

## **PUBLICATIONS**    Bjørn Skallerud

### International journal papers

Ramezanzadehkoldeh M, Skallerud B

“MicroCT based finite element models as a tool for virtual testing of cortical bone”. Accepted *Medical Engng and Physics*, 2017.

Ramezanzadehkoldeh M, Skallerud B

«Nanoindentation response of cortical bone: dependency of subsurface voids». *Biomech Model Mechanobiol*, DOI 10.1007/s10237-017-0907-5, 2017.

Ilseng A, Skallerud B, Clausen A

«An experimental and numerical study on the volume changes of particle-filled elastomers in various loading modes». *Mech Mater*, vol 106, pp 44-57, 2017.

Tatyana Sherstova, Bjørn Torger Stokke, Bjørn Skallerud, Gjertrud Maurstad, and Victorien Emile Prot

“Nanoindentation and finite element modelling of chitosan-alginate multilayer coated hydrogel”. *Soft Matter*, accepted 2016.

Prot V, Skallerud B

“Contributions of prestrains, hyperelasticity, and muscle fiber activation on mitral valve systolic performance”. *International Journal for Numerical Methods in Biomedical Engineering*, accepted, 2016

Aasarød K, Ramezanzadehkoldeh M, Shabestari M, Mosti M, Stunes AK, Reseland JE, Beisvag V, Eriksen EF, Sandvik AK, Erben RG, Schüler C, Boyce M, Skallerud B, Syversen U, Fossmark R  
“Skeletal effects of a gastrin receptor antagonist in H<sup>+</sup>/K<sup>+</sup>ATPase beta subunit KO mice”, *J Endocrinology*, accepted, 2016

Aasarød K, Stunes A, Mosti M, Ramezanzadekoldeh M, Viggaklev B, Reseland J, Skallerud B, Fossmark R, Syversen U.

“Effects of histamine 1 receptor antagonist cetirizine on the osteoporotic phenotype in H<sup>+</sup>/K<sup>+</sup>ATPase beta subunit KO mice”, *J Cellular Biochemistry*, 1-8, 2016

Ilseng A, Skallerud B, Clausen A

“Tension behaviour of HNBR and FKM elastomers for a wide range of temperatures”, *J Polymer testing*, accepted 2015, <http://dx.doi.org/10.1016/j.polymertesting.2015.11.017>

Jiayang Wu, Fulong Ning, Thuat Trinh, Signe Kjelstrup, Thijs J. H. Vlugt, Jianying He, Bjørn H. Skallerud, and Zhiliang Zhang  
“Mechanical Instability of Monocrystalline and Polycrystalline Methane Hydrates”, *Nature Communications*, November 2015, <http://dx.doi.org/10.1038/ncomms9743>

Skallerud B.

«Response of surface cracks in tubular members during global buckling and instability». *Procedia Materials Science*, vol 3, pp 2060-2064, 2014.

Saffer S, Skallerud B, Zhang ZL.

«Analysis of surface cracks in multi-crystalline thin silicon wafers». *Engng Fract Mech*, vol 124-125, pp 310-321, 2014.

Rehak K and Skallerud B.

«Micro-CT based imaging and numerical analysis of bone healing». *Key Engineering Materials*, Local Mechanical Properties X, vol 606, pp 141-144, 2014.

Prot V, Sveinsson HR, Gawel K, Gao M, Skallerud B, Stokke BT

“Swelling of a hemi-ellipsoidal ionic hydrogel for determination of material properties of deposited thin polymer films: an inverse finite element approach”. *Soft Matter*, vol 9, pp 5815-5827. 2013.

Leinan PR, Degroote J, Kiserud T, Skallerud B, Vierendeels J, Hellevik LR

„Velocity profiles in the human ductus venosus: a numerical fluid structure interaction study“, *J Biomechanics and Modeling in Mechanobiology*, vol 12, pp 1019-1035, 2013.

Dahl SK, Thomassen E, Hellevik LR, Skallerud B

„Impact of pulmonary venous locations on the intra-atrial flow and mitral plane velocity profile“, *Cardiovasc Engng and Techn*, vol 3, no 3, pp 2069-281, 2012.

Dahl SK, Vierendeels J, Degroote J, Annerel S, Hellevik LR, Skallerud B

„FSI-simulation of asymmetric mitral valve dynamics during diastolic filling“. *Computer Methods in Biomechanics and Biomedical Engineering*, vol 15, issue 2, pp 121-130, 2012.

Annerel S, Degroote J, Vierendeels J, Claessens T, Ransbeck P, Dahl SK, Skallerud B, Hellevik LR, Segers P, Verdonck P

„Application of a strong FSI coupling scheme for the numerical simulation of bileaflet mechanical heart valve dynamics: study of wall shear stress on the leaflets“, *Progr Comp Fluid Dyn*, vol 12, nos 2-3, 68-80, 2012.

Nordrum IS and Skallerud B

„Muscle fibers in the human mitral valve: extent of smooth muscle and implications for dynamic modelling“, *APMIS*, vol 120, issue 6, pp 484-494, 2012.

Annerel S, Degroote J, Claessens T, Dahl SK, Skallerud B, Hellevik LR, van Ransbeeck P, Segers P, Verdonck P, Vierendeels J

„A fast strong coupling algorithm for the partitioned fluid-structure interaction simulation of BMHVs“. *Computer Methods in Biomechanics and Biomedical Engineering*, vol 15, issue 12, pp 1281-1312, 2012.

Leinan PR, Prot V, vd Broek C, Kiserud T, Skallerud B, vd Vosse F, Hellevik LR

„On the biomechanical response of the human umbilical veins and Wharton’s jelly“, submitted, 2011.

