



## **Professor Azam Tafreshi**

BSc, MSc, PhD, DIC, CEng, FIMechE

See:

<http://scholar.google.co.uk/citations?user=dUx3ijAAAAAJ&hl=en>

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### **Biographical Sketch:**

She received her PhD and DIC at the Imperial College of Science, Technology and Medicine and is a fellow of the Institution of Mechanical Engineers. She gives lectures to Aerospace students and has published over 20 papers in international journals, in 14 of which she is the sole author. Her recent research is focused on creating efficient computer models and algorithms for the analysis of composite structures under various service conditions including buckling, impact, delamination, fracture, and stress corrosion.

### **Research Interests:**

- Analysis of structures using the finite element and boundary element methods
- Shape and topology optimisation of engineering structures
- Composite structures
- Numerical optimisation algorithms
- Fracture mechanics
- Contact analysis

### **Teaching:**

- Aerospace structures (2nd yr)
- Aerospace structures (3rd yr)

Numerical stress analysis (4th yr)  
Solids and Structures(1st yr)

**Selected Publications:**

A. Tafreshi, “Buckling and post-buckling analysis of composite cylindrical shells with cutouts subjected to internal pressure and axial compression loads”, *International journal of pressure vessels and piping* 79 (5), 351-359, 2002

A. Tafreshi, “Efficient modelling of delamination buckling in composite cylindrical shells under axial compression”, *Composite structures* 64 (3), 511-520, 2004

A Tafreshi and CG Bailey, “Instability of imperfect composite cylindrical shells under combined loading”, *Composite structures* 80 (1), 49-64, 2007

A. Tafreshi, “Delamination buckling and postbuckling in composite cylindrical shells under combined axial compression and external pressure”, *Composite structures* 72 (4), 401-418, 2006

A Tafreshi , “Delamination buckling and postbuckling in composite cylindrical shells under external pressure”, *Thin-walled structures* 42 (10), 1379-1404, 2004

A Tafreshi and T Oswald, “Global buckling behaviour and local damage propagation in composite plates with embedded delaminations”, *International journal of pressure vessels and piping* 80 (1), 9-20, 2003

A Tafreshi , “Numerical analysis of thin torispherical end closures”, *International journal of pressure vessels and piping* 71 (1), 77-88, 1997

A Tafreshi , “Instability of delaminated composite cylindrical shells under combined axial compression and bending”, *Composite Structures* 82 (3), 422-433, 2008

A Tafreshi and TE Thorpe, “Effects of local departures from nominal dimensions on stresses in thin torispherical end closures”, *The Journal of Strain Analysis for Engineering Design* 31 (4), 315, 1996

A Tafreshi and RT Fenner, “Design sensitivity analysis using the boundary element method”, *The Journal of Strain Analysis for Engineering Design* 28 (4), 283-291, 1993

A. Tafreshi. Design optimization using the boundary integral equation method. Imperial College of Science, Technology and Medicine:1990. eScholarID:133013