1-10 (1995).
148. V. Tvergaard, Fibre debonding and breakage in a whisker-reinforced metal. *Materials Sci. and Engng. A190*, 215-222 (1995).
149. V. Tvergaard and J.W. Hutchinson, Toughness of an interface along a thin ductile layer joining elastic solids. *Philosophical Magazine* 70, 641-656 (1994).
150. Jiang-bo Han and V. Tvergaard, Effect of inertia on the necking behaviour of ring specimens under rapid radial expansion. *Eur. J. Mech., A/Solids* 14, 287-307 (1995).
151. E. van der Giessen and V. Tvergaard, Simulations of creep failure in polycrystals with random variations in microstructure and with curved grain boundaries. in *Numerical Predictions of Deformation Processes and the Behaviour of Real Materials* (eds. S.I. Andersen *et al.*), 313-318, Risø Nat. Lab. (1994).
152. V. Tvergaard, Numerical studies of the failure of materials. in *Numerical Predictions of Deformation Processes and the Behaviour of Real Materials* (eds. S.I. Andersen *et al.*), 205-218, Risø Nat. Lab. (1994).
153. V. Tvergaard and A. Needleman, Effects of nonlocal damage in porous plastic solids. *Int. J. Solids Structures* 32, 1063-1077 (1995).
154. A. Benallal and V. Tvergaard, Nonlocal continuum effects on bifurcation in the plane strain tension-compression test. *J. Mech. Physics Solids* 43, 741-770 (1995).
155. F. Ren, A. Chandra and V. Tvergaard, A unit cell analysis of Ti-Al powder compaction at elevated temperatures. in *AMD-Vol. 194, Mechanics in Materials Processing and Manufacturing*, 239-260, ASME (1994).
156. V. Tvergaard, Reinforcement distribution effects on failure in particulate reinforced metals. in *Proc. IUTAM Symp. on Microstructure-Property Interactions in Composite Materials* (ed. R. Pyrz), 375-385, Kluwer (1995).
157. K.K. Mathur, A. Needleman and V. Tvergaard, Three dimensional modeling of metallic fracture. in *CED- Vol. 6, High Performance Computing in Computational Dynamics* (ed. K. Tamma), 83-88, ASME (1994).
158. V. Tvergaard, Cavity growth in ductile particles bridging a brittle matrix crack. *Int. J. Fracture* 72, 277-292 (1995).
159. A. Needleman, V. Tvergaard and E. van der Giessen, Evolution of void shape and size in creeping solids. *Int. J. Damage Mech.* 4, 134-152 (1995).
160. V. Tvergaard, Micromechanical models for creep rupture. in *DCAMM 25th Anniversary Volume* (eds. M.P. Bendsøe *et al.*), 129-141 (1994).
161. V. Tvergaard and J.W. Hutchinson, Effect of strain dependent cohesive zone model on predictions of crack growth resistance. *Int. J. Solids Structures* 33, 3297-3308 (1996).
162. V. Tvergaard, Micromechanics of damage in metals. in *Proc. 7th Int. Conf. Mechanical Behaviour of Materials* (ed. A. Bakker), 23-43, Delft University Press (1995).
163. F. Ren, A. Chandra and V. Tvergaard, A micromechanical study of high temperature Ti-Al powder compaction. *J. Manufacturing Sci. and Engng.*, ASME, 120, 349-358 (1998).
164. V. Tvergaard and A. Needleman, Nonlocal effects in ductile fracture by cavitation between larger voids. in *Computational Plasticity, Fundamentals and Applications* (eds. D.R.J. Owen and E. Onate), 963- 973 (1995).
165. E. van der Giessen and V. Tvergaard, Micromechanics of intergranular creep failure under cyclic loading. *Acta Mater.* 44, 2697-2710 (1996).
166. H. Skovby Nielsen and V. Tvergaard, Intergranular fracture under creep-fatigue interaction. *Int. J. Damage Mechanics* 7, 3-23

(1998).