La Russa V, Skallerud B, Klaksvik J, Foss O

“Reduction in wire tension caused by dynamic loading. An experimental Ilizarov frame study”. *J Biomechanics*, Volume 44, Issue 8, pp 1454-1458, 2011.

La Russa V, Skallerud B, Klaksvik J, Foss O

“Reduction in wire tension caused by wire clamping and wire tensioner removal: An experimental Ilizarov frame study”. *Proc Inst Mech Engineers, Part H, J Engng in Medicine*, vol225,pp.220-227.,2011.

Randeberg LL, Skallerud B, Langlois NE, Haugen OA, Svaasand LO

„The optics of bruising“, chapter 22 in „Optical-thermal response of laser-irradiated tissue“, eds Ashley J Welch and Martin JC van Gemert, Springer, ISBN 978-90-481-8830-7, 2011.

Skallerud B, Prot V, Nordrum IS

„Modeling active muscle contraction of mitral valve leaflets during systole: a first approach“. *J Biomechanics and Modeling in Mechanobiology*, vol 10, pp 11-26, 2011.

LaRussa V, Skallerud B, Klaksvik J, Foss O

„Wire tension versus wire frequency: an experimental Ilizarov frame study“. *J Biomechanics*, vol 43, pp 2327-2331, 2010,.

Zhang Z L and Skallerud B

”Void coalescence with or without prestrain”. *Int J Damage Mechanics*, vol 19, pp 153-174, 2010.

Prot V, Skallerud B, Sommer G, Holzapfel G A

”On modelling and analysis of healthy and pathological human mitral valves: two case studies”. *J Mechanical Behaviour of Biomedical Materials*, vol 3, issue 2, 2010, pp 167-177.

Berg E, Holthe K, Skallerud B

„ Cyclic plasticity modelling for ANDES thin shell and line-spring finite elements“. *Int. J Applied Mechanics* , vol 1, pp 201-231, 2009.

Pettersen S H, Wik T, Skallerud B

” Subject Specific Finite Element Analysis of Implant Stability of a Cementless Femoral Stem”. *J Clinical Biomechanics*, Volume 24, Issue 6, July 2009, Pages 480-487

Shang L, Zhang Z L, Skallerud B

”Comments on the evaluation of the stress intensity factor for a general re-entrant corner in anisotropic bi-materials”. *Engineering Fracture Mechanics*, Volume 76, Issue 9, June 2009, Pages 1373-1379.

Shang L, Zhang Z L, Skallerud B

”Evaluation of fracture mechanics parameters for free edges in multi-layered structures with weak singularities”. *Int J Solids Struct*, vol 46, pp 1134-1148, 2009.

Prot V and Skallerud B

”Nonlinear solid finite element analysis of mitral valves with heterogeneous leaflet layers”. *Computational Mechanics*, vol 43, pp 353-368, 2009.

Pettersen S H, Wik T, and Skallerud B

”Subject specific finite element analysis of stress shielding around an uncemented femoral stem”. *J Clinical Biomechanics*, vol 24, pp 196-202, 2009.

Prot V., Haaverstad R, and Skallerud B.

”Finite element analysis of the mitral apparatus: annulus shape effect and chordal force distribution”. *J Biomechanics and Modeling in Mechanobiology*, vol 8, pp 43-55, 2009.

Lunde K and Skallerud B.

”The modified cam clay model for constrained compression of human morsellised bone: effects of porosity on the mechanical behaviour”. *Journal of the Mechanical Behaviour of Biomedical Materials*, vol 2, pp 43-50, 2009.

Ås SK, Tveiten BW, and Skallerud B

”Surface roughness characterization for fatigue life prediction using finite element analysis”. *Int J Fatigue*, vol 30, pp 2200-2209, 2008.

Lunde K, Foss O, Fosse L, and Skallerud B.

”Constitutive models for constrained compression of unimpacted and impacted human morsellised bone graft”. *ASME J Biomechanical Engng*, December, issue 6, 2008.

Lunde K, Foss O, and Skallerud B.

” On the applicability of bovine morsellised cortico-cancellous bone as a substitute for human morsellised cortico-cancellous bone for in vitro mechanical testing”. *J Biomechanics*, vol 41, pp 3469-3474, 2008.

Berg E, Østby E, Thaulow C, and Skallerud B.

”Ultimate fracture capacity of pressurized pipes – large scale testing and numerical prediction”. *Engineering Fracture Mechanics*, vol 75, no 8, pp 2352-2366, 2008.

Lunde K, Sletmoen M, Stokke B T , and Skallerud B.

” The fluid phase of morsellised bone: Characterisation of viscosity and chemical composition”. *Journal of the Mechanical Behavior of Biomedical Materials* , vol 1, no 2, pp 199-205, 2008.

Berg E, Skallerud B, and Thaulow C.

“Two-parameter fracture mechanics and circumferential crack growth in cracked pipelines using line-spring elements”. *Engineering Fracture Mechanics* , vol 75, pp 17-30, 2008.

Shang L, Zhang Z L, and Skallerud B.

”Fracture of anodic-bonded silicon-thin film glass-silicon triple stacks”. *Engineering Fracture Mechanics*, vol 75, pp 1064-1082, 2008.

Prot V, Skallerud B, and Holzapfel G.

”Transversely isotropic membrane shells with application to mitral valve mechanics. Constitutive modelling and finite element implementation.” *Int J Numerical Methods in Engineering*, vol. 71, no. 8, pp 987-1008, 2007,

Randeberg LR, Winnem A, Langlois N, Larsen E, Lilledahl M, Haaverstad R, Skallerud B, Haugen OA, and Svaasand L.

”Skin changes following minor trauma”. *Lasers in Surgery and Medicine*, Vol 39, Issue 5, pp 403-413 , 2007.

