Refereed Journal Publications

- Willam, K. and Scordelis, A., (1972), Cellular Structures of Arbitrary Plan Geometry, ASCE-ST, Vol. 98, pp. 1377-1394.
- Argyris, J.H., Buck, K.E., Scharpf, D.W., and Willam, K., (1972), Linear Methods of Structural Analysis, Nucl. Engng. Design, Vol. 19, pp. 139-167.
- Argyris, J.H., Buck, K.E., Scharpf, D.W., and Willam, K., (1972), Nonlinear Methods of Structural Analysis, Nucl. Engng. Design, Vol. 19, pp. 169-197.
- Argyris, J.H., Faust, G., Szimmat, J., Warnke, E.P., and Willam, K., (1974), Recent Developments in the Finite Element Analysis of Prestressed Concrete Reactor Vessels, Nucl. Engng. Design, Vol. 28, pp. 42-75.
- Argyris, J.H. and Willam, K., (1974), Some Considerations for the Evaluation of Finite Element Models, Nucl. Engng. Design, Vol. 28, pp. 76-96.
- Argyris, J.H., Faust, G., and Willam, K., (1976), Limit-Load Analysis of Thick-Walled Concrete Structures - A Finite Element Approach to Fracture, Comp. Meth. Appl. Mech. Engng., Vol. 8, pp. 215-243.
- Argyris, J.H., Pister, K.S., Szimmat, J., and Willam, K., (1977), Unified Concepts of Constitutive Modelling and Solution Methods for Concrete Creep Problems, Comp. Meth. Appl. Mech. Engng., Vol. 10, pp. 199-246.
- Argyris, J.H., Vaz, L.E., and Willam, K., (1977), Higher Order Methods for Transient Diffusion Analysis, Comp. Meth. Appl. Mech. Engng., Vol. 12, pp. 243-278.
- Willam, K., (1978), Numerical Solution of Inelastic Rate Processes, Computers & Structures, Vol. 8, pp. 511-531.
- Argyris, J.H., Pister, K.S., Szimmat, J., Vaz, L.E., and Willam, K., (1978), Finite Element Analysis of Inelastic Structural Behavior, Nucl. Engng. Design, Vol. 46, pp. 235-262.
- Argyris, J.H., Vaz, L.E., and Willam, K., (1978), Improved Solution Methods for Inelastic Rate Problems, Comp. Meth. Appl. Mech. Engng., Vol. 16, pp. 231-277.
- Argyris, J.H., Doltsinis, J. St., and Willam, K., (1979), New Developments in the Inelastic Analysis of Quasistatic and Dynamic Problems, Intl. J. Num. Meth. Engng., Vol. 14, pp. 1813-1850.
- Argyris, J.H., Doltsinis, J.St., Knudson, W.C., Vaz, L.E., and Willam, K., (1979), Numerical Solution of Transient Problems, Comp. Meth. Appl. Mech. Engng., Vol. 17/18, pp. 341-409.
- Argyris, J.H., Vaz, L.E., and Willam, K., (1981), Integrated Finite Element Analysis of Coupled Thermoviscoplastic Problems, J. Thermal Stresses, Vol. 4, pp. 121-154.
- Argyris, J.H., Szimmat, J., and Willam, K., (1982), Computational Aspects of Welding Stress Analysis, Comp. Meth. Appl. Mech. Engng., Vol. 30/31, pp. 635-666.
- Haefner, L. and Willam, K., (1984), Large Deflection Formulation of a Simple Beam Element Including Shear Deformation, Engineering Computations, Pineridge Press Swansea, Vol. 1, pp. 359-368.
- Runesson, K., Sture, S., and Willam, K., (1988), Integration in Computational Plasticity, Intl. J. Computers and Structures, Vol. 30, pp. 119-130.

- Smith, S.S., Willam, K., Gerstle, K., and Sture, S., (1989), Concrete over the Top-or: Is there Life after Peak? A.C.I. Materials Journal, Vol. 86, pp. 491-497.
- Pramono, E. and Willam, K., (1989), Implicit Integration of Composite Yield Surfaces with Corners, Engineering Computations, Vol. 6, pp. 186-198.
- Pramono, E. and Willam, K., (1989), Fracture Energy-Based Plasticity Formulation of Plain Concrete, ASCEJEM, Vol. 115, pp. 1183-1204.
- Al-Ghamedy, H.N. and Willam, K J., (1990), Layered Nonhomogeneous Curved Beam Elements for Inelastic Analysis, Computers & Structures, Vol. 37, pp. 521-534.
- Steinmann, P. and Willam, K.J., (1991), Finite Elements for Capturing Localized Failure, Archive of Appl. Mechanics, Vol. 61, pp. 259-275.
