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# Giovanni de Moraes Teixeira

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## PERSONAL SUMMARY

An experienced and efficient Project and R&D Engineer with excellent communication and co-ordination skills. Possessing a solid background on product development, structural analysis, fatigue life prediction and structural integrity assessment. Able to provide high quality and reliable product analysis to meet engineering specifications. Having a proven history of providing consultancy, support and training for automotive, energy and offshore industries for the last twelve years.

## ACADEMIC QUALIFICATIONS

**Doctoral degree candidate in Mechanical Engineering** *Sao Paulo, Brazil*

University of Brasília, 2010 - Present

Research focused on multi-axial fatigue methodologies and fretting fatigue assessment

**Master degree in Mechanical Engineering** *Sao Paulo, Brazil*

University of São Paulo, July 1999 - July 2002

Research focused in Dynamics and Finite Element Method

**Bachelor's degree in Mechanical Engineer** *Uberlândia, Brazil*

Federal University of Uberlândia, July 1993 – Sept 1998

## AWARDS AND PROFESSIONAL SOCIETY MEMBERSHIPS

Member of the ASME and SAE.

## PROFESSIONAL SKILLS

**Technical Skills:** Structural, Dynamic, and thermal FEA; Research and Development in deterministic and random structural vibrations, multi-axial Metal Fatigue and Fracture Mechanics

**Engineering Software:** CAD/CAE Softwares, ABAQUS, Hyperworks, ANSYS, NASTRAN, nCODE, fe-safe, Ricardo Ring-Pack and Pisdyn.

**Programming languages:** MATLAB, APDL, C++, Qt, Pascal, Delphi.

## WORK EXPERIENCE

**Safe Technology** *Sheffield, UK*

**R&D Principal Engineer**, July 2012 - Present

Responsible for providing new state-of-the-art methodologies and techniques for solving fatigue problems. Today leading the Frequency Domain Fatigue Research Project, which comprises implementation of innovative technologies and algorithms into fe-safe software and its validation and comparison to equivalent well established available codes.

**ESSS (ANSYS South American Channel Partner)** *São Paulo, Brazil*

**Consultant and Technical Coordinator**, May 2006 – June 2012

Management and constant training of ANSYS support team in South America. Responsible for preparing and delivering trainings, coordinating and undertaking support tasks and consultancy of engineering projects related to structural integrity evaluation and finite element analysis.

## **General Motors**

*São Caetano, Brazil*

**CAE Analyst and Product Development Engineer**, November 2004 – May 2006

Modeling and assessment of automotive chassis and power train components according to internal GM standards. Development of new structural concepts and checking the feasibility, performance and durability through field and laboratory testing.

## **MAHLE Metal Leve**

*São Paulo, Brazil*

**CAE Analyst and R&D Engineer**, June 2001 – November 2004

Improving the design, efficiency and concept of existing family of power train products (pistons, connecting rods, rings, bearings, gears, etc.) aiming durability (fatigue life), wear resistance and lower fuel consumptions (low friction). Also responsible for researching and developing new methodologies and codes for supporting the demands of application engineers and customers.

## **PUBLICATIONS**

- TEIXEIRA, G.M., et al, "Random Vibration Fatigue – A Study Comparing Time Domain and Frequency Domain Approaches for Automotive Applications", SAE World Congress & Exhibition, April 8-10, 2014, Detroit, USA.
- TEIXEIRA, G.M., et al, "Random Vibration Fatigue – Frequency Domain Critical Plane Approaches", ASME, International Mechanical Engineering Congress and Exposition, San Diego, California, November 15-21, 2013.
- TEIXEIRA, G.M., "Application of Critical Distance theory on the study of a Crankshaft", 7th International Safe Technology User Group meeting, October 9 & 10, Management Education Center, Michigan State University, Detroit, USA.
- TEIXEIRA, G.M., et al, "Numerical Tools and Mathematical Concepts of Fatigue and Fracture Mechanics Applied to the Structural Integrity Evaluation of Mechanical Components", (8-13, July, 2012), 10<sup>th</sup> World Congress on Computational Mechanics (WCCM), São Paulo, SP, Brazil.
- TEIXEIRA, G.M., et al, "Coupled FE Spectral Analysis – Random Fatigue Calculation Methodology for Semi-Trailer Fatigue Assessment", (May of 2012), SAE Brazil, Caxias do Sul, RS, Brazil.
- TEIXEIRA, G.M., et al, "Numerical Analysis for PSA-TU5 Flex Fuel's Connecting Rod", (October of 2011), SAE Brazil, São Paulo, Brazil.
- TEIXEIRA, G.M., Cezar, F.; "Welding process analysis applied to brake chamber support of light duty vehicles", (November of 2009), South American ANSYS Users Conference, Florianópolis, Brazil.
- TEIXEIRA, G.M., Kruger, M.; "CFD Study of a passenger car HVAC system" (July of 2009), 4<sup>th</sup> EASC (Simulation for Innovative Design), Munich, Germany.
- TEIXEIRA, G.M., Toro, J., Lima, L.; "Aplicaciones Mecánicas de la ley constitutiva de drucker prager", (september of 2009), VIII Jornada de Mecánica Computacional, Pucón, Chile.
- TEIXEIRA, G.M., Silva, R; "Thyssen Krupp connecting rod structural analysis", (September of 2008), International ANSYS Conference, Pittsburgh, PA, USA.
- ESSS Newsletters: Non Linearities using Workbench (*April/2007*), Theory of Hertz Contact (*may/2007*), Advanced resources in Workbench (*November/2007*), Fracture mechanic analysis as the basis of the Damage Tolerant Design (*February/2008*), Non proportional multiaxial fatigue analysis in ANSYS Workbench (*June/2008*), Calculation and identification of numerical errors in FEA and CFD analysis (*September/2009*).
- Tomanik, E.; TEIXEIRA, G.M.; Chacon, H. "A simple Numerical Procedure to Calculate the Input Data of Greenwood-Williamson Model of Asperity Contact for Actual Engineering Surfaces" 2002, 29th Leeds-Lyon Symposium on Tribology, UK.
- TEIXEIRA, G. M.; LIRANI, J. *A study of impact loading in a cantilevered beam by using the explicit time integration algorithm.* (CD ROM). XVI Congresso Nacional de Engenharia Mecânica, v. 13, p. 254-259, Nov. 2001.

## **LANGUAGES:**

Fluent in Portuguese, English, and Spanish; proficient in Italian and Russian