Skallerud B, Berg E, and Jayadevan KR.

”Two-parameter fracture assessment of surface cracked cylindrical shells during collapse”. *Engng Fract Mech*, vol 73, pp 264-282, 2006.

Jayadevan KR, Berg E, Thaulow C, Østby E, and Skallerud B.

”Numerical investigation of ductile tearing in surface cracked pipes using linespring”. *Int J Solids and Struct*, vol 43, pp 2378-2397, 2006.

Ås S, Skallerud B, Tveiten, B and Holme B.

”Fatigue life prediction of machined components using finite element analysis of surface topography”. *Int J Fatigue*, vol 27, pp 1590-1596, 2005.

Skallerud B, Holthe K, and Haugen B.

“Thin shell and surface crack finite elements for simulation of combined failure modes”. *Computer Methods in Applied Mechanics and Engineering*, vol 194, pp 2619-2640, 2005.

Jayadevan KR, Thaulow C, Østby E, Berg E, Skallerud B, Holthe K, and Nyhus B.

“Structural integrity of pipelines: T-stress by line-spring”. *Int J Fatigue and Fracture of Engineering Materials and Structures*, vol 28, pp 467-488, 2005.

Thaulow C, Østby E, Nyhus B, Zhang Z, and Skallerud B.

“Constraint correction of high strength steel: selection of test specimens and application of direct calculation”. *Engineering Fracture Mechanics*, vol 71, pp 2417-2133, 2004.

Chiesa M, Skallerud B, and Gross D

“Closed form line spring yield surfaces for deep and shallow cracks: formulation and numerical performance”. *Int. J. Comp. Struct.*, vol 80 no 7-8, pp 533-545, 2002.

Chiesa M, Østby E, Skallerud B, and Thaulow C

“An engineering methodology taking into account the effect of local damage on global behaviour of surface cracked shell structures”. *Int J Applied Mech and Engng*, vol 7 no 1, pp 267-293, 2002.

Chiesa M, Skallerud B, and Thaulow C

“Line spring elements in a yield strength mismatch situation with application to welded wide plates”. *Engng Fract. Mech.*, vol.68, pp 987-1001, 2001.

Chiesa M, Nyhus B, Skallerud B, and Thaulow C.

“Efficient fracture assessment of of pipelines. A constraint corrected SENT specimen approach”. *Engng Fract. Mech.*, vol. 68, pp 527-547, 2001.

Skallerud B, Myklebust L I, and Haugen B

“Nonlinear response of shell structures: effects of plasticity modelling and large rotations”, *Int. J. Thinwalled Struct.*, vol.39, pp 463-482, 2001.

Mohammed A K, Skallerud B, and Amdahl J

“Simplified stress resultants plasticity on a geometrically nonlinear constant moment shell element”. *Int. J. Comp. Struct.*, vol.19, pp 1723-1734, 2001.

Skallerud B and Zhang Z L

“On numerical analysis of damage evolution in cyclic elastic-plastic crack growth problems”. *Int.J. Fatigue Fract. Engng Mater.Struct.*, vol.23, pp 81-86, 2000.

Skallerud B and Zhang Z L

“Finite element modelling of cracked inelastic shells with large deflections: 2D and 3D approaches”. *Int. J. Fatigue and Fracture of Engng Mater. Struct.*, vol. 23, pp 253-261, 2000.

Skallerud B

“Numerical Analysis of Cracked Inelastic Shells with Large Displacements or Mixed Mode Loading”, *Int J Solids Struct*, vol. 36, pp.2259-2283, 1999.

Skallerud B and Zhang Z L

“Effects of finite element mesh on numerical prediction of ductile tearing”. In *Fatigue and Fracture Mechanics: 29<sup>th</sup> Volume, ASTM STP 1332*, 1999.

Skallerud B and Haugen B

“Collapse of thin shell structures: Stress resultant plasticity modelling within a co-rotated ANDES finite element formulation”. *Int. J. Numerical Meth. Engng*, vol. 46, pp.1961-1986, 1999.

Skallerud B and Zhang Z

"A 3D Numerical Study of Ductile Tearing and Fatigue Crack Growth under Nominal Cyclic Plasticity", *Int J Solids Struct*, vol.34, pp.3141-3161, 1997

Zhang Z and Skallerud B

"Ductile Damage and Constraint in Components with Embedded or Surface Semi-circular Cracks", *J. de Physique IV*, vol 6, C6, pp. 173-184, eds Pineau, Rousselier, France, 1996

Skallerud B

"A Mixed Mode I/II Inelastic Line Spring", *Int J Solids Struct*, vol 33, pp 4143-4166, 1996

Skallerud B

"Inelastic Line Springs in Nonlinear Analysis of Cracked Tubular Joints", *Fatigue and Fracture Engng Mater. and Struct.*, Vol 18, pp 463-475, 1995

Skallerud B, Iveland T and Härkegård G

"Fatigue Life Assessment of Aluminum Alloys with Casting Defects", *Engng Fract Mech*, Vol 44, pp 857-874, 1993

Skallerud B

"Yield Surface Formulations for Eccentrically Loaded, Planar Bolted and Welded Connections", *Int. J. Computers and Structures*, Vol 48, pp. 811-818, 1993

Skallerud B

"On the Relationship between Low Cycle Fatigue and Crack Growth Rate Properties in Welded Steel Components", *Fatigue Fract Engng Mater Struct*, Vol 15, pp 44-56, 1992

Skallerud B

"Constitutive Modelling of Cyclic Plasticity and Some Implications for the Computation of Biaxial Low Cycle Fatigue Damage", *Engng Fract Mech*, no 42, pp 753-769, 1992

Skallerud B and Larsen P K

"A Uniaxial Cyclic Plasticity Model Including Transient Material Behaviour", *Fatigue Fract Engng Mater Struct*, Vol 12, pp 611-625, 1989

Skallerud B and Larsen P K

"Nonlinear Effects on Shakedown of Sidesway Frames", *J Struct Engng ASCE*, Vol 115, no 1, pp 221-227, 1989

### Books

Skallerud B, Harkegård G, Lotsberg I, Wormsen A, guest editors, *Int J Fatigue*, special issue "Fatigue at all scales", 2015.