167. V. Tvergaard and J.W. Hutchinson, On the toughness of ductile adhesive joints. *J. Mech. Phys. Solids* 44, 789-800 (1996).
168. K.K. Mathur, A. Needleman and V. Tvergaard, Three dimensional analysis of dynamic ductile crack growth in a thin plate. *J. Mech. Phys. Solids* 44, 439-464 (1996).
169. V. Tvergaard, Relations between crack growth resistance and fracture process parameters under large scale yielding. in *Nonlinear Analysis of Fracture* (ed. J.R. Willis), 93-104, Kluwer Academic Publishers, London (1997).
170. X. Gao, C.F. Shih, V. Tvergaard and A. Needleman, Constraint effects on the ductile-brittle transition in small scale yielding. *J. Mech. Phys. Solids* 44, 1255-1282 (1996).
171. M.W.D. van der Burg, E. van der Giessen and V. Tvergaard, Numerical study of hydrogen attack in creeping vessels. in *Localized Damage IV: Computer-Aided Assessment and Control* (eds. H. Nisitani, M.H. Aliabadi, S.-I. Nishida and D.J. Cartwright), 641-648, Computational Mech. Publ., Southampton (1996).
172. V. Tvergaard and A. Needleman, Nonlocal effects on localization in a void-sheet. *Int. J. Solids Structures* 34, 2221-2238 (1997).
173. V. Tvergaard, Effect of void size difference on growth and cavitation instabilities. *J. Mech. Phys. Solids* 44, 1237-1253 (1996).
174. V. Tvergaard and J.W. Hutchinson, Effect of strain dependent cohesive zone model on predictions of interface crack growth. *Journal de Physique IV*, 6, C6.165-C6.172 (1996).
175. E. van der Giessen and V. Tvergaard, Micromechanical studies of cyclic creep fracture under stress controlled loading. *Journal de Physique IV*, 6, C6.449-C6.459 (1996).
176. V. Tvergaard, Modelling of damage and fracture in multiphase materials. in *Proc. General COST 512 Workshop on Modelling in Materials Science and Processing* (eds. M. Rappaz and M. Kedro), 43-54, European Commission (1996).
177. V. Tvergaard, Studies of void growth in a thin ductile layer between ceramics. *Computational Mechanics* 20, 186-191 (1997).
178. V. Tvergaard, Analysis of debonding in metal ceramic systems. in *Advances in Fracture Research, ICF9*, (eds. B.L. Karihaloo *et al.*), 2, 651-662, Pergamon (1997).
179. V. Tvergaard, Nonlocal effects in ductile fracture predictions. in *Recent Advances in Fracture* (eds. R.K. Mahidhara *et al.*), 113-124, The Minerals, Metals & Materials Society (1997).
180. V. Tvergaard, Cleavage crack growth resistance due to plastic flow around a near-tip dislocation-free region. *J. Mech. Physics Solids* 45, 1007-1023 (1997).
181. T. Reiter, G.J. Dvorak and V. Tvergaard, Micromechanical models for graded composite materials. *J. Mech. Physics Solids* 45, 1281-1302 (1997).
182. M.W.D. van der Burg, E. van der Giessen and V. Tvergaard, A continuum damage analysis of hydrogen attack in 2.25 Cr - 1 Mo vessel. *Materials Science and Engineering A241*, 1-13 (1998).
