**Professor Djordje Peric**

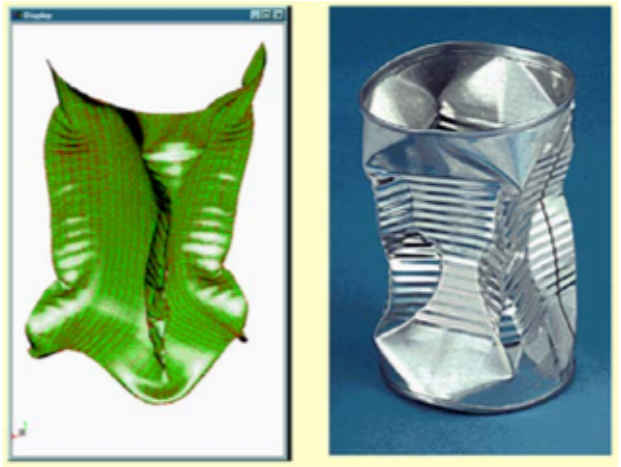

Figure 4. Elasto-plastic large deformation container forming simulation.

"Figure 4 illustrates the simulation of a food can under vacuum loading, comparing numerical prediction with experimental observation. . . . This work relied extensively on the contributions of Prof. Djordje Peric." (from D. Roger J. Owen, "From Bynea to Barcelona, A Celtic/Catalan Odyssey", Publisher and date not given in the pdf file. The most recent reference is dated 2008.)

See:
http://www.swansea.ac.uk/staff/engineering/d.peric/
https://scholar.google.com/citations?user=0ud-geUAAAAJ&hl=en

Chair, Department of Civil Engineering
Swansea University, Wales, UK

**Research Interests:**
Computational methods in solid, structural and fluid mechanics; Computational modelling of material behaviour; Multiscale modelling of materials and structures; Fluid-structure interaction; Free surface and interface flows; Adaptive solution strategies for non-linear problems

**The research of Professor Peric:**
1. Fundamental contributions to the numerical treatment of elasto-plastic/elasto-viscoplastic problems involving finite strains and deformations.
2. Contributed prominently to the computational modelling of frictional contact problems and to the simulation of progressively damaging solids
3. Significant contributions to research into adaptive mesh refinement procedures for elasto-plastic materials with evolving geometries, and the development of iterative equation solution procedures for large-scale engineering problems
4. Recent significant research contributions include novel computational strategies for fluid-structure interaction and fluid flows with free surfaces and interfaces incorporating surface tension
5. Actively involved in research on multiscale modelling of materials and structures

**Awards and Prizes:**

2004 Fellowship of the IACM (International Association of Computational Mechanics)

2003 Who's Who in Science and Engineering, Member

1978 Rector's Award, University of Zagreb

1979 Rector's Award, University of Zagreb

**Selected Publications:**

**Books:**

1. Eugenio Oñate and Djordje Peric, Advances in Computational Plasticity: A Book in Honour of D. Roger J. Owen (Computational Methods in Applied Sciences), Springer, 2017

2. Eduardo A. de Souza Neto, Djordje Peric and D.R.J. Owen, Computational Methods for Plasticity: Theory and Applications, Wiley, 2008

**Journal Articles, etc.:**

Peric D, Owen DRJ. The Morley thin shell finite element for large deformation problems: simplicity versus sophistication. In Nonlinear Engineering Computations, N. Bicanic et al. (eds.), Pineridge Press: Swansea, 1991.

D. Peric and D.R.J. Owen (1992). Computational model for three dimensional contact problems with friction based on the penalty method.International Journal for Numerical Methods in Engineering,35, 1289

D. Peric, J. Yu and D. R. J. Owen, On error estimates and adaptivity in elasto-plastic solids : Applications to the numerical simulation of strain localisation in classical and Cosserat continua. Int. J. Num. Meth. Engng., Vol. 37,pp. 1351-1379, 1994.

Frano B. Damjanic, Bostjan Brank and Djordje Peric, "On elasto-plastic buckling analysis of cylindrical shells", Chapter in Computational Mechanics '95, pp 1565-1570, 1995

C.G. Koh, D.R.J. Owen and D. Peric, Explicit dynamic analysis of elasto-plastic laminated composite shells: implementation of non-iterative stress update schemes for the HOFFMAN yield criterion, Comp. Mech. 16 (1995), 307–314.

B. Brank, D. Peric, F.B. Damjanic, (1995), On implementation of a nonlinear four node shell finite element for thin multilayered elastic shells, Computational Mechanics, vol.16, pp. 341-359

Feng, 31. T., Peric, D. and Owen, D.R. J. 1995. A New Criterion for Determination of Initial Loading Parameter in Arc-Length Methods. Computers and Structures, 58(3): 479–485.

deSouza Neto EA, Peric D, Huang GC, Owen DRJ. Remarks on the stability of enhanced strain elements in finite elasticity and elastoplasticity. Commun Numer Methods Eng. 1995;11:951–61

Feng, 31. T., Peric, D. and Owen, D.R. J. 1995. Determination of Travel Directions in Path-Following Methods. Int. J. Math. Comput. Modell., 21(7): 43–59.

D. Peric, Ch. Hochard, M. Dutko and D. R. J. Owen, Transfer operators for evolving meshes in small strain elasto-plasticity. Comp. Meth. Appl. Mech. Engng. Vol. 137, pp. 331- 344, 1996.

de Souza Neto EA, Peric D, Dutko M, Owen DRJ (1996) Design of simple low order finite elements for large strain analysis of nearly incompressible solids. Int J Solids Struct 33:3277–3296

Feng, 31. T., Peric, D. and Owen, D.R. J. 1997. On the Sign of the Determinant of the Structural Stiffness Matrix for Determination of Loading Increment in Arc-Length Algorithms. Commun. Numer. Meth. Engng., 13: 47–49.

Y. T. Feng, D. Peric and D. R. J. Owen, A non-nested Galerkin multi-grid method for solving linear and nonlinear solid mechanics problems. Comp. Meth. Appl. Mech. & Engng., Vol. 144, pp. 307-325, 1997.

Brank B, Peric D. On large deformations of thin elasto-plastic shells: implementation of a finite rotation model for quadrateral shell element. International Journal for Numerical Methods in Engineering 1997; 40:689-726.

D. Peric and D. R. J. Owen, Finite element applications to the nonlinear mechanics of solids. In:Reports on

Progress in Physics, Institute of Physics, Vol 61, N0. 11, pp. 1495-1574, 1998.
Dettmer, W. and Peric, D. (2003). An analysis of the time integration algorithms for the finite element solutions of incompressible navier-stokes equations based on a stabilised formulation. Computer Methods in Applied Mechanics and Engineering, 192:1177–1226.
Dettmer, W. and Peric, D. (2006). A computational framework for fluid-structure interaction: Finite element formulation and applications. Computer Methods in Applied Mechanics and Engineering, 195:5754–5779