Zhang Z, Skallerud B, Østby E, guest editors, *Engineering Fracture Mechanics*, special issue “Modeling of ductile fracture and applications”, 2015.

Skallerud B and Andersson H I, editors  
*Eighth national conference on computational mechanics MekIT'15*, Trondheim, Norway, 2015, CIMNE Publishers, ISBN 97884944244-96, Barcelona.

Skallerud B and Andersson H I, editors  
*Seventh national conference on computational mechanics MekIT'13*, Trondheim, Norway, 2013, Tapir academic publishers.

Skallerud B and Andersson H I, editors  
*Sixth national conference on computational mechanics MekIT'11*, Trondheim, Norway, 2011, Tapir academic publishers.

Skallerud B and Andersson H I, editors  
*Fifth national conference on computational mechanics MekIT'09*, Trondheim, Norway, 2009, Tapir academic publishers.

Skallerud B and Andersson H I, editors  
*Fourth national conference on computational mechanics MekIT'07*, Trondheim, Norway, 2007, Tapir academic publishers.

Skallerud B and Andersson H I, editors  
*Third national conference on computational mechanics MekIT'05*, Trondheim, Norway, 2005, Tapir academic publishers.

Skallerud B and Andersson H I, editors  
*Second national conference on computational mechanics MekIT'03*, Trondheim, Norway, 2003, Tapir academic publishers.

Skallerud B and Amdahl J  
*Nonlinear analysis of offshore structures*.  
Research Studies Press, June 2002.

Skallerud B and Andersson H I, editors  
*First national conference on computational mechanics MekIT'01*, Trondheim, Norway, 2001, Tapir academic publishers.

Skallerud B  
"Introduction to Nonlinear Finite Element Analysis of Solids". Aalborg University, 1996.

Skallerud B  
"Cyclic Plasticity and Low Cycle Fatigue of Structural Steel and Buttwelded Components", Dr ing Thesis, The Norwegian Institute of Technology, NTH, Trondheim, 1988



Conference proceedings papers

A Ilseng, B Skallerud, A Clausen

“Volumetric compression of HNBR and FKM elastomers”. 9. European Conference on Constitutive Models for Rubbers , Prague, Czech Republic, 2015.

A Ilseng, B Skallerud, A Clausen

“Case study of elastomer seals using FEM”. 8. National Conf Computational Mechanics, Trondheim, Norway, 2015.

B Skallerud (keynote) and V Prot

“Contributions of residual strains, hyperelasticity models, and muscle fiber activation on mitral valve systolic performance”. 9. European Solid Mechanics Conference, Madrid, 2015.

Aasarød, Kristin Matre; Ramezanzadehkoldeh, Masoud; Mosti, Mats Peder; Stunes, Astrid Kamilla; Viggaklev, Bjørn Ivar; Reseland, Janne Elin; Beisvag, Vidar; Sandvik, Arne Kristian; Skallerud, Bjørn Helge; Syversen, Unni; Fossmark, Reidar. “Skeletal effects of the gastrin receptor antagonist netazepide in H+/K+-ATPase beta-subunit deficient mice”. European Calcified Tissue Society; 2014-05-17 - 2014-05-20

Ramezanzadehkoldeh, Masoud; Aasarød, Kristin Matre; Fossmark, Reidar; Syversen, Unni; Skallerud, Bjørn

“Evaluation of mechanical properties of bone in proton pump knock-out mice treated with gastrin receptor antagonist using three-point bending and nanoindentation tests”. 7 World Congress in Biomechanics; 2014-07-06 - 2014-07-11

Prot, Victorien Emile; Sveinsson, Hrafn Mar; Gawel, Kamila; Gao, Ming; Skallerud, Bjørn Helge; Stokke, Bjørn Torger.

“Ionic strength induced swelling for determination of thin polymer film elastic properties”. Nordic Seminar for Computational Mechanics; 2013-10-23 - 2013-10-25

V Prot, B Skallerud

“Effects of an orthogonal contractile system in the anterior leaflet on the systolic mitral valve response: a nonlinear finite element study”, 10<sup>th</sup> Int Symp Comp Meth in Biomechanics and Biomedical Engineering, Berlin, 11-14 April, 2012.

B Skallerud (invited), V Prot, IS Nordrum

“Putting more microstructural information into soft biological tissue modeling: application to mitral valve mechanics” . 11. Conf Computational Plasticity, Barcelona, 7-9 Sept, 2011.

V Prot B Skallerud

„Finite element analysis of the mitral valve with active muscle fibres“. SIAM conference on Comput Science and Engng, Reno

S K Dahl, E Fagerholt, G Kiss, V Prot, B Amundsen, L R Hellevik, B Skallerud,  
„3D moving boundary conditions for heart CFD simulations – from echocardiographic recordings to discretized surfaces“. Sixth national conference on computational mechanics MekIT'11, Trondheim, 2011.

B Skallerud, Hauge BK, Berg E, Holthe K and Olsø E  
„Ductile fracture analysis of plates and shells with embedded defects“. 18. European Conference on Fracture, Dresden, 2010.

Dahl SK and B Skallerud  
„Effect of mitral valve shape on flow dynamics during left ventricular contraction“. World Congress in Biomechanics, Singapore, 2010.