183. V. Tvergaard, Studies of the micromechanics of materials. *Eur. J. Mechanics A/Solids* 16, special issue, 5-24 (1997).
184. V. Tvergaard, Interaction of very small voids with larger voids. *Int. J. Solids Structures* 35, 3989-4000 (1998).
185. A. Needleman and V. Tvergaard, Dynamic crack growth in a nonlocal progressively cavitating solid. *Eur. J. Mech. A/Solids* 17, 421-438 (1998).
186. V. Tvergaard and A. Needleman, Nonlocal damage effects on plastic flow localization under dynamic loading. in *Material Instabilities in Solids* (eds. R. de Borst and E. van der Giessen), 457-471, John Wiley & Sons, New York (1998).
187. J.W. Hutchinson and V. Tvergaard, Edge-cracks in single crystals under monotonic and cyclic loads. *Int. J. Fracture* 99, 81-95 (1999).
188. V. Tvergaard, Effect of T-stress on the cleavage crack growth resistance resulting from plastic flow. *J. de Physique IV*, Pr8, 391-398 (1998).
189. L.P. Mikkelsen and V. Tvergaard, A nonlocal two-dimensional analysis of instabilities in tubes under internal pressure. *J. Mech. Phys. Solids* 47, 953-969 (1999).
190. V. Tvergaard, Effect of ductile matrix failure in three dimensional analysis of metal matrix composites. *Acta Materialia* 46, 3637-3648 (1998).
191. L.P. Mikkelsen and V. Tvergaard, A 2-D nonlocal analysis of hydroforming for thin sheets. *J. de Physique IV*, Pr8, 249-256 (1998).
192. A. Benallal and V. Tvergaard, 2D nonlocal versus 3D bifurcation studies for biaxially loaded plates. *J. de Physique IV*, Pr8, 29-37 (1998).
193. A. Needleman and V. Tvergaard, Numerical Modeling of the ductile-brittle transition. *Int. J. Fracture* 101, 73-97 (2000).
194. P. Redanz and V. Tvergaard, Analysis of shear band instabilities in sintered metals. *Int. J. Solids Structures* 36, 3661-3676 (1999).
195. V. Tvergaard, Effect of large elastic strains on cavitation instability predictions for elastic-plastic solids. *Int. J. Solids Structures* 36, 5453-5466 (1999).
196. V. Tvergaard, Fibre spacing effects in 3D analyses of metal matrix composites. in *Modelling of Structure and Mechanics of Materials from Microscale to Product* (eds. J.V. Carstensen *et al.*), 523-528, Risø, Denmark (1998).
197. L.P. Mikkelsen and V. Tvergaard, Bending effects on instabilities of internally pressurized tubes modelled by a nonlocal membrane theory. in *Thin-Walled Structures - Research and Development* (eds. N.E. Shanmugan *et al.*), 679-686, Elsevier, Singapore (1998).
198. V. Tvergaard, Effect of plasticity on cleavage crack growth resistance at an interface. *J. Mech. Phys. Solids* 47, 1095-1112 (1999).
199. A. Needleman and V. Tvergaard, A micromechanical analysis of the ductile-brittle transition at a weld. *Engng. Fract. Mech.* 62, 317-338 (1999).
200. M. Kuroda and V. Tvergaard, Forming limit diagrams for anisotropic metal sheets with different yield criteria. *Int. J. Solids*

