

# CURRICULUM VITAE

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**Name** Jessica C. Cardenas, PhD

**Present Title** Assistant Professor, Department of Surgery

**Address** University of Texas Health Science Center at Houston  
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Houston, TX 77030  
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Jessica.C.Cardenas@uth.tmc.edu

**Education**

July 2012 Doctor of Philosophy  
University of North Carolina at Chapel Hill  
Molecular and Cellular Pathology  
Dissertation: "Role of p16<sup>INK4a</sup> Expression in the Age-Related Risk of Venous Thromboembolism"

May 2007 Master of Science  
The George Washington University School of Public Health  
Public Health Microbiology and Emerging Infectious Diseases  
Thesis: "A Human Stem Cell Mouse Model for HIV-1 Expression and Inhibition"

May 2005 Bachelor of Science  
Texas A&M University  
Microbiology

**Academic Appointments**

March 2017-Present Assistant Professor  
Department of Surgery  
University of Texas Health Science Center at Houston

**Other Professional Experience**

February 2016-March 2017 Senior Research Scientist  
Center for Advanced Heart Failure  
University of Texas Health Science Center at Houston

August 2012-February 2016 Postdoctoral Research Fellow  
Center for Translational Injury Research  
University of Texas Health Science Center at Houston

August 2007-June 2012 Graduate Research Assistant  
Department of Pathology and Laboratory Medicine  
University of North Carolina at Chapel Hill

June 2005-July 2007 Research Assistant  
Department of Biochemistry  
The George Washington University

September 2002-May 2005  
Research Assistant  
Departments of Microbiology  
Texas A&M University

### **Professional Organizations**

2011-Present American Heart Association  
2012-Present International Society on Thrombosis and Hemostasis  
2013-2016 Shock Society  
2013-2015 American Medical Writers Association  
2003-2005 American Society for Microbiology

### **Honors and Awards**

2013 Young Investigator Award, American Heart Association Resuscitation Science Symposium  
2013 Postdoctoral Travel Award, University of Texas Postdoctoral Association  
2011 Poster Presentation Award, UNC-Chapel Hill McAllister Heart Institute Research Symposium  
2010 Oral Research Presentation Award, UNC-Chapel Hill Dept. Pathology  
2009 Young Investigator Award, International Society on Thrombosis and Hemostasis  
2009 Top Third of Posters, International Society on Thrombosis and Hemostasis  
2009 Poster Presentation Award, UNC Chapel Hill McAllister Heart Institute Research Symposium  
2009 ASIP Minority Trainee Travel Award  
2008 UNC-Chapel Hill Integrative Vascular Biology Training Grant Trainee  
2008 Carl Storm Minority Fellowship

### **Mentorship of Students**

2016-2017 Jay Karri, MPH Candidate  
2015 Alexandra Grande, Summer Medical Student Research  
2014 Jay Karri, Summer Medical Student Research  
2014 Elizabeth Davis, Summer Medical Student Research

### **Research Support**

#### **Ongoing**

“Ex vivo evaluation of treatment of acquired Antithrombin III deficiency with Thrombate to improve VTE prophylaxis in trauma patients”

Funding Source: Grifols

Role: Co-Investigator

“Prospective Randomized Optimum Platelet and Plasma Ratios (PROPPR)”

Funding Source: NHLBI

Role: Investigator

#### **Completed**

NIH-Heart, Lung, and Blood, Postdoctoral Fellowship

Role: Principal Investigator

1F32HL120549-01A1

2014-2016

NIH-National Institute of General Medical Sciences, Trauma Research Fellowship Program

Role: Trainee

2T32GM008791-11A1

2013-2014

American Heart Association Mid-Atlantic Affiliate Pre-doctoral Fellowship

Role: Principal Investigator

2011-2012

NIH – Heart, Lung, and Blood, Pre-doctoral Training in Integrative Vascular Biology

Role: Trainee

T32 HL697668

2008-2011

## **Publications**

### **Abstracts**

The Shock Society, Denver, CO, June, 2015: Plasma Resuscitation Promotes Coagulation Homeostasis Following Shock-Induced Hypercoagulability, **Cardenas JC**, Cap AP, Huby MP, Baer LA, Matijevic N, Cotton BA, Holcomb JB, Wade CE (Poster Presentation)

The Gordon Research Conference on the Cell Biology of Megakaryocytes and Platelets, Lucca, Barga, Tuscany, April, 2015: Inhibition of TACE-mediated GPIIb/IIIa Receptor Shedding for Hemorrhage Control Following Trauma, **Cardenas JC**, Bergmeier W, Vijayan V, Matijevic N, Cotton BA, Holcomb JB, Wade CE (Oral Podium Presentation)