Leinan PR, Hellevik LR, Prot V, Kiserud T and Skallerud B  
„Initial study on material modeling of umbilical veins in fetal sheep“. World Congress in Biomechanics, Singapore, 2010.

Hellevik LR, Astorini M, Moireau P, Prot V, Skallerud B, Gerbeau JF and Chapelle D  
„FSI simulation of the mitral valve with contact and active anisotropic material models“. World Congress in Biomechanics, Singapore, 2010.

Skallerud B, Berg E, and Holthe K  
„A numerical approach to analyse very low cycle fatigue crack growth in pipelines“. Int Conf Comp Meth in Marine Engng, Marine09, Trondheim, 2009.

Dahl S K, Vieredeels J, Degroote J, Annerel S, Skallerud B, and Hellevik LR  
“Implicit interaction of two rigid mitral leaflets in a partitioned fluid-structure approach”. 5. National Conference on Computational Mechanics MekIT09, Tapir Academic Publisher , ISBN 978-82-519-2421-4, 2009.

Leinan P R, Hellevik L R, Prot V, Kiserud T, and Skallerud B  
„On material modelling of the umbilical vein“. 5. National Conference on Computational Mechanics MekIT09, Tapir Academic Publisher , ISBN 978-82-519-2421-4, 2009.

Pettersen S H, Skallerud B, and Aamodt A.  
“Finite element analysis of callus distraction using material properties of callus tissue and cancellous bone – a case study”. 5. National Conference on Computational Mechanics MekIT09, Tapir Academic Publisher , ISBN 978-82-519-2421-4, 2009.

Prot V and Skallerud B  
“Solid versus membrane finite elements in the analysis of mitral valves: a case study”. 6. International IASS-IACM Shell structures conference, Cornell University NY, 28-30 May, 2008.

Berg E, Skallerud B, and Holthe K

“Surface and embedded cracks in offshore pipelines subjected to plastic strains”. 6. International IASS-IACM Shell structures conference, Cornell University NY, 28-30 May, 2008.

Prot V, Skallerud B, and Holzapfel G

“Mitral valve finite element analysis using human uniaxial tensile data”. 8. World congress on computational mechanics, Venezia, June 30-July 5, 2008.

Dahl S, Leinan P R, Hellevik L R, and Skallerud B

“A 2D patient specific FSI assessment of mitral valve dynamics during diastolic filling”. 8. World congress on computational mechanics, Venezia, June 30-July 5, 2008.

Olsø E, Berg E, Holthe K, Nyhus B, Skallerud B, Thaulow C, and Østby E

“Effect of embedded defects in pipelines subjected to plastic strains during operation”. 18. International conference on offshore and polar engineering, July 6-11, Vancouver, 2008.

Prot V, Skallerud B, Holzapfel G

”Effets of connective tissue pathologies on mitral valve response”. Conference on *Modeling of heterogenous materials with application in construction and biomedical engineering*, Prague 25-27 June, 2007.

Berg E, Skallerud B, Thaulow C, and Holthe K.

”Ductile fracture of pipelines - effects of constraint correction and circumferential crack growth”. The Seventeenth (2007) International Offshore and Polar Engineering Conference, Lisbon, Portugal, July 1-6, 2007

Winnem AM, Randeberg LL, Larsen ELP, Lilledahl M, Haaverstad R, Haugen O, Skallerud B, Svaasand L

”Characterization of soft tissue injuries”. SPIE vol 6424, BIOS Photonics West, 20-21 January 2007, San Jose, California.

Lunde K, Fosse L, Skallerud B.

“Simulation of granular bone compaction in total hip replacement using crushable foam material modelling”. 5. *World Congress in Biomechanics*, 29 July-4 August, 2006, Munchen.

Pettersen SH, Skallerud B, Aamodt A.

“On the accuracy of bone elasticity moduli derived from different CT calibrations”. 5. *World Congress in Biomechanics*, 29 July-4 August, 2006, Munchen.

Prot V and Skallerud B.

“An improved transversely isotropic hyperelastic material model for simulation of mitral valve response”. 5. *World Congress in Biomechanics*, 29 July-4 August, 2006, Munchen.

Winnem A, Randeberg LR, Skallerud B, Haaverstad R, Haugen OA, Svaasand LO.

"Subcutaneous transport of extravascular hemoglobin". Proc International Society of Optical Engng, Photonics in dermatology plastic surgery, SPIE vol 6078, 21-26 January 2006, San Jose, California.

Pettersen SH, Skallerud B, and Aamodt A.

"Numerical analysis of femur and hip prosthesis – efficient modelling and comparison with test results". 3. National Conf Computational Mechanics Mekt05, Eds Skallerud, Andersson, Trondheim, May 11-12, 2005.

Thaulow C, Skallerud B, Jayadevan KR, and Berg E.

"Fracture control offshore pipelines – Advantages of using direct calculations in fracture assessments of pipelines". 24. *Int Conf Offshore Mechanics and Arctic Engineering OMAE*, Halkidiki, Greece, June 12-16, 2005

Skallerud B and Berg E.

"An integrated approach to analysis of surface cracked shells subject to instabilities". *ECCOMAS Marine 2005*, Eds Bergan, Garcia, Onate, Kvamsdal, June 27-29, Oslo, 2005.

Skallerud B and Berg E.

"Analysis of surface cracked shells subject to geometric and ductile fracture instabilities". 5<sup>th</sup> *Int. Conf. Computation of Shell and Spatial Structures*, Eds Ramm, Wall, Bletzinger, Bischoff, June 1-4, Salzburg, 2005.

Ås SK, Skallerud B, Holme B, and Tveiten B .

