

**University of Texas Health Sciences Center  
Curriculum Vitae**

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**Citizenship and/or Visa Information:** United States Citizen

**Education**

<b>Institution</b>	<b>Years</b>	<b>Degree/Date</b>	<b>Field of Study</b>
Dartmouth College	1995-99	A.B., June 1999	Mathematics, Biology
Columbia University	2000-02	M.S., June 2002	Biostatistics
Harvard University	2002-07	Ph.D., June 2007	Biostatistics

**Faculty Appointments**

<b>Years</b>	<b>Rank</b>	<b>Institution</b>	<b>Department</b>
2007-2011	Assistant Professor	MUSC	Biostatistics and Epidemiology
2012	Associate Professor	MUSC	Biostatistics and Epidemiology
2012-Present	Associate Professor (with Tenure)	University of Texas	Biostatistics and Data Science

**Other Experience**

<b>Years</b>	<b>Position</b>	<b>Institution</b>	<b>Department</b>
1999-2000	Research Fellow	Centers for Disease Control	Immunology & Infectious Diseases
2000-2002	Research Assistant	Columbia University	Pathology, Epidemiology
2002-2006	Teaching Assistant	Harvard University	Biostatistics
2005-2006	Consultant	Brigham and Women's Hospital	Anesthesiology, Perioperative, & Pain Med
Aug 2008, 2011	Visiting Biostatistician	Karolinska Institute	Epidemiology
2011-2012	Visiting Biostatistician	Cambridge University	MRC Biostatistics Unit

**Membership in Professional/Scientific Societies**

American Statistical Association  
International Biometrics Society (ENAR)  
American Statistical Association (Texas Chapter)  
American Heart Association  
College of Problems on Drug Dependence

**Journal Editorial Service**

Statistical Editor, Circulation (September 2018 - present)  
Associate Editor, Statistics in Medicine (January 2018 - present)

**Journal Referee** Statistics in Medicine, Biometrics, Biostatistics, Journal of the Royal Statistical Society Series A, Journal of the Royal Statistical Society Series C, Statistics and Computing, Statistical Methods in Medical Research, Journal of Applied Statistics, Statistica Neerlandica, Biometrical Journal, Journal of Agricultural, Biological, and Environmental Statistics, Health Services and Outcomes Research, Medical Decision Making, American Journal of Epidemiology, Journal of Clinical Epidemiology, British Medical Journal, British Medical Journal Open, Circulation, American Journal on Addictions, Drug and Alcohol Dependence, American Journal of Drug and Alcohol Abuse

**Professional Service Activities**

NIH/NIMH Confirmatory Efficacy and Interventions Special Emphasis Panel, 3 services (October 2016-Present)

NIH/NIMH Faculty Member, Research Career Institute in Mental Health of Aging (CIMA) (July 2017)

NIH/NHBLI Clinical and Integrative Cardiovascular Sciences Study Section, Statistical Reviewer (February 2017)

President, Houston Chapter of the American Statistical Association (2015-2016)

NIH Biomedical Research Design (BMRD) Study Section, Statistical Reviewer (June 2016)

NIH/NHBLI Clinical and Integrative Cardiovascular Sciences Study Section, Statistical Reviewer (January 2016)

NIH/NIMH Study Section member, Interventions Committee for Adult Disorders, 9 services (2012-2015).

NIH/NIAAA Clinical, Treatment, and Health Services Review Meeting, Statistical Reviewer (February 2014).

NIH/NIMH Faculty member, Summer Research Institute in Geriatric Mental Health, Cornell University (July 2011-2015).

NIH/ORP Healthcare Delivery and Methodologies Integrated Review Group, Statistical Reviewer (September 2011).

**Data Safety and Monitoring Boards/Committees**

Statistician, Data Safety and Monitoring Committee, “Cognitive Remediation Delivered Via Mobile Technology Randomized Controlled Trial”, PI: Faith Gunning (2016-2018), NIH/NIMH.

Statistician, Data Safety and Monitoring Board, “A Randomized, Double Blind, Placebo Controlled Study of Omega Fatty Acid Supplementation in Autism”, PI: Laura Carpenter (2009-2010), NIH.

Statistical Reviewer, Hollings Cancer Center Internal Awards, Medical University of South Carolina, Charleston, SC (2008).

