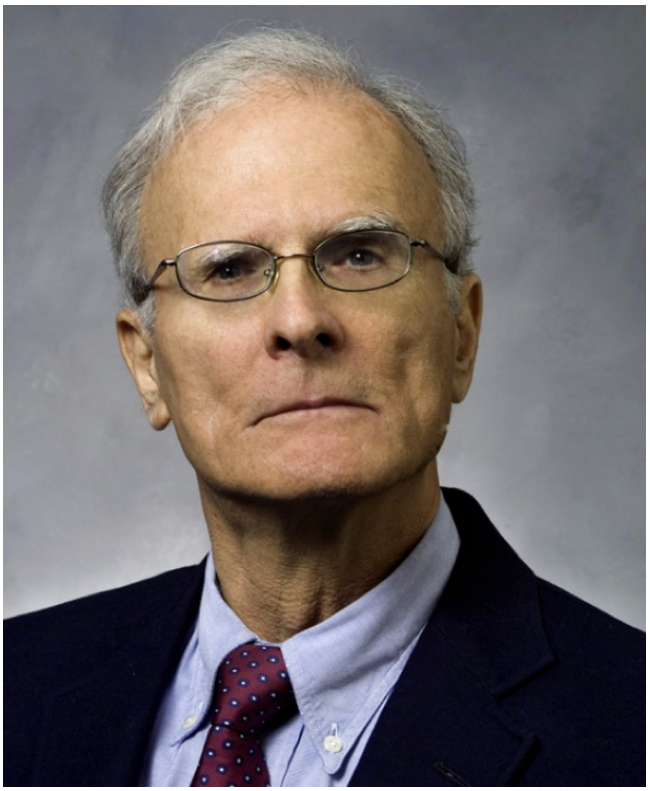

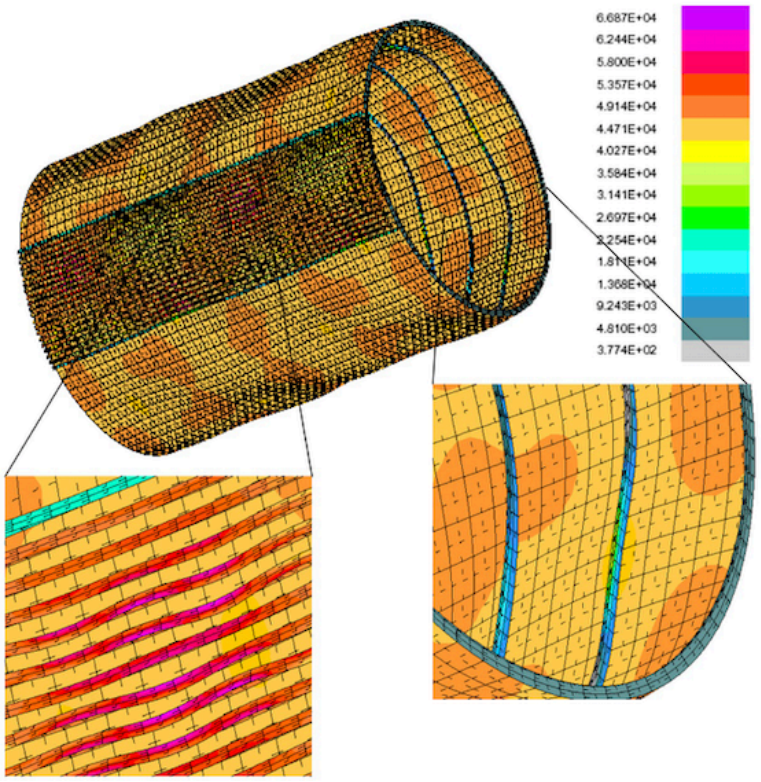

Dr. David Bushnell

From: "Optimization of an axially compressed ring and stringer stiffened cylindrical shell with a general buckling modal imperfection," by D. Bushnell, 2007 (48th AIAA SDM meeting, Honolulu, Hawaii)

Education:
Graduated from MIT, June 1961 with BS and MS in Aero and Astro Obtained PhD at Stanford University (Lockheed's Graduate Study Program) in June 1965 PhD thesis: "Some problems in thin shells", Advisor: Nicholas Hoff

Worked for:
Worked at Lockheed (now Lockheed Martin) from Sept. 1961 to April 1994. Last position at Lockheed Martin = Senior Consulting Scientist.

In retirement:
From April 1994 on, I have done research on optimization of imperfect stiffened composite panels and shells and occasionally helped others on projects that involve thin shells, especially complex shells of revolution. Much of my time since retirement has been spent on the development of BIGBOSOR4, PANDA2 and GENOPT.