"Surface measurements using white light interferometry in fatigue testing and prediction". 5. *Int Conf Fatigue Damage of Structural Materials*, Hyannis MA, USA, 2004.

Haagensen PJ and Skallerud B.

"Fatigue assessment and testing of a repaired tubular T-joint". 23. *Int Conf Offshore Mechanics and Arctic Engineering OMAE*, Vancouver, 2004.

Ås SK, Skallerud B, Tveiten BW, and Holme B.

"Study of fatigue crack initiation in rough surfaces using the finite element method and measured surface topography". 15. *European Conf Fracture*, Stockholm, 2004.

Skallerud B, Jayadevan KR, Thaulow C, Berg E, and Holthe K.

"Efficient 2-parameter fracture assessments of cracked shell structures". 15. *European Conf Fracture*, Stockholm, 2004.

Thaulow C, Jayadevan KR, Østby E, Berg E, Skallerud B, Holthe K, and Nyhus B.  
"Advances in computational procedures for the structural integrity of pipelines". *Int Conf on Advances in Structural Integrity*, Bangalore, 2004.

Hellesø SM, Bjerkan L, Runde M, and Skallerud B.  
"Vibration monitoring of a 3000 m long fjord crossing using fibre optic sensors". *5. Int Conf Cable Dynamics*, Santa Margherita, Italy, 2003.

Ås SK and Skallerud B.  
"Localised cyclic plasticity and initiation of fatigue cracks in aluminium using measured surface topography". *5. Int Conf Low Cycle Fatigue and Elasto-plastic Behaviour of Materials*. Berlin, 2003.

Skallerud B, Amdahl J, and Holmås T.  
"Cyclic capacity assessment of tubular frame structures subjected to extreme loading". *Response of structures to extreme loading XL2003*, Toronto, 2003

Holmås T, Amdahl J, Skallerud B, and Langhelle N.  
"Behaviour of beam-column connections subjected to extreme loads during fire". *Response of structures to extreme loading XL2003*, Toronto, 2003

Amdahl J, Holmås T, and Skallerud B.  
"Ultimate strength of structural members with attachments during accidental fires". *Response of structures to extreme loading XL2003*, Toronto, 2003.

Skallerud B, Holthe K, and Haugen B. "Combining high-performance thin shell and surface crack finite elements for simulations of combined failure modes". Invited to *7. US National Congress on Computational Mechanics*, Albuquerque, 2003.

Hellesø S M, Skallerud B, Bjerkan L, and Runde M  
"Vibration measurements and analysis of overhead power lines using fiber optical sensors".. *21. International Modal Analysis Conference IMAC*, Florida, 2003.

Myklebust L I, Skallerud B, and Haugen B  
"Model reduction in large displacement dynamic problems".. *21. International Modal Analysis Conference IMAC*, Florida, 2003.

Ås S K and Skallerud B  
"On virtual fatigue testing of aluminium automotive structures".. *2. National Conference on Computational Mechanics MekIT'03*, eds B Skallerud and H I Andersson, Trondheim, 2003.

Mohammed A K, Skallerud B, and Amdahl J

“On computational efficiency of alternative finite element formulations for nonlinear analysis of shells”. 5. *World Congress on Computational Mechanics WCCM*, Vienna, CD-ROM, 2002.

Myklebust L I, Skallerud B, and Rølvåg T

“On deficiencies of model reduction methods in nonlinear dynamical problems”. *Euromech Colloquium on Identification and updating methods of mechanical structures*, Prague 2002.

Redaelli F, Skallerud B, and Leira B

“Remaining fatigue life fracture mechanics analysis of free-spanning pipelines using shell and linespring elements”. *OMAE*, Oslo 2002.

Mohammed A K, Amdahl J, and Skallerud B

“Elasto-plastic large displacement analysis of plate and shell structures using stress resultants plasticity”. 2. *European Conference on Computational Mechanics ECCM*, Kracow, CD-ROM, 2001.

Mohammed A K, Amdahl J, and Skallerud B

“Collapse analysis of stiffened panels during accidental conditions”. *OMAE 2001*, Rio de Janeiro, CD-ROM.

Skallerud B, Chiesa M, and Holmås T

“Integrated local/global analysis and fracture assessment of pipelines with defects”. *OMAE 2001*, Rio de Janeiro, CD-ROM.

Chiesa M, Skallerud B, and Nyhus B

“Efficient numerical procedures for fracture assessments of surface cracked shells”. 2. *European Conference on Computational Mechanics ECCM*, Kracow, CD-ROM, 2001.

Chiesa M, Østby E, Skallerud B, and Thaulow C

“An engineering methodology taking into account the effect of local damage on global behaviour of surface cracked shell structures”. *First national conference on computational mechanics MekIT'01*, eds B Skallerud and H I Andersson, 77-103, 2001, Trondheim.

Skallerud B, Zhang Z L, and Thaulow C

“Modeling of elastic-plastic fracture in surface cracked plates and shells including material mismatch”. *Plastic and viscoplastic response of materials and metalforming*, eds A S Khan, H Zhang, and Y Yuan, pp 440-443, Whistler, 2000.

Øverli J A, Skallerud B, and Høiseth K V

“Alternative stress resultant material modelling in collapse analysis of metallic or reinforced concrete plates and shells”. *Int. Conf. Computational Engng and Science 2000 (ICES'2K)*, Eds. S N Atluri and F W Brust, vol.1, pp. 726-732, Los Angeles, 21-25 Aug. 2000.

Skallerud B

"Capacity analyses of plates and shells with effects of plasticity, large rotations, and surface cracks". 4. *Euromech conf.*, Metz, 21-25 June, 2000.