Session Chair, Southern Regional Council on Statistics, “Semiparametric Inferences in Penalized Splines and Missing Data,” June, 2008, Charleston, SC.

**Current Research Grants:**

R21MH110110 with competitive suppl. (PI: DeSantis, <b>40%</b> ) NIH/NIMH Aiding Clinical Decision-Making Using Multivariate Network Meta-Analysis <i>(Competitive Supplement awarded, \$46,200, extension granted to 11/30/2019, 40% effort)</i>	12/6/2016-11/30/2019 \$432,000
W81XWH14-1-0112 Department of Defense (Subcontract PI: DeSantis <b>10%</b> ) USAMRAA Hemorrhage Control for Major Traumatic Vascular Injuries <i>(Subcontract renewed yearly, typically 10%)</i>	9/15/2014-8/13/2019 \$1,991,317
T32 GM074902 Predoctoral Training Grant (PI: DeSantis, <b>0%</b> ) NIH/NIGMS Predoctoral Training Grant in Biostatistics <i>(One of two Training Grants at UTSPH, 0% funded effort)</i>	7/01/2016-06/30/2019 \$139,691
Prytime Medical Devices, Inc (subcontract PI: DeSantis, <b>40%</b> ) Emergent Truncal Hemorrhage Control Study	6/01/2017-1/31/2018 \$226,928
American Statistical Association (PI: DeSantis) Biometrics Division Developing the Next Generation of Biostatisticians <i>(Grant awarded to facilitate recruitment of Texas minorities into Biostatistics)</i>	1/01/2017-12/31/2018 \$5,000

**Pending Research Grants:**

*SCORE: 30%, Resubmission Oct 2018*

R01 (PI: Wang, Role: Co-I **15%**)

1/01/2019-12/31/2024

NIH/NHLBI

\$3,695,991

Stored Blood Action in Trauma Trial Phase I (STRATUM I)

This multicenter observational study will determine the associations between 1.) older RBC transfusion and markers of hemolysis and 2.) hemolytic markers and adverse events and clinical outcomes.

**New applications currently in Review:**

R01 (PI: DeSantis, **40%**)

1/01/2019-12/31/2024

NIH/NIDA

\$1,900,000

Multiple treatments propensity scoring approaches to facilitate unbiased inference on substance abuse outcomes from big data sets

R01 (PI: Prossin, Role: Co-I **10%**)

4/01/2019-3/31/2024

NIH/NIDA

\$3,611,152.00

Innovative applications of neuro-immune bio-signatures to predict persistence of pain states and opioid analgesic efficacy in PLWH with pain and depressive symptoms.

R01 (PI: Prossin, Role: Co-I **10%**)

7/01/2019-6/31/2024

NIH/NIDA

\$3,611,152.00

Imaging neuroimmune interactions to predict persistence of pain and depression during buprenorphine maintenance.

R01 (PI:Sheng, Role: Co-I **10%**)

7/01/2019-2/28/2024

NIH/NCI

\$2,495,000

Proteomics and microRNA signatures for improved detection of pancreatic cyst lesions with malignancy.

Cancer Prevention Research Institute of Texas

3/01/2019-2/28/2022

CPRIT RFA-19 Cancer Prevention & Research (PI:Sheng, Role: Co-I, **10%**)

\$900,000 direct

Deciphering protein variants and post-translational modifications towards early detection of pancreatic cancer in diabetics.

**Completed Research Grants as Principal Investigator:**

R03 AA020648

8/01/2011-7/30/2013

NIH/NIAAA (PI: DeSantis, **30%**)

\$147,000

Robust Transition Models for the Analysis of Longitudinal Drinking Outcomes  
(*No cost extension*)

L30 DA027346

8/01/2009-7/31/2011

NIH/NIDA

\$35,000

Biostatistical Applications in Substance Use Research (Loan Repayment Award)

American Statistical Association

12/01/2008-11/01/2009

Biometrics Division

\$3,000

Developing the Next Generation of Biostatisticians

**Completed Research Grants as Co-Investigator:**

U01HL77863 (Holcomb, *Role: Co-I 40%*)

1/16/2015-12/31/2018

NIH/NHLBI

Prehospital Resuscitation on Helicopter Study

The objective of this study is to compare the effectiveness of two different existing prehospital resuscitation approaches in severely injured trauma patients transported by air ambulance in a pragmatic, multicenter, prospective observational study.