The 7<sup>th</sup> Symposium on Hemostasis, Chapel Hill, NC, May, 2014: Role of GPIIb/IIIa Receptor Shedding in Platelet Dysfunction Following Trauma, **Cardenas JC**, Wang YW, Baer LA, Matijevic N, Cotton BA, Holcomb JB, Wade CE (Oral Podium Presentation)

The Thrombosis and Hemostasis Summit of North America, Chicago, IL, April, 2014: Autologous Cleavage of the GPIIb/IIIa Receptor Promotes Platelet Dysfunction Following Trauma, **Cardenas JC**, Wang YW, Baer LA, Matijevic N, Cotton BA, Holcomb JB, Wade CE (Poster Presentation)

The Western Trauma Association, Steamboat Springs, CO, March, 2014: Measuring thrombin generation as a tool for predicting hemostatic potential and transfusion requirements following trauma, **Cardenas JC**, Baer LA, Matijevic N, Cotton BA, Holcomb JB, Wade CE (Oral Podium Presentation)

The American Heart Association Resuscitation Science Symposium, Dallas, TX, November, 2013: Autologous Cleavage of the GPIIb/IIIa Receptor Promotes Platelet Dysfunction Following Trauma, **Cardenas JC**, Wang YW, Baer LA, Matijevic N, Cotton BA, Holcomb JB, Wade, CE (Poster Presentation)

International Society on Thrombosis and Hemostasis, Amsterdam, Netherlands, July, 2013: Contribution of the plasminogen activation system during hyperfibrinolysis in trauma-induced coagulopathy, **Cardenas JC**, Matijevic N, Cotton BA, Holcomb JB, Wade CE (Poster Presentation)

Gordon Conference on Plasminogen Activation and Extracellular Proteolysis, Ventura, CA, February, 2012: Role of p16<sup>INK4a</sup> in Age-Related Venous Thrombosis, **Cardenas JC**, Rein-Smith CM, Whinna HC, Church FC (Poster Presentation)

Arteriosclerosis, Thrombosis, and Vascular Biology Scientific Sessions, Chicago, IL, April 2011: Vascular Endothelial Cell Senescence is Associated with a Prothrombotic Phenotype, **Cardenas JC**, Rein CM, Church FC (Poster Presentation)

UNC – Chapel Hill Department of Pathology and Laboratory Medicine Grand Rounds Speaker, April 14, 2011: The Role of p16<sup>INK4a</sup>-Mediated Cellular Senescence in Venous Thromboembolism (Oral Podium Presentation)

UNC – Chapel Hill Integrative Vascular Biology/McAllister Heart Institute Research Symposium, March 2011: Inducing senescence in vascular endothelial cells promotes a prothrombotic phenotype, **Cardenas JC**, Machlus KR, Wolberg AS, Church FC (Oral Podium Presentation)

UNC – Chapel Hill Department of Pathology and Lab Medicine Research Symposium, September 2010: Inducing senescence in vascular endothelial cells promotes a prothrombotic phenotype (Oral Podium Presentation)

Gordon Conference on Hemostasis, Waterville Valley, NH, July 2010: Inducing senescence in vascular endothelial cells promotes a prothrombotic phenotype, **Cardenas JC**, Machlus KR, Wolberg AS, Church FC (Poster Presentation)

International Society on Thrombosis and Hemostasis Congress, Boston, MA, July 2009: Role of p16<sup>ink4a</sup>-mediated cellular senescence in idiopathic, age-related venous thrombosis, **Cardenas JC**, Sharpless NE, Whinna HC, and Church FC (Poster Presentation)

Experimental Biology ASIP, New Orleans, LA, April 2009: Role of p16<sup>ink4a</sup>-mediated cellular senescence in idiopathic, age-related venous thrombosis, **Cardenas JC**, Sharpless NE, Whinna HC, and Church FC (Poster Presentation)

Gordon Conference on Hemostasis, Waterville Valley, NH, July 2008: Role of p16<sup>ink4a</sup> and Cellular Senescence in the Age-Associated Risk of Venous Thrombosis, **Cardenas JC**, Krishnamurthy J, Sharpless NE, Whinna HC, and Church FC (Poster Presentation)