Structures 37, 5037-5059 (2000).

201. V. Tvergaard, Interface failure by cavity growth to coalescence. *Int. J. Mech. Sci.* 42, 381-395 (2000).

202. V. Tvergaard and A. Needleman, Buckling localization in a cylindrical panel under axial compression. *Int. J. Solids Structures* 37, 6825-6842 (2000).

203. M. Kuroda and V. Tvergaard, Effect of strain path change on limits to ductility of anisotropic metal sheets. *Int. J. Mech. Sci.* 42, 867-887 (2000).

204. V. Tvergaard, Studies of elastic-plastic instabilities. *J. Appl. Mech.* 66, 3-9 (1999).

205. T.Ø. Pedersen and V. Tvergaard, On low cycle fatigue in metal matrix composites. *Int. J. Damage Mechanics* 9, 154-173 (2000).

206. V. Tvergaard and T.Ø. Pedersen, Fatigue damage development in a steel based MMC. *Computer Modeling in Engineering & Sciences* 1, 89-94 (2000).

207. M. Kuroda and V. Tvergaard, Use of abrupt strain path change for determining subsequent yield surface: Illustrations of basic idea. *Acta Materialia* 47, 3879-3890 (1999).

208. V. Tvergaard, Ductile Fracture: Micromechanics. *The Encyclopedia of Materials: Science and Technology*, 2355-2362, Elsevier Science (2001).

209. V. Tvergaard and A. Needleman, Analysis of the Charpy V-notch test for welds. *Engng. Fracture Mechanics* 65, 627-643 (2000).

210. V. Tvergaard and A. Needleman, Modified Gurson model. in *Handbook of Materials Behavior Models* (ed. J. Lemaitre), 430-435, Academic Press (2001).

211. H. Klöcker and V. Tvergaard, Void growth and coalescence in metals deformed at elevated temperature. *Int. J. Fracture* 106, 259-276 (2000).

212. T. Kuwabara, M. Kuroda, V. Tvergaard and K. Nomura, Use of abrupt strain path change for determining subsequent yield surface: Experimental study with metal sheets. *Acta Materialia* 48, 2071-2079 (2000).

213. V. Tvergaard, Resistance curves for mixed mode interface crack growth between dissimilar elastic-plastic solids. *J. Mech. Phys. Solids* 49, 2689-2703 (2001).

214. V. Tvergaard and T.Ø. Pedersen, Fatigue crack evolution in a metal reinforced by short fibres. *Archives of Mechanics* 52, 799-815 (2000).