U24MD006941 (Tilley, *Role: Co-I 15-20%*)

9/20/2011-12/30/2017

NIH/NIMHD

#### A Randomized Recruitment Intervention

This is a randomized trial of an intervention to increase racial and ethnic diversity in clinical trials of low prevalence conditions.

CIPRIT Cancer Prevention Research of Texas (Xu, **Role: Co-I 5%**) 11/1/2013-10/31/2015  
Repurposing Existing Drugs for Cancer Treatment using Electronic Health Records.

NASA/National Space Biomedical Research Institute (Bershad, **Role: Co-I 12%**) 4/1/2013-3/31/2015  
The Suitability of the Vitted Two-Depth Transcranial Doppler for the Non-Invasive Assessment of Intracranial Pressure in Astronauts Before and After Spaceflight

U01HL77863 10/1/2010 – 9/30/2015  
NIH/NHLBI (Tilley, **Role: Co-I 20%**)  
Prospective, Randomized Optimal Platelets & Plasma Ratios  
The Center oversees the design, data management, analysis, and reporting including reporting to the Data and Safety monitoring committee and publications for a multi-site randomized trial of blood products for patients presenting to emergency departments in need of massive transfusions.

#### Completed Research Grants as Co-Investigator (more than 5 years ago):

1 R01 HL095608 (Spinale) 1/15/2010 – 12/31/2013  
NIH/NHLBI \$262,881  
Myocardial Protection and Matrix Proteases  
This study is focused upon the use of a large animal model of post-myocardial infarction (MI) in order to examine the potential role of targeted MMPs and TIMPs in the process of post-MI remodeling.

5U01NS059041 (Palesch) 8/01/2010-7/31/2012  
NIH/NINDS  
Neurological Emergencies Treatment Trials Network and Statistical Data Management

P50 DA016511 (PI: Brady) 9/30/2007-6/30/2012  
NIH/NIAMS \$596,417  
Specialized Center of Research (SCOR) on Sex and Gender Factors Affecting Women's Health  
This center grant is funded through a partnership between ORWH and NIH to develop and conduct innovative, interdisciplinary and collaborative research investigating substance use disorders among women.

1 K12 HD055885-02 (PI: Brady) 9/28/2007-7/31/2012  
NIH/NICHD \$459,990  
Building Interdisciplinary Research Careers in Women's Health (BIRCWH)  
The overall objective of the program is to promote the performance of research in women's health by bridging advanced training with research independence. A major aim is to attract clinical, basic, behavioral and biostatistical scientists to broaden interdisciplinary research related to women's health in South Carolina and throughout the U.S.

1 R01 DA023188-02 (PI: Brady) 6/01/2008-5/31/2012  
NIH/NIDA \$250,000  
D-Cycloserine Facilitation of Cocaine-Cue Extinction  
The purpose of this proof of concept study is to explore the application to addictions of an innovative treatment approach which has shown promise in the treatment of anxiety disorders.

1 R25 DA020537-04 (PI: Brady) 5/26/2006-4/30/2011  
NIH/NIDA \$256,346  
Drug Abuse Research Training (DART) Program  
The DART program is designed to attract, train, and advance physicians' careers as independent investigators in patient-oriented drug abuse research.

1 R01 DA026777-01 (PI: Gray) 8/01/2009-7/31/2011  
NIH/NIDA \$250,000  
A Controlled Trial of N-Acetylcysteine (NAC) in Cannabis Dependent Adolescents

The purpose of this project is to examine the efficacy of NAC, in combination with contingency management, for treatment of cannabis dependence in adolescents.

RC1 AA019019 (PI: Saladin)

9/30/2009 – 8/31/2011

NIH/NIAAA

\$282,687

Treatment Implications of Trauma Memory Modulation for PTSD & Alcohol Dependence

The goal is to employ an established cue reactivity/exposure methodology to assess the therapeutic potential of an untested and potentially promising adjunctive pharmacotherapy for one of the most prevalent and intractable mental health comorbidities, PTSD and alcohol dependence.

