

## Cesar Levy

### **Name and academic rank:**

Cesar Levy, Professor, Interim Undergraduate Program Director, and Former Chairperson

### **Degrees with fields, institutions and date:**

Ph.D.Mechanical Engineering, Stanford University, Stanford, California, 1983

M.S.Applied Mathematics, CIMS, New York University, New York, 1974

B.S.Aerospace Engineering, Polytechnic Institute of Brooklyn, New York, 1972

### **Number of years of service for this faculty, date of original appointments, and dates of advancement in rank:**

29 Years

Chairperson, Florida International University, 2009- present

Associate Dean for Undergraduate Studies and Academic Affairs, 2007-2009

Full Professor, Florida International University, 1996-present

Associate Professor, Florida International University, 1991-1996

Assistant Professor, Florida International University, 1985-1991

### **Other related experience:**

ABET PEV accreditation visits in 2006, 2008, 2010, 2011, 2012

Visiting Professor, Dept of Mechanical Engineering, BenGurion University of the Negev, Israel, 2007

Professor, Dept. of Civil Engineering, College of Judea and Samaria, Israel, 1999-2001

Visiting Associate Professor, Dept of Mechanical Engineering, BenGurion University of the Negev, Israel, 1996

PostDoctoral, Technion, Israel Institute of Technology, Haifa, Israel, 1983-1985

Teaching Assistant, Department of Mechanical Engineering, Stanford University, 1981

Instructor, El Paso Community College, 1976-1978

### **Consulting, patents, etc.:**

-Mr. Mitch Kozak, Aerospace Research Council, consulting on vertical continuity of Aeronautics/Aerospace Education in Florida, 2006-2012.

-Mr. Heriberto Lopez, on the design of a vibration shaker to harvest coffee beans, 2004-2005.

-Mr. Myron Lieberman, on the feasibility of water/air propulsion systems, 2004.

-Mr. Tommy Bowermeister, Florida State University, consulting on the Florida Aviation/Aerospace Career Cluster Consortium Project, 2004-2005.

-Worked with Prof. Jacob Braun (Technion-Israel Institute of Technology) to create an ABET-like process to evaluate engineering colleges in Israel. The work was performed for the Israel Ministry of Higher Education, 2001.

### **State in which registered: N/A**

### **Principal publications (Last five years):**

Ma, Q., Levy, C. and Perl, M., "A Study of the Combined Effects of Erosions, Cracks and Partial Autofrettage on the Fatigue Life of a Thick Walled Pressurized Cylinder", *Journal of Pressure Vessel Technology*, accepted for publication. (2013)

Ma, Q., Levy, C. and Perl, M., "The Impact of the Bauschinger Effect on Stress Concentrations and Stress Intensity Factors for Eroded Autofrettaged Thick Cylindrical Pressure Vessels", *Journal of Pressure Vessel Technology*, Vol. **134** (2), 021204, 6 pp (2012). Also, DOI: 10.1115/1.4005396, URL: <http://link.aip.org/link/?JPV/134/021204>

Khan, M., Levy, C., Hameedi, A., Khan, Z., Orakzai, K., Khan, M., Shahazad, K., Malik, A.M., and Khushnood, S., "An Analysis of Dome Reversal in Metal Beverage Container Based on Finite Element Methods", *Structural Durability and Health Monitoring*, Vol. **6**(2), pp. 53-67 (2010).

Ma, Q., Levy, C. and Perl, M., "Stress Intensity Factors for Partially Autofrettaged Pressurized Thick-Walled Cylinders Containing Closely and Densely Packed Cracks", *Journal of Pressure Vessel Technology*, Vol. **132** (5), 051203, 9pp (2010). Also, URL: <http://link.aip.org/link/?JPV/123/051203>, DOI: 10.1115/1.4001430

Li, X., and Levy, C., "A Novel Strain Gauge with Damping Capability", *Sensors and Transducers Journal, Special Issue-MEMS: from Micro Devices to Wireless Systems*, Vol. **7** (10), pp. 5-14 (2009). Also,

([http://www.sensorsportal.com/HTML/DIGEST/Special\\_Issue\\_Oct\\_09.htm](http://www.sensorsportal.com/HTML/DIGEST/Special_Issue_Oct_09.htm)). Made the top 25 most accessed journal article for October 2009

Li, X., Levy, C., Agarwal, A., Datye, A., Elaadil, L., Keshri, A. K., and Li, M., "Multifunctional Carbon Nanotube Film Composite for Structure Health Monitoring and Damping", *The Open Construction and Building Technology Journal: Special Issue on Modern Trends in Seismic Design*, Vol. **3**, pp. 146-152 (2009)

Keshri, A.K., Chen, Y., Laha, T., Li, X., Levy, C., and Agarwal, A., "Nanomechanical Behavior of Plasma Sprayed PZT Coating", *Surface Engineering*, Vol. **25** (4), pp. 270-275 (2009).