215. T. Kuwabara, M. Kuroda, V. Tvergaard and K. Nomura, Measurement of subsequent yield surface of prestrained sheet metals: Application of abrupt strain path change method. in *Plastic and Viscoplastic Response of Materials and Metal Forming* (eds. A.S. Khan *et al.*), 531-533, Neat Press (2000).

216. M. Kuroda and V. Tvergaard, A phenomenological plasticity model with non-normality effects representing observations in crystal plasticity. *J. Mech. Phys. Solids* 49, 1239-1263 (2001).

217. V. Tvergaard and P. Redanz, Shear band instabilities in compacted metal powder with or without interparticle cohesion. *J. de Physique IV, Pr4*, 339-347 (2001).

218. V. Tvergaard and A. Needleman, Effect of residual stresses on buckling localization in a cylindrical panel. *AIAA-J.* 39, 729-734 (2001).

219. V. Tvergaard, Crack growth predictions by cohesive zone model for ductile fracture. *J. Mech. Phys. Solids* 49, 2191-2207 (2001).

220. C.F. Niordson and V. Tvergaard, Nonlocal effects on the tensile properties of a metal matrix composite. *Eur. J. Mech. A/Solids* 20, 601-613 (2001).

221. V. Tvergaard, Y. Wei and J.W. Hutchinson, Edge cracks in plastically deforming surface grains. *Eur. J. Mech. A/Solids* 20, 731-738 (2001).

222. H. Baser and V. Tvergaard, A new algorithmic approach treating nonlocal effects at finite rate-independent deformation using the Rousselier damage model. *Comput. Methods Appl. Mech. Engng.* 192, 107-124 (2003).

223. V. Tvergaard and T.Ø. Pedersen, Applications of damage mechanics under cyclic loading. in *Continuous Damage and Fracture* (ed. A. Benallal), 273-280, Elsevier, Paris (2000).

224. V. Tvergaard, 3D analyses of ductile failure in metal reinforced by staggered fibres. *Modelling Simul. Mater. Sci. Eng.* 9, 143-155 (2001).

225. M. Kuroda and V. Tvergaard, Plastic spin associated with non-normality theory of plasticity. *Eur. J. Mech. A/Solids* 20, 893-905 (2001).

226. V. Tvergaard, Theoretical investigation of the effect of plasticity on crack growth along functionally graded region between dissimilar elastic-plastic solids. *Engng. Fracture Mech.* 69, 1635-1645 (2002).

227. V. Tvergaard, Effect of T-stress and void nucleation on cohesive zone model predictions for ductile fracture. *Proc. ICF-10* (eds. K. Ravi-Chandar, *et al.*), 5 pages, on CD, Elsevier (2001).

228. A.A. Benzerga, R. Batisse, A. Needleman and V. Tvergaard, Analyses of size effects in the Charpy V-notch test. *Proc. ICF-10* (eds. K. Ravi-Chandar, *et al.*), 6 pages, on CD, Elsevier (2001).

229. V. Tvergaard, Damage evolution in metal matrix composites. *Proc. ICCE/8* (ed. D. Hui), pp. B51-B54, New Orleans (2001).

230. C.F. Niordson and V. Tvergaard, Nonlocal plasticity effects on fibre debonding in a whisker-reinforced metal. *Eur. J. Mech. A/Solids* 21, 239-248 (2002).

231. V. Tvergaard, 3D studies of ductile failure in particulate reinforced metals. *Proc. IUTAM Symposium on Analytical and Computational Fracture Mechanics of Non-Homogeneous Materials* (ed. B.L. Karihaloo), pp. 407-416, Kluwer (2002).

232. M. Kuroda and V. Tvergaard, Shear band development predicted by a non-normality theory of plasticity and comparison to crystal