1 R01DA026782-01 (PI: McRae)

8/15/2009-1/31/2011

NIH/NIDA

\$234,220

Buspirone treatment for Marijuana Dependence

Results from this study could lead to the development of a new pharmacotherapy for marijuana dependence. Increase our knowledge of a potential genetic biomarker for prediction of outcomes, and improve clinical trial methodology in the investigation of marijuana dependence.

R21 & R33 DA026085-03 (PI: Brady)

9/15/2008-8/31/2009

NIH/NIDA

\$357,208

The Impact of Real-time fMRI Feedback on Response to Nicotine Cues

The goal is to evaluate whether or not nicotine dependent smokers can learn to modulate activity in critical brain regions that control urges and craving to smoke.

## Publications

# Denotes graduate student paper

^ Denotes contact author

## 2018

1. #Yang M, **DeSantis SM**, Luo S. (2018). Bayesian quantile regression joint models: inference and dynamic predictions. *Statistical Methods in Medical Research*, Epub.
2. Jones AR, Patel RP, Marques MB, Donnelly JP, Pittet JF, Kerby JD, Stephens SW, **DeSantis SM**, Hess JR, Wang HE. And the PROPPR study group. Older blood is associated with increased mortality and adverse events in massively transfused trauma patients: secondary analysis of the PROPPR trial. Accepted to *Annals of Emergency Medicine*.
3. #Yucel E, **DeSantis SM**, Smith MA, Lopez DS. (2018). Association between low-testosterone and kidney stones in US men: The national health and nutrition examination survey (NHANES) 2011-2012. *Preventative Medicine Reports*, Epub.
4. Prisciandaro JJ, **DeSantis SM**, Tolliver B. Identification and initial validation of empirically-derived bipolar symptom states from a large longitudinal dataset: an application of hidden Markov modeling to the Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD) study. *Psychological Medicine*, Epub.
5. #Hwang H, **DeSantis SM**. (2018). Multivariate network meta-analysis to mitigate the effects of outcome reporting bias. *Statistics in Medicine*, 37(22):3254-3266.
6. #Liu, Y, ^**DeSantis SM**, Chen Y. (2018). Bayesian network meta-analysis with correlated outcomes subject to reporting bias, *Journal of The Royal Statistical Society Series C*, 67(1):127-144.
7. #Zhu H, **DeSantis SM**, Luo S. (2018). Joint modeling of a longitudinal zero-inflated count and survival data: A Bayesian perspective. *Statistical Methods in Medical Research*, 27(4):1258-1270.

8. #Advani S, Advani P, **DeSantis SM**, Brown D, VonVille H, Loree J, Lam M, Sarkshekeh AM, Bressler J, Lopez DS, Daniel-MacDougall C, Swartz M, Kopetz S. Clinical, Pathological and Molecular Characteristics of CpG Island Methylator Phenotype in Colorectal Cancer: A Systematic Review and Meta-analysis. *Translational Oncology*, 11(5):1188-1201.
9. #Greene JT, **DeSantis SM**, Fox EE, Wade CE, Holcomb JB, Swartz MD. (2018). Utilizing propensity score analyses in prehospital blood product transfusion studies: Lessons learned and moving towards best practice. *Military Medicine*, 183(Suppl\_1):124-133.
10. Chang R, Fox EE, #Greene TJ, Swartz MD, **DeSantis SM**, et al, PROHS Study Group. (2018). Abnormalities of laboratory coagulation tests versus clinically evident coagulopathic bleeding: results from the prehospital resuscitation on helicopters study (PROHS). *Surgery*, 163(4):819-826.