Skallerud B and Haugen B

"Simplified stress resultant plasticity modelling in collapse analysis of thin shells". 1. *European Conference on Computational Mechanics, ECCM*, ed W Wunderlich, Munchen, 1999, CD-rom.

Skallerud B and Amdahl J

"Beam finite element modelling methodologies for collapse analysis of tubular members/cylindrical shells". 2. *Int. Conf. Thin walled structures*, Singapore, eds N E Shanmugam, R Liew, and V Thevendran, pp.629-639, 1998.

Skallerud B, Eberg E and Fergestad D

"Ultimate Collapse Analysis of Bridges with Detoriated Connections and Members", *Proc 3rd Int Conf Bridge Management*, eds Harding, Parke, Ryall, pp 361-369, Surrey, 1996

Skallerud B, Amdahl J, Johansen A and Eide O I

"Cyclic Capacity of Tubular Beam-Columns with Local Buckling: Numerical and Experimental Studies", *OMAE'96*, vol 1B, pp 507-516, Florence, 1996

Skallerud B, Eide O I, Brathaug H P

"Fatigue Analysis of Hydrofoil Components in High Strength Steel", *Proc Fatigue Design -95*, Finland, 1995

Eide O I, Amdahl J, Skallerud B H and Johansen A

"Recent Developments in Reassessment of Jacket Structures under Extreme Storm Cyclic Loading, Part I: Overview", *Proc Offshore Mechanics and Arctic Engineering (OMAE)*, Copenhagen, 1995

Amdahl J, Skallerud B H, Eide O I and Johansen A

"Recent Developments in Reassessment of Jacket Structures under Extreme Storm Cyclic Loading, Part II: Cyclic Capacity of Tubular Members", *Proc Offshore Mechanics and Arctic Engineering (OMAE)*, Copenhagen, 1995

Skallerud B H, Eide O I, Amdahl J and Johansen A

"On the Capacity of Tubular Joints Subjected to Extreme Cyclic Loading", *Proc Offshore Mechanics and Arctic Engineering (OMAE)*, Copenhagen, 1995

Skallerud B, Eide O I and Berge S

"Ultimate Tensile Capacity of Cracked Tubular Joints - Comparison Between Numerical Simulations and Experiments", *Proc. 7th Int Conf Behaviour of Offshore Struct (BOSS)*, Boston, pp 241-261, 1994

Sigurdsson G, Skallerud B, Skjong R and Amdahl J

"Probabilistic Collapse Analysis of Jackets", *Proc OMAE-94*, Houston 1994

Sigurdsson G, Skallerud B, Skjong R and Amdahl J

"Probabilistic Collapse Analysis of Jackets", *Proc ICOSSAR'93*, Innsbruck, 1993

Eide O I, Skallerud B and Berge S

"Fatigue of Large Scale Tubular Joints - Effects of Sea Water and Spectrum Loading", *Proc Nordic Conf "Fatigue in Steel Structures"*, Copenhagen, 1993

Bech A, Skallerud B and Sødahl N

"Damping in Design Analysis of Flexible Pipes", *Marinflex*, London, 1992

Skallerud B

"Stiffness Properties and Damping Behaviour of Flexible Pipes", *Int Seminar on Floating Production Technology*, Trondheim, 1992

Skallerud B and Blom A F

"Application of a Transient Cyclic Plasticity Model for Determination of the Incremental Step Test Material Curve", *Proc 3rd Int Conf Low Cycle Fatigue and Elasto-plastic Behaviour of Materials*, pp 453-458, Berlin, 1992

Bech A and Skallerud B

"Structural Damping in Flexible Pipes: Comparisons between Dynamic Tests and Numerical Simulations", *Proc 2nd Int Conf Offshore Polar Engng*, San Fransisco, 1992

Hopperstad O S, Eberg E and Skallerud B

"Plasticity Models for Cyclic Behaviour of Steel Frames", *Proc 3rd Int Conf Computational Plasticity*, eds Owen, Onate, Hinton, pp 1769-1780, Barcelona, 1992

Moan T, Skallerud B and Skjåstad O

"Structural Analysis and Design of Hydrofoils and Struts", *Proc 1st Int Conf Fast Sea Transp*, Trondheim, 1991

Hellan Ø, Skallerud B, Amdahl J and Moan T

"Reassessment of Offshore Steel Structures: Shakedown and Cyclic Nonlinear Finite Element Analyses", *Proc 1st Int Conf Offshore Polar Engng (ISOPE)*, Edinburgh, 1991

Jiao G, Skallerud B and Sotberg T

"Safety and Integrity of Submarine Pipelines/Flowlines Under Interaction of Fishing Trawl Doors", *Proc 1st Int Conf Offshore Polar Engng (ISOPE)*, Edinburgh, 1991

Skallerud B, Eide O I and Berge S

"Fatigue Crack Growth in Complex Tubular Joints", *Proc IABSE Conf on Remaining Fatigue Life of Steel Structures*, pp 209-218, Lausanne, 1990



## **Reports**

Skallerud B

"Fatigue of automotive components in aluminium: a survey of damage parameters and assessment methods". SINTEF report STF24 S01202, 2001.