### Peer-Reviewed Articles

1. Karri J, **Cardenas JC**, Matijevic N, Wang Y, Choi S, Zhu L, Cotton BA, Kitagawa R, Holcomb JB, Wade CE. Early fibrinolysis associated with hemorrhagic progression following traumatic brain injury (2017). *Shock: Injury, Inflammation, and Sepsis*, In Press.
2. **Cardenas JC**, Holcomb JB. Time to plasma transfusion: a patient-centered approach and modifiable risk factor (2017). *Transfusion*, 57(4): 869-873, PMID: 28394421.
3. Antoniak S, **Cardenas JC**, Buczek LJ, Church FC, Mackman N, Pawlinski R. Protease-Activated Receptor 1 contributes to Angiotensin II-induced cardiovascular remodeling and inflammation (2017). *Cardiology*, 136(4): 258-268, PMID: 27880950.
4. Ostrowski SR, Henriksen HH, Stensballe J, Gybel-Brask M, **Cardenas JC**, Baer LA, Cotton BA, Holcomb JB, Wade CE, Johnsson PI (2017). Sympathoadrenal activation and endotheliopathy are drivers of hypocoagulability and hyperfibrinolysis in trauma: A prospective observational study of 404 severely injured patients. *J Trauma Acute Care Surg*, 82(2): 293-301, PMID: 27779595.
5. Wade CE, **Cardenas JC**, Cap AP. Reply to: Is “thrombin burst” now the worst option in trauma? (2016), In Press, PMID: 27918370.
6. Wade CE, Baer LA, **Cardenas JC**, Folkerson LE, Nutall-Aurora K, Cotton BA, Matijevic N, Holcomb JB, Cross JM, Huzar T (2016). Upon admission coagulation and platelet function in patients with thermal and electrical injuries. *Burns*, 42(8): 1704-1711, PMID: 27692780.

7. Johansson PI, Henriksen HH, Stensballe J, Gybel-Brask, **Cardenas JC**, Baer LA, Cotton BA, Holcomb JB, Wade CE, Ostrowski SR (2016). Traumatic endotheliopathy: A prospective observational study of 424 severely injured patients. *Annals of Surgery*, 265(3): 597-603, PMID: 27144442.
8. Chang R, **Cardenas JC**, Wade CE, Holcomb JB (2016). Advances in our understanding of trauma-induced coagulopathy. *Blood*, 128 (8): 1043-9, PMID: 27381903.
9. White NJ, Wang Y, Fu X, **Cardenas JC**, Martin EJ, Brophy DF, Wade CE, Wang X, St John AE, Lim EB, Stern SA, Ward KR, Lopez JA, Chung D (2016). Post-translational oxidative modification of fibrinogen is associated with coagulopathy after traumatic injury. *Free Radic Biol Med*, 96: 181-9, PMID: 27105953.
10. **Cardenas JC**, Cap AP, Huby MP, Baer LA, Matijevic N, Cotton BA, Holcomb JB, and Wade CE (2016). Plasma resuscitation promotes coagulation homeostasis following shock-induced hypercoagulability. *Shock: Injury, Inflammation, and Sepsis*, 45(2): 166-173, PMID: 26529664.
11. Matijevic N, Wang YW, Holcomb JB, Kozar R, **Cardenas JC**, and Wade CE (2015). Microvesicle phenotypes are associated with transfusion requirements and mortality in subjects with severe injuries. *Journal of Extracellular Vesicles*, 4: 29338, PMID: 26689982.
12. Rahbar E, **Cardenas JC**, Matijevic N, del Junco D, Podbielski J, Cohen MJ, Cotton BA, Holcomb JB, and Wade CE (2015). Trauma, time, and transfusions: A longitudinal analysis of coagulation markers in severely injured trauma patients receiving modified whole blood or component blood products. *Shock: Injury, Inflammation, and Sepsis*, 44 (5): 417-425, PMID: 26263433.
13. Pommerening MJ, **Cardenas JC**, Radwan ZA, Wade CE, Holcomb JB, and Cotton BA (2015). Hypercoagulability after energy drink consumption. *Journal of Surgical Research*, 199 (2): 635-640, PMID: 26188956.
14. Liras IN, Cotton BA, **Cardenas JC**, and Harting MT (2015). Prevalence and impact of admission hyperfibrinolysis in severely injured pediatric trauma patients. *Surgery*, 158 (3): 812-818, PMID: 26070849.
15. Rahbar E, **Cardenas JC**, Baimukanova G, Usadi B, Bruhn R, Pati S, Ostrowski SR, Johansson PI, Holcomb JB, and Wade CE (2015). Endothelial glycocalyx shedding and vascular permeability in severely injured trauma patients. *Journal of Translational Medicine*, 13 (117): 1-7, PMID: 25889764.
16. Wade CE and **Cardenas JC** (2015). Obesity and the balancing act of endothelial damage and repair. *The Journal of Bone and Joint Surgery*, 97 (5): e28(1-2); PMID: 25740037.
17. Pommerening MJ, Goodman MD, Farley DL, **Cardenas JC**, Podbielski J, Matijevic N, Wade CE, Holcomb JB, and Cotton BA (2014). Early diagnosis of clinically significant hyperfibrinolysis using thrombelastography velocity curves. *Journal of the American College of Surgeons*, 219 (6): 1157-66, PMID: 25458237.
18. **Cardenas JC**, Wade CE, and Holcomb JB (2014). Mechanisms of trauma-induced coagulopathy. *Current Opinion in Hematology*, 21 (5): 404-409, PMID: 25010798.
19. **Cardenas JC**, Rahbar E, Pommerening MJ, Baer LA, Matijevic N, Cotton BA, Holcomb JB, Wade, CE (2014). Measuring thrombin generation as a tool for predicting hemostatic potential and transfusion requirements following trauma. *Journal of Trauma Acute Care Surgery*, 77 (6): 839-845; PMID: 25099452.