## 2017

11. Tilley, BC, Mainus AG, Smith DW, McKee MD, Amorrortu RP, Alvidrez J, Diaz V, Ford ME, Fernandez ME, Hauser RA, Singer C, Landa V, Trevino A, **DeSantis SM**, Zhang Y, Daniels E, Tabor D, Vernon SW. (2017). Design of a cluster-randomized minority recruitment trial: RECRUIT. *Clinical Trials*, 14(3):286-298.
12. Lewis BR, Bandyopadhyay D, **DeSantis SM**, John MT. (2017). Augmenting beta regression for periodontal proportion data via the SAS NLMIXED procedure. *Journal of Applied Probability and Statistics*, 12(1):49-66.
13. #Zhu H, Luo S, **DeSantis SM**. (2017). Zero-inflated count models for longitudinal measurements with heterogeneous random effects. *Statistical Methods in Medical Research*, 26(4):1774-1786.
14. Holcomb JB, Swartz M, **DeSantis SM**, et al. (2017). Multicenter observational prehospital resuscitation on helicopter study (PROHS). *Journal of Trauma and Acute Care*, 83(1 Suppl 1):S83-S91.
15. Chang R, Fox EE, #Greene TJ, Eastridge BJ, Chung KK, **DeSantis SM**, DuBose JJ, Tomasek JS, Fortuna JR, Sams VG, Todd SR, Podbielski JM, Wade CE, Holcomb JB, NCTH Study Group, (2017). Multicenter retrospective study of noncompressible torso hemorrhage: Anatomic locations of bleeding and comparison of endovascular versus open approach. *Journal of Trauma and Acute Care Surgery*, 83(1):11-18.

## 2016

16. #Weng Y, Palesch Y, **DeSantis SM**, Zhao W. (2016). Assessing the impact of safety monitoring on the efficacy analysis in large phase III group sequential trials with non-trivial safety event rate. *Journal of Biopharmaceutical Statistics*, 26(4):672-685.
17. #Wu Y, Cohen T, **DeSantis S**, Iyengar MS, Hoot N, Soysal E, Tao C, Jiang M, Xu H. (2016) Mining Patient Claim Data to Detect Drug Signals That Can Reduce The Risk Of Barrett's Esophagus Patient Developing Esophageal Adenocarcinoma. *Value in Health*. 2016 May 1;19(3):A141-142.
18. Back SE, McCauley JL, Korte KJ, Gros DF, Leavitt V, Gray KM, Hamner MB, **DeSantis SM**, Malcolm R, Brady KT, Kalivas PW. (2016). A double-blind randomized controlled pilot trial of N-Acetylcysteine in veterans with PTSD and substance use disorders. *Journal of Clinical Psychiatry*, 77(11):e1439-31446.
19. Wheaton MH, **DeSantis SM**, Simpson HB. (2016). Network meta-analyses and treatment recommendations for obsessive-compulsive disorder. *Lancet Psychiatry*, 3(10):920.
20. Bershady EM, Anand A, **DeSantis SM**, et al. (2016). Clinical validation of a transcranial Doppler based non-invasive ICP meter: A prospective cross-sectional study. *World Neurosurgery*, 89:647-653.

## 2015

21. Lazaridis C, Yang M, **DeSantis SM**, Luo S, Robertson CS. (2015). Predictors of intensive care unit length of stay and intracranial pressure in severe traumatic brain injury. *Journal of Critical Care*. 30(6):1258-1262.

22. Holcomb JB, et al, with the **PROPPR Study Group including DeSantis SM**. (2015). Transfusion of plasma, platelets, and red blood cells in a 1:1:1 vs 1:1:2 ratio and mortality in patients with severe trauma: the PROPPR randomized clinical trial. *JAMA*, 313(5):471-482.
23. #Chua, A, **DeSantis, SM**, Teo I, Fingeret MC. (2015). Body image investment in breast cancer patients undergoing reconstruction: Taking a closer look at the Appearance Schemas Inventory-Revised. *Body Image*, 13:33-37.
24. Lazaridis C, Maas A, Souter MJ, Martin RH, Chesnut RM, **DeSantis SM**, et al, Second Neurocritical Care Research Conference Investigators. (2015). Alternative clinical trial design in neurocritical care. *Neurocritical Care*, 22(3):378-384.
25. Joseph J, Thomas K, Zhu X, **DeSantis SM**, Lee DC, Jiang Y, Lynam D. (2015). Influence of neurobehavioral incentive valence and magnitude on alcohol drinking behavior. *NeuroImage*, 104:373-385.