- Steinmann, P. and Willam, K., (1991), Performance of Enhanced Finite Element Formulations in Localized Failure Computations, Comp. Meth. Appl. Mech. Engng., Vol. 90, pp. 845-867.
- Dietsche, A., Steinmann, P., and Willam, K., (1993), Micropolar Elasto-Plasticity and its Role in Localization Analysis, Intl. J. Plasticity, Vol. 9, pp. 813-831.
- Etse, G. and Willam, K., (1994), A Fracture Energy-Based Constitutive Formulation for Inelastic Behavior of Plain Concrete, ASCE-JEM, Vol. 120, pp. 1983-2011.
- Carol, I., Rizzi, E., and Willam, K., (1994), A Unified Theory of Elastic Degradation and Damage Based on a Loading Surface, Intl. J. Solids Structures, Vol. 31, pp. 2835-2865.
- Steinmann, P. and Willam, K., (1994), Finite-Element Analysis of Elastoplastic Discontinuities, ASCE-JEM, Vol. 120, pp. 2428-2442.
- Menetrey, Ph. and Willam, K., (1995), A Triaxial Failure Criterion for Concrete and its Generalization, ACI Structures Journal, Vol. 92, pp. 311-318.
- Guzina, B., Rizzi, E., Willam, K., and Pak, R., (1995), Failure Detection of Smeared Crack Formulations, ASCE-JEM, Vol. 121, pp. 150-161.
- Rizzi, E., Carol, I., and Willam, K., (1995), Localization Analysis of Elastic Degradation with Application to Scalar Damage, ASCE-JEM, Vol. 121, pp. 541-554.
- Carol, I. and Willam, K., (1996), Spurious Energy Dissipation/Generation in Stiffness Recovery Models for Elastic Degradation and Damage, Intl. J. Solids Structures, Vol. 33, No. 20-22, pp. 2939-2958.
- Rizzi, E., Maier, G., and Willam, K., (1996), On Failure Indicators in Multi-Dissipative Materials, Intl. J. Solids Structures, Vol. 33, No. 20-22, pp. 3187-3214.
- Etse, G. and Willam, K., (1996), Integration Algorithms for Concrete Plasticity, Engineering Computations, Vol. 13, No. 8, pp. 38-65.
- Frangopol, D., Lee, Y.-H. and Willam, K., (1996), Nonlinear Finite Element Reliability Analysis of Concrete, ASCE-JEM, Vol. 122/12, pp. 1174-1182.
- Dietsche, A. and Willam, K., (1997), Boundary Effects in Elastoplastic Cosserat Continua, Intl. J. Solids Structures, Vol. 34, No. 7, pp. 877-893.

- Lee, Y.-H. and Willam, K., (1997), Anisotropic Vertex Plasticity Formulation for Concrete in Plane Stress, ASCE-JEM, Vol. 123, pp. 714-726.
- Lee, Y.-H. and Willam, K., (1997), Mechanical Properties of Concrete in Uniaxial Compression, ACI Materials Journal, Vol. 94/6, pp. 457-471.
- Menetrey, Ph., Walther, R., Zimmermann, Th., Willam, K. and Regan, P.E., (1997), Simulation of Punching Failure in Reinforced Concrete Structures, ASCE-JSE, Vol. 123, pp. 652-659.
- Iordache, M.-M. and Willam, K., (1998), Localized Failure Analysis in Elastoplastic Cosserat Continua, Comp. Meth. Appl. Mech. Engrg., Vol. 151, pp. 559-586.
- Etse, G. and Willam, K., (1999), Failure Analysis of Elasto-Viscoplastic Material Models, ASCE-JEM, Vol. 125, pp. 60-69.
- Iordache, M.-M. and Willam, K., (1998), Localized Failure Modes in Cohesive-Frictional Materials, accepted for publication, Intl. J. Mech. of Cohesive-Frictional Matls.
- Munz, T., Runesson, K. and Willam, K., (1998), Large Strain Plasticity Analysis for Kinematic Hardening - An Assessment of Simple Shear, accepted for publication, Intl. J. Computational Mechanics.
- Radakovic-Guzina, Z., Willam, K. and Bond, L., (1999), Ultrasonic Assessment of Damage in Concrete under Axial Compression, accepted for publication, Intl. J. Damage Mechanics.
- Kang, H. and Willam, K., (1999), Localization Characteristics of a Triaxial Concrete Model, ASCE-JEM, Vol. 125, pp. 941-950.
- Xi, Y., Willam, K. and Frangopol, D., (2000), Multiscale Modeling of Interactive Diffusion Processes in Concrete, ASCE-JEM, Vol. 126, pp. 258-266.