- plasticity predictions. *Int. J. Solids Structures* 38, 8945-8960 (2001).
233. A.A. Benzerga, V. Tvergaard and A. Needleman, Size effects in the Charpy V-notch test. *Int. J. Fracture* 116, 275-296 (2002).
234. V. Tvergaard and A. Needleman, 3D Charpy specimen analyses for welds. *From Charpy to Present Impact Testing* (eds. D. Francois, *et al.*), 437-444, ESIS Publication 40, Elsevier (2002).
235. V. Tvergaard and J.W. Hutchinson, Two mechanisms of ductile fracture: Void by void growth versus multiple void interaction. *Int. J. Solids Structures* 39, 3581-3597 (2002).
236. V. Tvergaard, Cohesive zone modelling of crack growth along different functionally graded joints between two materials. *Proc. IUTAM Symposium on Computational Mechanics of Solid Materials at Large Strains* (ed. C. Miehe), pp. 365-374, Kluwer (2003).
237. B.N. Legartha, V. Tvergaard and M. Kuroda, Effects of plastic anisotropy on crack-tip behaviour. *Int. J. Fracture* 117, 297-312 (2002).
238. V. Tvergaard and M. Kuroda, Applications of a phenomenological plasticity model with non-normality effects. *Key Engng. Materials* 233, 25-34 (2003).
239. M.M. Rashid and V. Tvergaard, On the path of a crack near a graded interface under large scale yielding. *Int. J. Solids Structures* 40, 2819-2831 (2003).
240. V. Tvergaard, Cohesive zone representations of failure between elastic or rigid solids and ductile solids. *Engng. Fracture Mechanics* 70, 1859-1868 (2003).
241. V. Tvergaard and J.W. Hutchinson, Crack growth per cycle by blunting and void growth. *Fatigue 2002* (ed. A.F. Blom), Vol. 1/5, 107-116, EMAS Publishing, U.K. (2002).
242. H. Klöcker and V. Tvergaard, Growth and coalescence of non spherical voids in metals deformed at elevated temperature. *Int. J. Mech. Sci.* 45, 1283-1308 (2003).
243. V. Tvergaard and C.F. Niordson, Nonlocal plasticity effects on interaction of different size voids. *Int. J. Plasticity* 20, 107-120 (2004).
244. V. Tvergaard, Numerical modelling in nonlinear fracture mechanics. *Fracture Mechanics Beyond 2000* (eds. A. Neimitz *et al.*), Vol. III/III, 477-484, EMAS Publishing, U.K. (2002).
245. P. Redanz and V. Tvergaard, Analysis of shear band instabilities in compaction of powders. *Int. J. Solids Structures* 40, 1853-1864 (2003).
246. B.N. Legartha, V. Tvergaard and M. Kuroda, Crack-tip blunting in an anisotropic material with plastic spin. *WCCM V, Fifth World Congr. Comput. Mech.* (eds. H.A. Mang *et al.*), ISBN 3-9501554-0-6, on Web, 9p (2002).
247. V. Tvergaard, Debonding of short fibres among particulates in a metal matrix composite. *Int. J. Solids Structures* 40, 6957-6967 (2003).
248. V. Tvergaard, Effect of T-stress on crack growth along an interface between ductile and elastic solids. *Interface Science* 11, 303-308 (2003).
249. V. Tvergaard, Influence of plasticity on interface toughness in a layered solid with residual stresses. *Int. J. Solids Structures* 40, 5769-5779 (2003).
250. M.M. Rashid and V. Tvergaard, Effect of a graded interface on a crack approaching at an oblique angle. *Int. J. Computational Engng. Sci.* 5, 781-794 (2004).
251. V. Tvergaard, Micromechanical modelling of failure in metal matrix composites. in *Dislocations, Plasticity and Metal Forming* (ed. A.S. Khan), pp. 463-465, ISBN 0-9659463-4-7, Neat Press, Maryland, USA (2003).
252. H. Baaser and V. Tvergaard, A new algorithmic approach treating nonlocal effects at finite rate- independent deformation using the Rousselier damage model. *Computer Methods in Appl. Mech. and Engng.* 192, 107-124 (2003).
253. V. Tvergaard and A. Needleman, 3D analyses of the effect of weld orientation in Charpy specimens. *Engng. Fracture Mechanics* 71, 2179-2195 (2004).
254. V. Tvergaard, Predictions of mixed mode interface crack growth using a cohesive zone model for ductile fracture. *J. Mech. Phys. Solids* 52, 925-940 (2004).
255. V. Tvergaard and A. Needleman, Weld investigations by 3D analyses of Charpy V-notch specimens. *Latin American J. of Solids and Structures* 2, 103-112 (2005).
256. V. Tvergaard, Effect of residual stress on cavitation instabilities in constrained metal wires. *J. Appl. Mech.* 71, 560-566 (2004).
257. D.A. Desandre, A.A. Benzerga, V. Tvergaard and A. Needleman, Material inertia and size effects in the Charpy V-notch test. *Eur. J. Mech. A/Solids* 23, 373-386 (2004).
258. V. Tvergaard, Breakage and debonding of short brittle fibres among particulates in a metal matrix. *Mater. Sci. and Engng.* A369, 192-200 (2004).
259. V. Tvergaard, On fatigue crack growth in ductile materials by crack-tip blunting. *J. Mech. Phys. Solids* 52, 2149-2166 (2004).
260. A.B. Richelsen and V. Tvergaard, 3D analysis of cold rolling using a constitutive model for interface friction. *Int. J. Mech. Sci.* 46, 653-671 (2004).
261. M. Kuroda and V. Tvergaard, Shear band development in anisotropic bent specimens. *Eur. J. Mech. A/Solids* 23, 811-821 (2004).
262. Y. Nakayama and V. Tvergaard, Interaction of two closely spaced voids during growth to coalescence. *Key Engineering Materials*, 274-276, 81-86 (2004).
263. V. Tvergaard, Interface crack growth by void expansion mechanisms between ductile solid and elastic substrate. *Proc. of ICF11*, Turin, Italy, 20-25 March 2005, on CD.