## 2014

26. **DeSantis, SM**, #Zhu, H. (2014). Bayesian mixed treatment comparisons meta-analysis of treatments for alcohol dependence and implications for planning future trials, *Medical Decision Making*, 34(7):899-910.
27. Luo S, Xiao S, **DeSantis SM**, Huang X, Yi M, Hunt K. (2014). Joint model for a misclassified outcome in the presence of a dependent terminal event. *Statistics in Medicine*, 33(15):2554-2566.
28. **DeSantis, SM**, Lazaridis, C, Ji, S, Spinale, FG. (2014). Modeling propensity matched zero-inflated count outcomes in observational studies. *Journal of Applied Statistics*, 41(1):127-141.
29. Lazaridis C, **DeSantis SM**, Smielewski P, Menon DK, Hutchinson P, Pickard JD, Czosnyka M. (2014). Patient-specific thresholds of intracranial pressure in patients with severe traumatic brain injury, *Journal of Neurosurgery*, 120(4):893-900.
30. **DeSantis SM**, Lazaridis C. (2014). Aprotinin revisited. *Intensive Care Medicine*, 40:122.
31. **DeSantis SM**, Lazaridis C, Palesch Y, Ramakrishnan V. (2014). Regression analysis of ordinal stroke clinical trial outcomes: An application to the NINDS t-PA trial. *International Journal of Stroke*, 9(2):226-231.

## 2013

32. **DeSantis, SM**, Bandyopadhyay, D, Baker, NL, Randall, P, Anton, RA, Prisciandaro, JJ. (2013). Modeling longitudinal drinking data in clinical trials: An application to the COMBINE study. *Drug and Alcohol Dependence*, 132(1-2):244-250.
33. Mukherjee R, Akar JG, Wharton JM, Adams, DK, McClure CD, Stroud RE, Rice AD, **DeSantis SM**, Spinale FG, Gold MR. (2013). Plasma Profiles of Matrix Metalloproteinases and Tissue Inhibitors of the Metalloproteinases Predict Recurrence of Atrial Fibrillation Following Cardioversion. *Journal of Cardiovascular Translational Research*, 6(4):528-535.
34. Lazaridis, C, **DeSantis, SM**, Jauch, E, Adams RJ. (2013). Telestroke in South Carolina. *Journal of Stroke and Cerebrovascular Diseases*, 22(7):946-950.
35. Lazaridis C, Bodle, J, Neyens, R, **DeSantis SM**. (2013). High-Osmolarity Saline in Neurocritical Care: A Systematic Review and Meta-Analysis. *Critical Care Medicine*, 41(5):1353-1360.
36. #Sequeira, KM, Tabesh A, Sainju RK, **DeSantis SM**, Joseph JE, Ahlman MA, Spicer KM, Glazier SS, Edwards JC, Bonilha L. (2013). Functional limbic reorganization during seizures in medial temporal lobe epilepsy. *PLOS ONE*, 8(1).

37. Hartwell KJ, Moran-Santa Maria MM, Twal W, McRae-Clark A, **DeSantis, SM**, Shaftman SR, Brady KT. (2013). Association of elevated cytokines with childhood adversity in a sample of healthy adults. *Journal of Psychiatric Research*, 47(5):604-610.
38. Price KL, Baker NL, McRae-Clark AL, Saladin ME, **DeSantis SM**, Santa Ana EJ, Brady, KT. (2013). A randomized placebo-controlled laboratory study of the effects of D-cycloserine on craving in cocaine-dependent individuals. *Psychopharmacology*, 226(4):739-746.

