

URIEL ZAPATA

Curriculum Vitae



EDUCATION:

- 2012 **Post-Doctoral Fellow**
Mercer University, School of Medicine, Macon – Georgia, USA.
Basic Sciences
Advisor: Prof. Qian Wang
- 2009 **Ph. D.** in Biomedical Sciences
Texas A&M University (TAMU), Dallas – Texas, USA.
Biomedical Sciences
Advisor: Prof. Lynne A. Opperman
- 1994 **Master** in Structures
UNAM University, México D.F., México.
Institute of Engineering
Advisor: Prof. Gustavo Ayala M.
- 1989 Bachelor in **Civil Engineering**
EAFIT University, Medellin, Colombia.

PROFESSIONAL APPOINTMENTS:

- 1994-present Associate Professor, Mechanical Engineering Dept.
EAFIT University
Medellin, Colombia.
- 2005-2009 Graduate Assistant Researcher.
Texas A&M Health Sciences Center.
Dallas-TX.
- 1991-1993 Research Assistant.
Engineering Institute, UNAM University, México.
México D.F., México.
- 1988-1988 Infrastructure Engineering Assistant.
National Federation of Coffee Growers of Colombia.
Antioquia, Colombia.

HONORS AND AWARDS

- 2018 Research Visiting Scholarship.
Fulbright Foundation.
Texas A&M, Dental School.
Unites States.
- 2013 Research Fellowship.
Matsumae International Foundation.
Nagasaki University.
Japan.
- 2011-2012 Postdoctoral Fellowship.
American Association of Anatomists (AAA).
Mercer University.
United States.
- 2010 Postdoctoral Fellowship.
National Science Foundation (NSF).
Mercer University.
United States.
- 2004-2010 Fellowship Ph. D. Program
COLCIENCIAS (Colombia) – LASPAU
United States.
- 1991-1993 Fellowship CUAHUTEMOC – Master Program
National council for sciences and technology (CONACYT).
México.

PUBLISHED MANUSCRIPTS:

- Urrego C. and **Zapata U.** (2020). Verification and validation of finite element model of a human-powered vehicle chassis. *International Journal of Emerging Trends and Technology in Computer Science.* 9(5), 14-22.
- Zapata U,** Wang Q. (2020). Material properties of the skull layers of the primate parietal bone: A single-subject study. *PlosOne* 15(3), 1-14.
- Zapata U,** Dechow PC, Watanabe I, Elsalanty ME, Opperman LA. (2014). Biomechanics of the canine mandible during bone transport distraction osteogenesis. *Journal of Biomechanical Engineering.* 136(2): 1-8.
- Wang Q, Wood SA, Grosse IR, Ross CF, **Zapata U,** Byron CD, Wright BW, Strait DS. (2012). The Role of the Sutures in Biomechanical Dynamic Simulation of a Macaque Cranial Finite Element Model: Implications for the Evolution of Craniofacial Form. *Anatomical Record* 295:278-288.

- Nagashima LK, Rondon-Newby M, Zakhary IE, Nagy WW, **Zapata U**, Dechow PC, Opperman LA, Elsalanty ME. (2012). Bone regeneration and docking site healing after bone transport distraction osteogenesis in the canine mandible. *Journal of Oral and Maxillofacial Surgery* 70:429-439.
- Zapata U**, Opperman LA, Kontogiorgos E, Elsalanty ME, Dechow PC. (2011). Biomechanical characteristics of regenerated cortical bone in the canine mandible. *Journal of Tissue Engineering and Regenerative Medicine* 5:551-559.
- Zapata U**, Halvachs EK, Dechow PC, Elsalanty ME, Opperman LA. (2011). Architecture and microstructure of cortical bone in reconstructed canine mandibles after bone transport distraction osteogenesis. *Calcified Tissue International* 89:379-388.
- Kontogiorgos E, Elsalanty ME, **Zapata U**, Zakhary I, Nagy WW, Dechow PC, Opperman LA. (2011). Three-dimensional evaluation of mandibular bone regenerated by bone transport distraction osteogenesis. *Calcified Tissue International* 89:43-52.
- Zapata U**, Metzger K, Wang Q, Elsey RM, Ross CF, Dechow PC. (2010). Material properties of mandibular cortical bone in the American alligator, *Alligator mississippiensis*. *Bone* 46:860-867.
- Zapata U**, Elsalanty ME, Dechow PC, Opperman LA. (2010). Biomechanical configurations of mandibular transport distraction osteogenesis devices. *Tissue Engineering - Part B: Reviews* 16:273-283.
- Wang Q, Smith AL, Strait DS, Wright BW, Richmond BG, Grosse IR, Byron CD, **Zapata U**. (2010). The global impact of sutures assessed in a finite element model of a macaque cranium. *Anatomical Record* 293:1477-1491.
- García A, Isaza JF, **Zapata U**, Roldán S. (2006). Implementing a teleradiology pilot system in Medellín, Colombia. *Ejecución de un sistema piloto de tele-radiología en Medellín, Colombia* 37:183-188.
- Castaño MC, **Zapata U**, Pedroza A, Jaramillo JD, Roldán S. (2002). Creation of a three-dimensional model of the mandible and the TMJ in vivo by means of the finite element method. *International journal of computerized dentistry* 5:87-99.