Skallerud B, Johansen A, Amdahl J and Eide O I

"Reassessment of Marine Structures - Numerical and Experimental Investigations of the Cyclic Capacity of Tubular Members with Local Buckling", SINTEF Draft Report, Trondheim, 1996

Skallerud B, Heskestad E, Løkvik B and Gladsø R

"Reassessment of Marine Structures - Numerical Simulations of Tubular Joints under Extreme Cyclic Loading: Summary Report", SINTEF Draft Report, Trondheim, 1996

Skallerud B

"Nonlinear FEA of Components Subjected to High Cyclic Loading and Temperature: A Survey of Constitutive and Damage Evaluation Models" (in Norwegian), SINTEF Report STF22 F96711, Trondheim, 1996

Skallerud B, Johansen A, Amdahl J and Eide O I

"Reassessment of Marine Structures - Experimental and Numerical Investigation of the Cyclic Behaviour and Capacity of Tubular Members", SINTEF Report STF70 F95209, Trondheim, 1995

Johansen A, Skallerud B and Eide O I

"Reassessment of Marine Structures - Behaviour of Tubular Joints under Extreme Cyclic Loading", SINTEF Report STF70 F94061, Trondheim, 1994

Skallerud B

"Reassessment of Marine Structures - Specification of Nonlinear Cyclic Analysis of Jacket Tubular Joints", SINTEF Report STF70 F94017, Trondheim, 1994

Skallerud B

"Leak Before Break (LBB) as an Inspection Criterion for Jacket Structures with Cracked Tubular Joints: Investigations Based on Failure Assessment Diagrams (FAD)", SINTEF Report STF70 F93024, Trondheim, 1993

Tubby P and Skallerud B

"Effects of Cathodic Protection on the Fatigue Strength of Tubular Joints in Seawater", TWI Report 5588/15/92, January, 1992

Skallerud B

"Reassessment of Marine Structures - Theories and Models for Predicting Component Failure Modes in Offshore Steel Platforms", SINTEF Report STF70 F92116, Trondheim, 1992

Skallerud B

"Fatigue Testing of a Coflexip Flexible Pipe", SINTEF Report, Draft, Trondheim, 1991

Skallerud B

"Structural Damping in a Wellstream Pipe", SINTEF Report STF71 F91059, Trondheim, 1991

Skallerud B

"Fatigue of a High Strength Stainless Steel: Effect of Material Anisotropy and Seawater" (in Norwegian), SINTEF Report STF71 F91049, Trondheim, 1991

Skallerud B, Moan T and Eide O I

"Fatigue Assessment Procedure for Production Ships", SINTEF Report STF71 F91027, Trondheim, 1991

Skallerud B

"Damping Models and Structural Damping in a Nonbonded Pipe", SINTEF Report STF71 F91018, Trondheim, 1991

Skjåstad O and Skallerud B

"CALPRED 1.2, SN-Calculation", SINTEF Report STF71 A91011, Trondheim, 1991

Eide O I and Skallerud B

"Fullscale Tests of a Multipurpose Cable", SINTEF Report STF71 F91007, Trondheim, 1991

Eide O I and Skallerud B

"Testing of Old Bridge Beams at Low Temperatures" (in Norwegian), SINTEF Report STF71 F91006, Trondheim, 1991

Skallerud B

"Reassessment of Marine Structures - Shakedown Theory and Relevance for Offshore Steel Platforms", SINTEF Report STF71 F91005, Trondheim, 1991

Iglund R, Brathaug H P, Skjåstad O, Skallerud B and Holmås T

"Analyse av flammebom på Statfjord B", SINTEF Rapport, Draft, Trondheim 1991

Skallerud B

"Experimental and Numerical Determination of the Fatigue Capacity of Hydrofoil Components in High Strength Stainless Steel" (in Norwegian), SINTEF Report STF71 F90030, Trondheim, 1990

Skallerud B, Eide O I and Bech A

"Fatigue Testing of a Pag-O-Flex Flexible Pipe", SINTEF Report STF71 F90029, Trondheim, 1990

Skallerud B

"Low Cycle Fatigue of Buttwelded Components for Assessment of Offshore Structures", SINTEF Report STF71 A90024, Trondheim, 1990

Skallerud B

"Damping Models and Structural Damping in a Bonded Pipe", SINTEF Report STF71 F90020, Trondheim, 1990

Skallerud B

"On the Relationship between Low Cycle Fatigue and Crack Growth Rate Properties in Welded Steel Components", SINTEF Report STF71 A90019, Trondheim, 1990

Skallerud B

"CALPRED II, Computer Aided Fatigue Lifetime Predictions", SINTEF Report STF71 A90018, Trondheim, 1990

Skallerud B

"Comparison of Methods for Computing Stress Intensity Factors in Tubular Joints", SINTEF Report STF71 F90002, Trondheim, 1990

Jiao G, Skallerud B and Eide O I

"Residual Fatigue Life of Tubular Joints with Through Thickness Cracks", SINTEF Report STF71 F89063, Trondheim, 1989

Skjåstad O and Skallerud B

"Assessment of Fatigue Crack Growth in a Test Structure", SINTEF Report STF71 F89062, Trondheim, 1989

Skallerud B

"Models for Fatigue Crack Growth Including the Effect of Crack Closure" (in Norwegian), SINTEF Report STF71 A89056, Trondheim, 1989

Skallerud B

"CALPRED Version 1.00. Computer Aided Life Prediction on PC", SINTEF Report STF71 A89055, Trondheim, 1989

Skallerud B

"Constitutive Modelling of Cyclic Plasticity and Some Implications for the Computation of Biaxial Low Cycle Fatigue Damage", SINTEF Report STF71 F89049, Trondheim, 1989

Skallerud B

"The Significance of Joint Flexibilities on the Response of Frame Structures", Division of Structural Engineering, NTH, 1988

Skallerud B

"Nonlinear Effects on the Shakedown Load of Sidesway Frames and Continuous Beams",  
Division of Structural Engineering, NTH, 1986

Skallerud B

"INDIS-DIMDET, Interactive Computer Design - Plastic Design of Bolted and Welded  
Details", Division of Structural Engineering, NTH, 1986

Skallerud B

"INDIS-VIPP, Interactive Computer Design - Calculation of Lateral Torsional Buckling",  
Division of Structural Engineering, NTH, 1984