## 2012

39. **DeSantis, SM**, Houseman, EA, Coull, BA, Nutt, CL, Betensky, RA. (2012). Supervised Bayesian latent class models for high dimensional data. *Statistics in Medicine*, 31(13):1342-1360.
40. Graham EM, Atz AM, Gillis J, **DeSantis SM**, Haney AL, Deardorff RL, Uber WE, Reeves ST, McGowan FX Jr, Bradley SM, Spinale FG. (2012). Differential effects of aprotinin and tranexamic acid on outcomes and cytokine profiles in neonates undergoing cardiac surgery. *Journal of Thoracic and Cardiovascular Surgery*, 143(5):1069-1076.
41. Lazaridis, C, **DeSantis, SM**, McLawhorn, MC, Krishna, V. (2012). Liberation of Neurosurgical Patients from Mechanical Ventilation and Tracheostomy in Neurocritical Care. *Journal of Critical Care* 27(4):417. e1-8.
42. Prisciandaro, JJ, **DeSantis, SM**, Bandyopadhyay, D. (2012). Simultaneous modeling of the impact of treatments on alcohol consumption and quality of life in the COMBINE study: a coupled hidden Markov analysis. *Alcoholism and Experimental Research*, 36(12):2141-2149.
43. Gray, KM, Carpenter, MJ, Baker, NL, **DeSantis, SM**, Kryway, E, Hartwell KJ, McRae-Clark AL, Brady KT. (2012). A double-blind randomized controlled trial of N-acetylcysteine in cannabis-dependent adolescents. *American Journal of Psychiatry*, 169(8):805-812.
44. Lazaridis, C, **DeSantis, SM**. (2012). Cerebral blood flow velocity changes and the value of the pulsatility index post decompressive craniectomy: Report of 2 Cases and Literature Review. *Journal of Clinical Neuroscience*, 19(7), 1052-1054.
45. Tolliver BK, Price KL, Baker NL, Larowe SD, Simpson AN, McRae-Clark AL, Saladin ME, **DeSantis SM**, Chapman E, Garrett M, Brady KT. (2012). Impaired cognitive performance in subjects with methamphetamine dependence during exposure to neutral versus methamphetamine-related cues. *American Journal of Drug and Alcohol Abuse*, 38(3), 251-259.
46. Tolliver BK, **DeSantis SM**, Brown DG, \*Prisciandaro JJ, Brady KT. (2012). A randomized, double-blind, placebo-controlled clinical trial of acamprosate in alcohol-dependent individuals with bipolar disorder. *Bipolar Disorders*, 14(1), 54-63.
47. Prisciandaro, JJ, **DeSantis SM**, #Chiuzan, C, Brady, KT, Tolliver, BK. (2012). Impact of depressive symptoms on future alcohol use in patients with co-occurring bipolar disorder and alcohol dependence: A prospective study. *Alcoholism and Experimental Research*, 36(3), 490-496.
48. Saladin ME, Gray KM, Carpenter MJ, LaRowe SD, **DeSantis SM**, Upadhyaya HP. (2012). Gender differences in craving and cue reactivity to smoking and negative affect/stress cues, *American Journal of Addiction*, 21(3), 210-220.

## 2011

49. **DeSantis, SM**, Bandyopadhyay, D. (2011). Response to “Comment on ‘Hidden Markov models for zero-inflated Poisson counts with an application to substance use’”, by R.A. Altman. Letter to the editor of *Statistics in Medicine*, 30(29):3471-3472.
50. **DeSantis, SM**, Bandyopadhyay, D. Hidden Markov models for zero-inflated Poisson counts with an application to substance use. (2011). *Statistics in Medicine*, 30(14):1678-1694.



51. **DeSantis, SM**, Toole, JM, Kratz, JM, Uber, W, Wheat, M, Stroud, MR, Ikonomidis, JS, Spinale, FG. (2011). Early post-operative outcomes and blood product utilization in adult cardiac surgery – The post aprotinin era. *Circulation*, 124(11):S62-69.
52. Zile, MR, **DeSantis, SM**, Baicu, CF, Stroud RE, Thompson, SB, McClure, CD, #Mehurg, SM, Spinale, FG. (2011). Plasma biomarkers that reflect determinants of matrix composition identify the presence of left ventricular hypertrophy and diastolic heart failure. *Circulation: Heart Failure*, 4(3):246-256.
53. Zile, MR, Mehurg, SM, Arroyo, JE, Stroud, RE, **DeSantis, SM**, Spinale, FG. (2011). Relationship between the temporal profile of plasma microRNA and left ventricular remodeling in patients following myocardial infarction. *Circulation: Cardiovascular Genetics*, 4(6):615-619.
54. Graham, EM, Atz, AM, Butts, RJ, Baker, NL, Zyblewski, SC, Deardorff, RL, **DeSantis, SM**, Reeves, ST, Bradley, SM, Spinale, FG. (2011). Standard preoperative corticosteroid treatment in neonates undergoing cardiac surgery - results from a randomized trial. *Journal of Thoracic and Cardiovascular Surgery*, 142(6):1523-1529.
55. Bandyopadhyay, D, **DeSantis SM**, Korte, J, Brady, KT. (2011). Mixture or hurdle zeros: Some considerations in substance abuse research. *American Journal of Drug and Alcohol Abuse*, 37(5):376-382.
56. #Price, KL, **DeSantis SM**, Saladin ME, Tolliver BK, Simpson AN, Baker NL, Wagner MT, McRae-Clark AL, Brady KT. (2011). The impact of clinical and demographic variables on cognitive performance in methamphetamine-dependent individuals in rural South Carolina. *American Journal on Addiction*, 20(5):447-455.
57. **DeSantis, SM**, Baker, NL, Back, SE, Spratt, EG, #Ciolino, JD, Moran-Santa Maria, M, Bandyopadhyay, D, Brady, KT. (2011). Gender differences in the effect of early life trauma on HPA axis functioning. *Depression and Anxiety*, 28(5):383-392.
58. Warters, RD, Szabo, TA, Spinale, FG, **DeSantis, SM**, Reves, JG. (2011). Neuromuscular blockade facilitates mask ventilation. *Anesthesia*, 66:163-167.