I developed, completed, and applied the following computer programs:
BOSOR4 (buckling, stress, vibration of complex elastic shells of revolution)
BIGBOSOR4 (same as BOSOR4, except that BIGBOSOR4 will handle many more shell segments)
BOSOR5 (buckling and stress of complex elastic-plastic shells of revolution)

PANDA2 (minimum-weight design of stiffened, composite flat and cylindrical imperfect panels and shells under multiple sets of combined loads for service in their locally postbuckled states)
GENOPT (program that writes user-friendly optimization code)

I wrote a book:

Computerized Buckling Analysis of Shells, Kluwer Academic Press, The Netherlands (1985)

Honors and activities:
Fellow, American Society of Mechanical Engineers (ASME)
Fellow, American Institute of Aeronautics and Astronautics (AIAA)
1985 – Best paper PVP division of ASME: J. Pressure Vessel Tech., Vol. 106, Feb. 1984
1984-85 – Invited Speaker: Midwest Mechanics Seminar Series (gave seminars on shell buckling at eight Midwestern universities)
1980 – AIAA/ASME SDM (Structures, Dynamics, Materials) keynote speaker at the 21st Structures, Dynamics, and Materials meeting, Seattle; Subject: "Buckling of shells, pitfall for designers", published in AIAA Journal, Vol. 14, pp 1183-1226, Sept. 1981
1978 – Outstanding Engineer of the Year, AIAA San Francisco chapter
1975 – Recipient of the ONR/AIAA Structural Mechanics Research Award. Topic of study: "Stress, buckling and vibration of hybrid bodies of revolution", published in Computers & Structures, Vol. 7, pp. 517-537, 1977
1979-1980 Associate Editor, AIAA Journal
1979-1980 Member of AIAA Structures Technical Committee
1976-1984 Member of Pressure Vessel Research Council Subcommittee on shell analysis
1993-1995 Member of AIAA Fellow Selection Committee

List of publications (except for book mentioned above):

1. Bushnell, D.: "Influence coefficients of a circular cylindrical shell with rapidly varying parabolic wall thickness", AIAA J., Vol. 2, No. 12, pp. 2167-2173, Dec. 1964

2. Bushnell, D.: "Dynamic Response of Two-Layered Cylindrical Shells to Time-Dependent Loads," AIAA Journal, Vol. 3, No. 9, pp. 1698-1703, September 1965.

3. Bushnell, D.: "Influence coefficients for externally pressurized spherical shells", AIAA J., Vol, 4 No. 8, pp. 1472-1474, August 1966

4. Bushnell, D.: "Axisymmetric Dynamic Response of a Ring-Supported Cylinder to Time-Dependent Loads," Journal of Spacecraft, Vol. 3, No. 9, pp. 1369-1376, September 1966

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8. Bushnell, D.: "Bifurcation Phenomena in Spherical Shells under Concentrated and Ring Loads," AIAA Journal, Vol. 5, No. 11, pp. 2034-2040, November 1967

9. Bushnell, D.: "Buckling of Spherical Shells Ring-Supported at the Edges," AIAA Journal, Vol. 5, No. 11, pp. 2041-2046, November 1967

10. Bushnell, D.: "Inextensional Buckling of Spherical Shells with Edge Rings," AIAA Journal, Vol. 6, No. 2, pp. 361-364, February 1968

11. Bushnell, D. and Almroth, B. O.: "Computer Analysis of Various Shells of Revolution," AIAA Journal, Vol. 6, No. 10, pp. 1848-1855, October 1968

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13. Bushnell, D., "Nonlinear analysis for axisymmetric elastic stresses in ring-stiffened, segmented shells of revolution", AIAA 7th Structures, Structural Dynamics, and Materials Conference, New Orleans, LA, April 14-16, 1969

14. Bushnell, D., "Buckling and vibration of ring-stiffened, segmented shells of revolution: Numerical results", ASME Pressure vessel technology, pp. 255-268, Vol. 1, Design and Analysis, from Proceedings of the first international conference, Delft, September 1969

15. Almroth, B. O., Bushnell, D., and Sobel, L. H.: "Buckling of Shells of Revolution with Various Wall Constructions, Volume 1 – Numerical Results," NASA CR-1049, May 1968.

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19. Bushnell, D.: "Analysis of buckling and vibration of ring-stiffened, segmented shells of revolution", International Journal of Solids and Structures, Vol. 6, pp. 157-181, 1970

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21. Bushnell, D.: "Analysis of Ring Stiffened Shells of Revolution under Combined Thermal and Mechanical Loading," AIAA Journal, Vol. 9, No. 3, pp. 401-410, March 1971

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23. Bushnell, D.: "Stress, Buckling, and Vibration of Prismatic Shells," AIAA Journal, Vol. 9, No. 10, pp. 2004-2013, October 1971.

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