264. V. Tvergaard and B.N. Legarh, Effect of plastic anisotropy on crack growth resistance under mode I loading. *Int. J. Fracture* 130, 411-425 (2004).
265. V. Tvergaard, Cohesive zone model predictions of crack growth in isotropic or anisotropic elastic-plastic solids. *Proc. of 11th Int. Symposium on Plasticity and its Current Applications* (eds. A.S. Khan & A.R. Khocfi), Kauai, Hawaii, Jan. 2005, Neat Press, on CD.
266. V. Tvergaard, Overload effects in fatigue crack growth by crack-tip blunting. *Int. J. Fatigue* 27, 1389-1397 (2005).
267. C.F. Niordson and V. Tvergaard, Instabilities in power law gradient hardening materials. *Int. J. Solids Structures* 42, 2559-2573 (2005).
268. V. Tvergaard and A. Needleman, Three dimensional microstructural effects on plane strain ductile crack growth. *Int. J. Solids Structures* 43, 6165-6179 (2006).
269. V. Tvergaard and B.N. Legarh, Crack growth resistance for anisotropic plasticity with non-normality effects. *Int. J. Solids Structures* 43, 2160-2173 (2006).
270. V. Tvergaard, Debonding or breakage of short fibres in a metal matrix composite. *Proc. of IUTAM Symposium on Multiscale Modelling of Damage and Fracture in Composite Materials* (ed. T. Sadowski), pp. 67-76, Springer Verlag (2006).
271. C.F. Niordson and V. Tvergaard, Size-effects on cavitation instabilities. *J. Appl. Mech., Transactions of ASME* 73, 246-253 (2006).
272. U. Borg, C.F. Niordson, N.A. Fleck and V. Tvergaard, A viscoplastic strain gradient analysis of materials with voids or inclusions. *Int. J. Solids Structures* 43, 4906-4916 (2006).
273. V. Tvergaard, Numerical studies of failure in ductile materials. *Proc. Computational Plasticity VIII* (eds. D.R.J. Owen, E. Onate & B. Suarez), pages 72-75, CIMNE, Barcelona (2005).
274. M. Kuroda and V. Tvergaard, Effects of texture on shear band formation in plane strain tension/compression and bending. *Int. J. Plasticity* 23, 244-272 (2007).
275. V. Tvergaard and G. Vadillo, Influence of porosity on cavitation instability predictions for elastic-plastic solids. *Int. J. Mech. Sci.* 49, 210-216 (2007).
276. V. Tvergaard and B.N. Legarh, Effect of anisotropic plasticity on mixed mode interface crack growth. *Engng. Fracture Mechanics* 74, 2603-2614 (2007).
277. V. Tvergaard, Effect of underloads or overloads in fatigue crack growth by crack-tip blunting. *Engng. Fracture Mechanics* 73, 869-879 (2006).
278. M. Kuroda and V. Tvergaard, Studies of scale dependent crystal viscoplasticity models. *J. Mech. Phys. Solids* 54, 1789-1810 (2006).
279. M. Kuroda and V. Tvergaard, Some comments on strain gradient crystal plasticity theories. In: Khan, A.S. and Kazmi, R. (eds.), *Anisotropy, Texture, Dislocations and Multiscale Modeling in Finite Plasticity & Viscoplasticity*. Neat Press, Maryland, USA, pp. 652-654 (CD-ROM).
280. V. Tvergaard, Analyses of cavitation instabilities in ductile metals. *Key Engineering Materials* 340-341, 49- 57 (2007).
281. M. Kuroda, V. Tvergaard and T. Ohashi, Simulation of micro-bending of thin foils using a scale dependent crystal plasticity model. *Modelling Simul. Mater. Sci. Eng.* 15, S13-S22 (2007).
282. C.F. Niordson and V. Tvergaard, Size-effects in porous metals. *Modelling Simul. Mater. Sci. Eng.* 15, S51- S60 (2007).
283. V. Tvergaard, Effect of residual stresses on interface crack growth by void expansion mechanism. *Int. J. Fracture* 142, 43-50 (2006).
284. M.M. Rashid and V. Tvergaard, Crack trajectories in ductile materials under unsymmetric conditions: Theory and numerical simulation. Report, Univ. of California, Davis (2006).
285. V. Tvergaard, Mesh sensitivity effects on fatigue crack growth by crack-tip blunting and re-sharpening. *Int. J. Solids Structures* 44, 1891-1899 (2007).
286. V. Tvergaard and J.W. Hutchinson, Mode III effects on interface delamination. *J. Mech. Phys. Solids* 56, 215-229 (2008).
287. M. Kuroda and V. Tvergaard, On the formulations of higher order strain gradient crystal plasticity models. *J. Mech. Phys. Solids* 56, 1591-1608 (2008).
288. V. Tvergaard and B.N. Legarh, Interface crack growth for anisotropic plasticity with non-normality effects. *Int. J. Solids Structures* 44, 7357-7369 (2007).
289. V. Tvergaard and A. Needleman, An analysis of thickness effects in the Izod Test. *Int. J. Solids Structures* 45, 3951-3966 (2008).
290. B. Lindgreen, V. Tvergaard and A. Needleman, Dynamic neck development in a polymer tube under internal pressure loading. *Int. J. Solids Structures* 45, 580-592 (2008).
291. V. Tvergaard, Cohesive models for interface debonding. *Proc. Risø Symposium on Interface Design of Polymer Matrix Composites* (Eds. B.F. Sørensen *et al.*) pp. 113-124, Risø (2007).
292. B. Lindgreen, V. Tvergaard and A. Needleman, Bulge formation and necking in a polymer tube under dynamic expansion. *Modelling Simul. Mater. Sci. Eng.* 16 (2008).
293. V. Tvergaard, Effect of shape on unstable growth of cavities interacting with surrounding small voids. *Philosophical Magazine* 88, 3357-3368 (2008).
294. M. Kuroda and V. Tvergaard, A finite deformation theory of higher-order gradient crystal plasticity. *J. Mech. Phys. Solids* 56, 2573-2584 (2008).
295. V. Tvergaard, Discrete modeling of ductile crack growth by void growth to coalescence. *Int. J. Fracture* 148, 1-12 (2007).
296. V. Tvergaard and C. Niordson, Size-effects at a crack-tip interacting with a number of voids. *Philosophical Magazine* 88, 3827-

