



## **Professor Dinar Camotim**

See:

<http://www.asce.org/People-and-Projects/People/Bios/Camotim,-Dinar/>

<http://65.54.113.26/Author/13178225/dinar-camotim>

<http://www.amazon.com/gp/aw/s?i=stripbooks&field-author=Dinar%20Camotim>

### **Education**

Ph.D., University of Waterloo

M.A.Sc., University of Waterloo

Licenciante, Lisbon Technical University

### **Work Experience**

Professor, Technical University of Lisbon

### **ASCE Involvement**

Chair, EMI Stability Committee

Associate Editor (for Stability), Journal of Engineering Mechanics

### **Other Volunteer Activities**

Member, Executive Committee, Structural Stability Research Council

Member, Technical Committee 8 (Stability), European convention for Constructional Steelwork

Member, International Scientific Committee

Member, Technical Committee 7 (Cold-Formed Thin-walled Sheet Steel), European Convention for Constructional Steelwork (ECCS).

2000, Editor, CIMS

2006, Editor, SDSS

Guest Editor, International Journal of Structural Stability and Dynamics, and the Journal of Constructional Steel Research.

### Awards

2010, Shortridge Hardesty Award, ASCE

Teaching Excellence Award, University of Waterloo (Canada)

Teaching Excellence Award, Technical University of Lisbon (Portugal).

2007, Award for Best Paper, International Journal of Structural Stability and Dynamics

### Selected Publications:

M. Ritto Corrêa, D. Camotim, 'On the differentiation of the Rodrigues formula and its significance for vector for vector like parametrization of Reissner-Simo beam theory', Int. Journal for Numerical Methods in Engineering, 55, pp. 1005-1032, (2002).

Silvestre, N., Camotim, D.: First-order generalised beam theory for arbitrary orthotropic materials, Thin-Walled Structures, 40, 2002, 755-789.

Silvestre, N., Camotim, D.: Second-order generalised beam theory for arbitrary orthotropic materials, Thin-Walled Structures, 40, 2002, 791-820

Nuno Silvestre and Dinar Camotim (Civil Eng. Dept., TU Lisbon, 1049-001 Lisbon, Portugal. E-mail: [nunos@civil.ist.utl.pt](mailto:nunos@civil.ist.utl.pt) and [dcamotim@civil.ist.utl.pt](mailto:dcamotim@civil.ist.utl.pt)), "Stability Behavior of Composite Thin-Walled Members Displaying Arbitrary Orthotropy", 15th ASCE Engineering Mechanics Conference, June, 2002, Columbia University, New York, NY

**ABSTRACT:** The paper presents the formulation and illustrates the application of a second order Generalized Beam Theory (GBT) developed to analyze the stability behavior of thin-walled members displaying arbitrary orthotropy. After reviewing and physically interpreting the 2nd order GBT equations, a brief description of the main steps involved in performing a member GBT linear stability analysis is presented. Next, the paper addresses the issue of whether the critical stress value obtained from a member linear stability analysis corresponds to a "true bifurcation" or simply provides an "asymptotic limit load" and, in particular, a systematic procedure to detect true bifurcations is proposed. Finally, the application and capabilities of the 2nd order GBT are illustrated, by means of an investigation of the local and global buckling behavior of lipped channel columns and beams exhibiting asymmetric orthotropy.

M.R. Corrêa, D. Camotim, 'Work-conjugacy between rotation-dependent moments and finite rotations', Int. Journal of Solids & Structures, 40, pp. 2851-2873, (2003).

Gonçalves R. and Camotim D., GBT local and global buckling analysis of aluminium and stainless steel columns, Computers & Structures, accepted for publication, 2003.

Silvestre N. and Camotim D., Distortional buckling formulae for cold-formed steel C and Z- section members: Part I - derivation and Part II - validation and application, submitted for publication, 2003.

Silvestre N. and Camotim D., Distortional buckling formulae for cold-formed steel rack-section members, Steel and Composite Structures, Vol. 4, No 1, 2004.

Dinis P., Camotim D. and Silvestre N., Generalised beam theory to analyse the buckling behaviour of thin-walled steel members with 'branched' cross-sections, Proc. 4th Int. Conf. Thin-Walled Structures (Loughborough, 22-24/6), 2004.

Gonçalves R., Camotim D. and Dinis P., Generalised beam theory to analyse the buckling behaviour of aluminium or stainless steel

open and closed thin-walled members, Proc. 4th Int. Conf. Thin-Walled Structures (Loughborough, 22-24/6), 2004.

Dinar Camotim (1), Nuno Silvestre (1), Rodrigo Gonçalves (2) and Pedro Borges Dinis (1)

(1) Civil Eng. Dept., ICIST/IST, TU Lisbon, Portugal.

(2) Escola Superior de Tecnologia do Barreiro, Polytechnic Institute of Setúbal, Portugal.

“Gbt-Based Analysis and Design of Thin-Walled Metal and Frp Members: Recent Developments”, Proc. Int. Workshop Recent Advances and Future Trends in Thin-Walled Structures Technology (Loughborough, 25/6), 2004.

**ABSTRACT:** This paper provides an overview of the Generalised Beam Theory (GBT) applications and formulations recently developed at the TU Lisbon. The conventional GBT is (i) applied to derive analytical distortional buckling formulae and (ii) extended to cover (ii1) orthotropic and elastic-plastic materials, (ii2) closed and branched cross-sections and (ii3) vibration and post-buckling analyses. In order to give an idea about the potential of the new GBT formulations, a few numerical results are presented and briefly discussed.

N. Silvestre, D. Camotim, 'Asymptotic-Numerical Method to Analyze the Postbuckling Behavior, Imperfection-Sensitivity, and Mode Interaction in Frames', Journal of Engineering Mechanics 131 (6), pp. 617\_\_632, (2005).