



**Professor Yong-Lin Pi**

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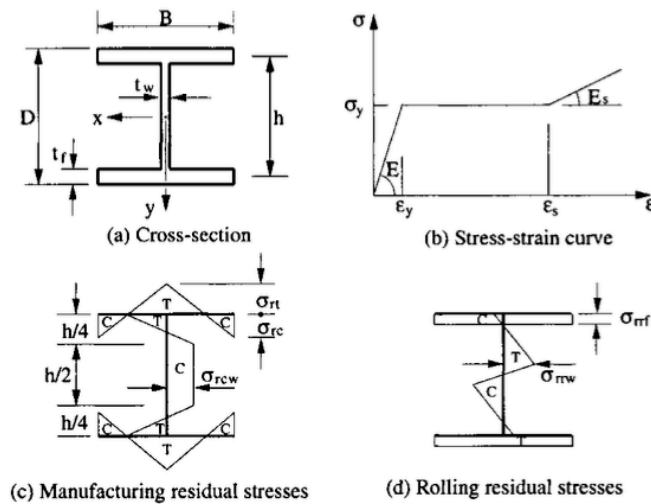
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**Research Areas:**

- Analysis and behaviour of curved steel and composite framed structures, including dynamic and thermal effects.
- Geometric and material non-linear behaviour of thin-walled structure.
- Nonlinear structural mechanics, in particular, nonlinear analysis of arched structures, including static, dynamic and thermal effects.
- Development of finite element codes for three dimensional large deformation elastic-plastic analyses of structures.
- Structural in-plane and out-of-plane buckling analysis.
- Non-deterministic structural analysis of structures accounting for uncertainties of structural properties.
- Long-term linear and nonlinear analysis of concrete filled steel tubular structures.
- Dynamic stability analysis of structures.
- Steel and steel-concrete composite structures subjected to high temperatures.

**Selected Publications:**

Yong-Lin Pi and Nicholas Snowden Trahair, Nonlinear inelastic analysis of steel beam-columns. 1: Theory, Journal of Structural Engineering, Vol. 120, No. 7, July 1994



**FIG. 3. Cross-Section, Residual Stresses, and Stress-Strain Curve**

From: Yong-Lin Pi and N.S. Trahair, In-plane buckling and design of steel arches, Journal of Structural Engineering, Vol. 125, pp 1291-1298, November 1999

Yong-Lin Pi and N.S. Trahair, "Non-linear buckling and postbuckling of elastic arches", *Engineering Structures*, Vol. 20, No. 7, pp 571-579, July 1998

Yong-Lin Pi and N.S. Trahair, In-plane buckling and design of steel arches, *Journal of Structural Engineering*, Vol. 125, pp 1291-1298, November 1999

Y-L Pi, M.A. Bradford and B. Uy, "In-plane stability of arches", *International Journal of Solids and Structures*, Vol. 39, No. 1, pp 105-125, January 2001

Yong-Lin Pi and Mark Andrew Bradford, "Dynamic buckling of shallow pin-ended arches under a sudden central concentrated load", *Journal of Sound and Vibration*, Vol. 317, Nos. 3-5, November 2008, pp. 898-917

Yong-Lin Pi and Mark Andrew Bradford, "Lateral-torsional elastic buckling of rotationally restrained arches with a thin-walled section under a central concentrated load", *Thin-Walled Structures*, Vol. 73, pp 18-26, December 2013

Kai Luo, Yong-Lin Pi, Wei Gao, Mark Andrew Bradford and David Hui, "Investigation into long-term behaviour and stability of concrete-filled steel tubular arches", *Journal of Constructional Steel Research*, Vol. 104, pp 127-136, January 2015

Yan-Lin Guo, Xing Yuan, Mark Andrew Bradford, Yong-Lin Pi and Hang Chen, "Strength design of pin-ended circular steel arches with welded hollow section accounting for web local buckling", *Thin-Walled Structures*, Vol. 115, pp 100-109, June 2017

Airing Liu, Hanwen Lu, Jiyang Fu and Yong-Lin Pi, "Lateral-torsional buckling of fixed circular arches having a thin-walled section under a central concentrated load", *Thin-Walled Structures*, Vol. 118, pp 46-55, September 2017