- 3840 (2008).
297. V. Tvergaard, Effect of T-stress on crack growth under mixed mode I-III loading. *Int. J. Solids Structures* 45, 5181-5188 (2008).
298. M.M. Rashid and V. Tvergaard, Crack trajectories near a weld: Modeling and simulation. *Engng. Fracture Mechanics* 75, 560-570 (2008).
299. V. Tvergaard and A. Needleman, Effect of material parameters in the Izod test for polymers. *Proc. IUTAM Symposium on Theoretical, Computational and Modelling Aspects of Inelastic Media* (ed. B. Daya Reddy), pp. 297-306, Springer Verlag (2008).
300. K.L. Nielsen and V. Tvergaard, Effect of shear modified Gurson model on damage development in FSW tensile specimen. *Int. J. Solids Structures* 46, 587-601 (2009).
301. M. Kuroda and V. Tvergaard, Effects of microscopic boundary conditions on plastic deformations of small- sized single crystals. *Int. J. Solids Structures* 46, 4396-4408 (2009).
302. V. Tvergaard, Shear deformation of voids with contact modelled by internal pressure. *Int. J. Mech. Sci.* 50, 1459-1465 (2008).
303. V. Tvergaard, Behaviour of voids in a shear field. *Int. J. Fract.* 158, 41-49 (2009).
304. V. Tvergaard and J.W. Hutchinson, Analyses of crack growth along interface of patterned wafer-level Cu-Cu bonds. *Int. J. Solids Structures* 46, 3433-3440 (2009).
305. K.L. Nielsen and V. Tvergaard, Ductile shear failure or plug failure of spot welds modeled by modified Gurson model. *Engng. Fracture Mechanics* 77, 1031-1047 (2010).
306. V. Tvergaard, Crack growth predictions based on cohesive zone models. *Proc. 15 Int. Symposium of Plasticity* (eds. A.S. Khan & B. Farokh), on CD, Neat Press (2009).
307. A. Simar, K.L. Nielsen, B. de Meester, T. Pardoen and V. Tvergaard, Strain hardening and damage in 6xxx series aluminum alloy friction stir welds. *Materials Science Forum* 638-642, 333-338 (2010).
308. A. Simar, K.L. Nielsen, B. de Meester, V. Tvergaard and T. Pardoen, Micro-mechanical modeling of ductile failure in 6005A aluminium using physics based strain hardening law including stage IV. *Engng. Fracture Mechanics* 77, 2491-2503 (2010).
309. M. Kuroda and V. Tvergaard, An alternative treatment of phenomenological higher-order strain-gradient plasticity theory. *Int. J. Plasticity* 26, 507-515 (2010).
310. K.L. Nielsen, T. Pardoen, V. Tvergaard, B. de Meester and A. Simar, Modelling of plastic flow localization and damage development in friction stir welded 6005A aluminium alloy using physics based strain hardening law. *Int. J. Solids Structures* 47, 2359-2370 (2010).
311. V. Tvergaard, Effect of pure mode I, II or III loading or mode mixity on crack growth in a homogeneous solid. *Int. J. Solids Structures* 47, 1611-1617 (2010).
312. V. Tvergaard and K.L. Nielsen, Relations between a micro-mechanical model and a damage model for ductile failure in shear. *J. Mech. Phys. Solids* 58, 1243-1252 (2010).
313. B.N. Legartha and V. Tvergaard, 3D analyses of cavitation instabilities accounting for plastic anisotropy. *ZAMM* 90, 701-709 (2010).
314. A. Chandra, J.J. Ryu, P. Karra, P. Shrotriya, V. Tvergaard, M. Gaisser and T. Weik, Life expectancy of modular Ti6Al4V hip implants: Influence of stress and environment. Report, Dept. Mechanical Engineering, Iowa State University (2010).
315. V. Tvergaard and A. Needleman. Polymer indentation: Numerical analysis and comparison with a spherical cavity model. Report, Dept. Mechanical Engineering, DTU (2010).
316. V. Tvergaard. Void shape effects and voids starting from cracked inclusion. *Int. J. Solids Structures* 48, 1101-1108 (2011).
317. V. Tvergaard. Elastic-plastic void expansion in near-self-similar shapes. Report, Dept. Mechanical Engineering, DTU (2011).
318. K.L. Nielsen and V. Tvergaard. Failure by void coalescence in metallic materials containing primary and secondary voids subject to intense shearing. *Int. J. Solids Structures* 48, 1255-1267 (2011).
319. J. Dahl, K.L. Nielsen and V. Tvergaard. Effect of contact conditions on void coalescence at low stress triaxiality shearing. Report, Dept. Mechanical Engineering, DTU (2011).
320. V. Tvergaard. On cavitation instabilities with interacting voids. Report, Dept. Mechanical Engineering, DTU (2011).

Editorial boards:

- Editor-in-Chief, *European J. Mech. A/Solids*, 1995- . (Assoc. Editor, 1988-94).
- Editorial board for *Int. J. Thin Walled Structures*, 1982-2009.
- Advisory board for *Int. J. Mech. Sci.*, 1986- .
- Board of Editors, *Mech. of Materials*, 1990-2006.
- Advisory board, *Acta Mechanica Sinica*, 1990- .
- Editorial board, *Composites Engineering*, 1991-95.
- Editorial board, *Modelling and Simulation in Mater. Sci. and Engng.*, 1992-2011.
- Editorial adv. board, *Int. J. Damage Mech.*, 1992- .
- Contributing Editor, *Mech. of Composite Materials and Structures*, 1994-96.