BOOK CHAPTERS

- G. Uribe, S. Roldan, and **U. Zapata**. (2009). *Ortodoncia: Teoría y Clínica: Tratamiento del Prognatismo Mandibular*, Chapter 20. Editorial: Corporación Para las Investigaciones Biológicas. Bogotá-Colombia. ISBN: 978-958-9076-33-0.
- U. Zapata** and S. Roldan. (2003). *Bioingeniería en ibero América: avances y desarrollos modelación matemática de estructuras craneofaciales*, chapter 19. Editorial: CIMNE. Spain. ISBN: 84-95999-42-0.

PUBLISHED ABSTRACTS AND ORAL PRESENTATIONS:

Zapata U and Wang Q. (2019). Cranial Differences between Freshwater Amazon River Dolphin (*Inia geoffrensis*) and Saltwater Bottlenose Dolphin (*Tursiops truncatus*). The FASEB Journal 33:1_supplement, 452.5-452.5.

Urrego C. and **Zapata U.** (2019). Verification and validation of finite element model of a human powered vehicle chassis. International congress - XIV Congreso Iberoamericano de Ingenieria Mecánica. Cartagena, Colombia

Zapata U, Wang Q. (2015). Biomechanical differences between inner and outer layers of the parietal cortical bone. The FASEB Journal 29 (1 Supplement), 697.10

Zapata U, Watanabe I, Opperman LA, Dechow PC, Mulone T, Elsalanty ME. (2014). *In vitro* mechanical evaluation of mandibular bone transport devices. Journal of Medical Devices. 8(2): 021004.

U. Zapata, E. Kontogiorgos, M.E. Elsalanty, P.C. Dechow, and L.A. Opperman. (2009). Biomechanical characteristics of cortical bone regenerate after mandibular distraction osteogenesis in dogs. FASEB J. 23:650.3

K.A. Metzger, P.C. Dechow, C.F. Ross, Q. Wang and **U. Zapata**. (2007). Mechanics of the Alligator Mandible: How Well Does *in vivo* Bone Strain Approximated Stress Pattern?. Journal of Morphology. 268(12):1107.

S. Roldán and **U. Zapata**. (2002). Stresses in the mandible and TMJ varying the force angle with a chin cup by means of finite element analysis. Journal of Dental Research. Esp issue, volume 81:33.

M.C. Castaño, A. Pedroza, S. Roldan, **U. Zapata**, and J.D. Jaramillo. (2002). Finite element analysis of mandibular stresses during three clenching tasks. Journal of Dental Research, Esp issue, volume 81:285.

PATENTS:

Occlusal RX standard device (2005).
Innovation privilege n.05131851 0000000

Gnatodynamometer. Bite force device. (2005).
Utility model n.06-048764-0000

PROFESSIONAL MEMBERSHIPS:

American Association of Anatomists (AAA).

International Association for Dental Research (IADR)

Review Editor: Frontiers in Biotechnology and Bioengineering – Biomechanics.

Review Editor: Frontiers in Dental Medicine – Dental Materials.

Editorial Board Member - Journal of Biomedical Engineering and Technology.

Associate Editor – Journal of Biomedical and Bioengineering.