- Kang, H.D., Willam, K., Shing, B., and Spacone, E., (2000), Failure Analysis of R/C Columns Using a Triaxial Concrete Model, Computers and Structures, Vol. 77, No. 5, pp. 423-440.
- Carosio, A. and Willam, K. and Etse, G., (2000), On the Consistency of Viscoplastic Formulations, Intl. J. Solids Structures, Vol. 37, 48-50, pp. 7349-7369.
- Kuhl, E., Ramm, E. and Willam, K., (2000), Failure Analysis of Elasto-Plastic Materials at Different Levels of Observation, Intl. J. Solids Structures, Vol. 37, pp. 7259-7280.
- Kang, H. and Willam, K., (2000), Performance Evaluation of an Elastoviscoplastic Concrete Model, ASCE JEM, Vol. 126/9, pp. 995-1000.
- Nogueira, C. and Willam, K., (2001), Ultrasonic Testing of Damage in Concrete under Uniaxial Compression, ACI Materials Journal, Vol. 98/3, pp. 265-275.
- Willam, K. and Rhee, I., (2001), Deterioration Analysis of Materials and Finite Elements, Engineering Computations: Intl. J. Comp.-Aided Engrg. & Software, Vol. 18/3-4, pp. 690-718.
- Carol, I., Rizzi, E. and Willam, K., (2001), On the Formulation of Anisotropic Degradation. I. Theory based on a Pseudo-Logarithmic Damage Tensor, Intl. J. Solids Structures, Vol. 38/4, pp. 491-518.
- Carol, I., Rizzi, E. and Willam, K., (2001), On the Formulation of Anisotropic Degradation. II. Generalized Pseudo-Rankine Model for Tensile Damage, Intl. J. Solids Structures, Vol. 38/4, pp. 519-546.

- Liebe, T. and Willam, K., (2001), Localization Results of Generalized Drucker-Prager Elastoplasticity, ASCE-JEM, Vol. 127/6, pp. 616-619.
- Willam, K., Rhee, I. and Beylkin, G., (2001), Multiresolution Analysis of Elastic Degradation in Heterogeneous Materials, Meccanica, AIMETA Vol. 36/1, pp. 131-150.
- Willam, K., (2002), Triaxial Strength of Concrete Materials, Transactions of Japan Concrete Institute, JCI Vol. 40/1, pp. 109-115.
- Carol, I., Rizzi, E. and Willam, K., (2002), An Extended Volumetric/Deviatoric Formulation of Anisostropic Damage Based on a Pseudo-Log Rate, European Journal of Mechanics-A/Solids Structures, Vol. 21, pp. 747-772.
- Pivonka, P. and Willam, K., (2003), The Effect of the Third Invariant in Computational Plasticity, Engineering Computations, Intl. J. Computer-Aided Engineering and Software, Vol. 20, No. 5/6, pp. 741-753.
- Willam, K., Rhee, I. and Shing, B., (2004), Interface Damage Model for Thermomechanical Degradation of Heterogeneous Materials, Computer Methods in Applied Mechanics and Engineering, Vol. 193, pp. 3327-3350.
- Salari, M.R., Saeb, S., Willam, K.J., Patchet, S.J., and Carrasco, R.C., (2004), A Coupled Elastoplastic Damage Model for Geomaterials, Computer Methods in Applied Mechanics and Engineering, Vol. 193, pp. 2625-2643.
- Willam, K., Rhee, I. and Xi, Y., (2005), Thermal Degradation in Heterogeneous Concrete Materials, Journal of Materials in Civil Engineering, ASCE, Vol. 17, No. 3, pp. 276-285.
- Suwito, A., Ababneh, A., Xi, Y., and Willam, K., (2006), "The Coupling Effect of Drying Shrinkage and Moisture Diffusion in Concrete", Computers & Concrete, Vol. 3, No. 2-3, pp. 103-122.
- Basche, H.D., Rhee, I., Willam, K.J. and Shing, P.B., (2007), Analysis of Shear Capacity of Lightweight Concrete Beams , Int. J. Engineering Fracture Mechanics , Vol. 74, No. 1-2, pp. 179-193.
- Willam, K., Lee, K., Olsen, M., Xi, Y., (2006), "Issues of Thermal Collapse Analysis of Reinforced Concrete Structures", submitted for publication in Structures Journal, ASCE.
- Lee, J., Xi, Y., and Willam, K., (2006), "Concrete under High Temperature Heating and Cooling, submitted for publication in Materials Journal of ACI.
- Caballero, A., Willam, K. and Carol, I., (2007), "Consistent Tangent Formulation for 3D Interface Modelling of Cracking/Fracture in Quasi-Brittle Materials", submitted for publication in Computer Methods in Applied Mechanics and Engineering.