Also URL: <http://www.ingentaconnect.com/content/maney/se/pre-prints/sur341> DOI: 10.1179/026708408X375307

Ma, Q., Levy, C., and Perl, M., "The Bauschinger Effect on 3-D SIFs for Networks of Radial and Longitudinally-Coplanar Semi-Elliptical Internal Surface Cracks In Autofrettaged Pressurized Thick-Walled Cylinders", *CMES: Computer Modeling in Engineering & Sciences*, Vol. 29 (2), pp. 95-110 (2008).

Ma, Q., Levy, C. and Perl, M., "An LEFM Based Study on the Interaction Between an Edge and an Embedded Parallel Crack", *Paper PVP2013-97083*, **Proceedings** of the 2013 PVP Conference, Paris, France, July, 2013.

Ma, Q., Levy, C. and Perl, M., "The Bauschinger Effect on the SIFs of a Semi-Elliptical Crack Emanating from an Erosion at the Bore of a Fully Autofrettaged Pressurized Cylinder", *Paper PVP2012-78012*, **Proceedings** of the 2012 PVP Conference, Toronto, Ontario, Canada, July, 2012.

Ma, Q., Levy, C. and Perl, M., "A Finite Element Study of the Effect of Partial Autofrettage on the Fatigue Life of Thick-Walled Cylinders Containing Erosions and Cracks", *Paper PVP2011-57004* **Proceedings** of the 2011 PVP Conference, Baltimore, MD, July, 2011.

Ma, Q., Levy, C. and Perl, M., "Stress Concentration and Stress Intensity for Pressurized Eroded Autofrettaged Thick Cylinders with Bauschinger Effect", *Paper PVP2010-25607*, **Proceedings** of the 2010 PVP Conference, Bellevue, WA, July, 2010.

Li, X., Levy, C., Li, M., Keshri, A.K., and Agarwal, A., "A Multifunctional MWCNT Composite: Strain Sensing, Damping and Application to Structural Vibration Control", *Paper IMECE2009-11599*, **Proceedings** of the *International Mechanical Engineering Congress and Exposition*, Lake Buena Vista, FL, Nov. 2009

Ma, Q., Levy, C. and Perl, M., "Stress Intensity Factors for Closely and Densely Packed Cracks in Partially Autofrettaged Pressurized Thick-Walled Cylinders", **Proceedings** of the 2009 PVP Conference, Prague, The Czech Republic, July, 2009.

Fekrmandi, H., Levy, C., Ma, Q., Perl, M., "An Approximate Formula for the Maximal SIF for an Infinite Array of Longitudinal Coplanar Internal Surface Cracks in an Autofrettaged Cylindrical Pressure Vessel", submitted to the FEMTEC 2013, 4<sup>th</sup> International Congress on Computational Engineering and Sciences, 19-24 May, 2013, Las Vegas, NV

Li, X., and Levy, C., "Multifunctional MWCNT for structural vibration control: sensing, damping and mathematical modeling", 2009 NSF CMMI Research and Innovation Conference, Honolulu, HI, 22-25 June 2009 (poster session)

Li, X., Keshri, A.K., Agarwal, A., and Levy, C., "A Multifunctional MWCNT strain sensor: sensing and damping", **Proceedings** of the 2009 Nanotech Conference, Paper WE61.314, Houston, TX, 5-8 May 2009 (and poster session).

#### **Memberships in scientific and professional societies:**

ASME, Sigma Xi, Tau Beta Pi

#### **Honors and awards:**

Named ABET Mechanical Engineering Program Evaluator, 2006-2012; have continued since then as well.

Dissertation Advisor Status conferred, FIU, June 2005, renewed in January, 2013

Named ASME Fellow, January 2010

Honored by FIU for Outstanding Performance in Research Funding, 2010

#### **Institutional and professional services (Last five years):**

Journal and Proceeding Reviewer: ASME Journal of Pressure Vessel Technology 2005-2012; Reviewer for book by Kypuros on System Dynamics, 2011; Sensors, Special Issue on State of the Art Sensor Technology in Portugal, 2011, 2012; Inverse Problems in Science and Engineering, 2010; International Journal of Fatigue, 2010; ASME IDETC/CIE 2008 Conference, 2008 (2 papers); Gun Tubes 2011 Conference (1 paper)

Proposal Reviewer: Army Research Office: 2012 (1).

Tenure and Promotion File Reviewer, External: 1 US and 4 Israel

**Professional development activities (Last five years):**

FEMTEC 2013, 4<sup>th</sup> International Congress on Computational Engineering and Sciences, Las Vegas, NV, May, 2013

The 2014 ASME PVP Conference, Anaheim, CA, July, 2014

The 2012 ASME PVP Conference, Toronto, Ontario, Canada, July, 2012

The 2011 ASME PVP Conference, Baltimore, MD, July, 2011

The 2010 ASME PVP Conference, Bellevue, WA, July 2010

The 2009 ASME IMECE Conference, Lake Buena Vista, FL, November, 2009

The 2009 ASME PVP Conference, Prague, The Czech Republic, July 2009

2009 NSF CMMI Research and Innovation Conference, Honolulu, HI, June 2009

2009 Nanotech Conference, Houston, TX, May 2009

Maintenance and update - the ALLSTAR aeronautics website (<http://www.allstar.fiu.edu>)