20. Matijevic N, Wang YW, Wade CE, Holcomb JB, Cotton BA, Schreiber MA, Muskat P, Fox EE, Del Junco DJ, **Cardenas JC**, Rahbar MH, Cohen MJ; on behalf of the PROMMTT Study Group (2014). Cellular microparticle and thrombogram phenotypes in the Prospective Observational Multicenter Major Trauma Transfusion (PROMMTT) Study: Correlation with coagulopathy. *Thrombosis Research*, 134 (3): 652-658, PMID: 25086657.
21. **Cardenas JC**, Matijevic N, Baer LA, Holcomb JB, Cotton BA, Wade CE (2014). Elevated tissue plasminogen activator and reduced plasminogen activator inhibitor promote hyperfibrinolysis in trauma patients. *Shock: Injury, Inflammation, and Sepsis*, 41 (6): 514-521, PMID: 24667610.
22. Huby M, **Cardenas JC**, Baer LA, Pawelczyk NS, Salsbury JR, Wang YW, Matijevic N, Holcomb JB, Wade CE (2014). Establishment of methods for performing thrombelastography and calibrated automated thrombography in rats. *Shock: Injury, Inflammation, and Sepsis*, 42 (1): 27-30, PMID: 24667614.
23. Karri JV, **Cardenas JC**, Johansson PI, Matijevic N, Cotton BA, Wade CE, Holcomb JB (2014). In vitro efficacy of RiaSTAP after rapid reconstitution. *Journal of Surgical Research*, 190 (2): 655-661. PMID: 24602482
24. **Cardenas JC**, Aleman MM, Wang, JG, Whinna HC, Wolberg AS, Church FC (2013). Murine models do not recapitulate the pathophysiology of age-related venous thrombosis in humans. *Journal of Thrombosis and Haemostasis*, 11(5): 990-2, PMID: 23480546.
25. Wang JG, Geddings JE, Aleman MM, **Cardenas JC**, Chantrathammachart P, Williams JC, Kirchhofer D, Bogdanov VY, Bach RR, Rak J, Church FC, Wolberg AS, Pawlinski R, Key NS, Yeh JJ, Mackman N (2012). Tumor-derived tissue factor activates coagulation and enhances thrombosis in a mouse xenograft model of human pancreatic cancer. *Blood*, 119(23): 5543-52, PMID: 22547577.
26. Rein CM, **Cardenas JC**, Church FC (2011). The controversial role of the urokinase system in abdominal aortic aneurysm formation and rupture. *Arteriosclerosis, Thrombosis and Vascular Biology*, 31(12): 2769-71, PMID: 22096092.
27. **Cardenas JC**, Owens AP III, Krishnamurthy J, Sharpless NE, Whinna HC, Church FC (2011). Overexpression of the cell cycle inhibitor p16<sup>INK4a</sup> promotes a prothrombotic phenotype following vascular injury in mice. *Arteriosclerosis, Thrombosis and Vascular Biology*, 31(4): 827-833, PMID: 21233453.
28. Machlus KR, **Cardenas JC**, Church FC and Wolberg AS (2011). Causal relationship between hyperfibrinogenemia, thrombosis, and resistance to thrombolysis. *Blood*, In Press, PMID: 21355090.
29. Van Duyne R, **Cardenas J**, Easley R, Wu W, Kehn-Hall K, Klase Z, Mendez S, Zeng C, Chen H, Saifuddin M, Kashanchi F (2008). Effect of transcription peptide inhibitors on HIV-1 replication. *Virology*, 376(2): 308-322, PMID: 19626680.
30. Charles S, Ammosova T, **Cardenas J**, Foster A, Rotimi J, Jerebtsova M, Ayodeji AA, Niu X, Ray PE, Gordeuk VR, Kashanchi F, Nekhai S (2009). Regulation of HIV-1 transcription at 3% versus 21% oxygen concentration. *J Cell Physiol*, 221(2): 469-479, PMID: 18455747.

## Book Chapters

**Cardenas JC**, Rein-Smith CM, and Church FC (2016). Overview of blood coagulation and the pathophysiology of blood coagulation disorders. In: Ralph A. Bradshaw and Philip D. Stahl, Editors. *Encyclopedia of Cell Biology*. San Diego: Elsevier; p. 714-722.