## 2010

59. Grebregziabher, M, **DeSantis, SM**. (2010) Latent class based multiple imputation approach for missing categorical data, *Journal of Statistical Planning and Inference*. 140(11):3252-3262.
60. Gray KM, **DeSantis SM**, Carpenter MJ, Saladin ME, LaRowe SD, Upadhyaya HP. (2010). Menstrual cycle and cue reactivity in women smokers. *Nicotine & Tobacco Research*, 12:174-178.
61. Eriksson J, **DeSantis SM**, Neovius M. (2010). Long-term mortality outcomes in Swedish premature infants: A population based study. *Acta Paediatrica* 99:45.
62. Back, SE, Hartwell, K, **DeSantis, SM**, Saladin, M, McRae-Clark, AL, Price, KL, Moran-Santa Maria, M, Baker, NL, Spratt, I, Kreek, MJ, & Brady, KT. (2010). Reactivity to laboratory stress provocation predicts relapse to cocaine. *Drug and Alcohol Dependence*, 106:21-27.
63. McQuinn, TC, Deardorff, RL, Mukherjee, R, Taylor, AGB, Graham, EM, Atz, AM, Forbus, GA, **DeSantis, SM**, Young, JB, Stroud, RE, Hsia, TY, Crawford, FA, Bradley, SM, Reeves, ST, Spinale, FG. (2010). Circulating matrix metalloproteinase levels following ventricular septal defect repair in infants, *Journal of Thoracic and Cardiovascular Surgery*, 140(6), 1257-65.
64. Moran, MM, McRae, SE, Back, SE, **DeSantis, SM**, Baker NL, Spratt, EG, Simpson, AN, Brady, KT. (2010). Influence of cocaine dependence and early childhood trauma on neuroendocrine responding to pharmacological and psychosocial stress tasks. *Psychoneuroendocrinology*, 35(10):1492-1495.

65. Price, KL, Saladin, ME, Baker, NL, Tolliver, BK, **DeSantis, SM**, McRae-Clark, AL, Brady, KT. (2010). Extinction of drug cue reactivity in methamphetamine-dependent individuals. *Behavioral Research and Therapy*, 48(9):860-5.
66. Waldrop, A, Price, KL, Mcrae-Clark, A, Back, SE, **DeSantis, SM**, Simpson, AE, Spratt, EG, Brady, KT, Kreek MJ. (2010). Community-dwelling cocaine-dependent men and women respond differently to social stressors versus cocaine cues. *Psychoneuroendocrinology*, 35(6):798-806.
67. Tolliver, BK, McRae-Clark, AL, Saladin, M, Price, KL, Simpson, AN, **DeSantis, SM**, Baker, NL, Brady, KT. (2010). Determinants of cue-elicited craving and physiological reactivity in methamphetamine-dependent subjects in the laboratory. *American Journal of Drug and Alcohol Abuse*, 36(2):106-113.

## 2009

68. **DeSantis, SM**, Houseman, EA, Coull, BA, Louis, DN, Betensky, RA. (2009). A latent class model with hidden Markov dependence for array CGH data. *Biometrics*, 65(4):1296-1305.
69. **DeSantis, SM**, Bandyopadhyay, D, Back, SE, Brady, KT. (2009). Laboratory stress- and cue-reactivity studies are associated with decreased substance use among drug-dependent individuals. *Drug and Alcohol Dependence*, 105(3):227-233.
70. Brady, KT, McRae, AL, Moran-Santa Maria, MM, **DeSantis, SM**, Simpson, AN, Waldrop, AE, Back, SE, Kreek, MJ. (2009). Response to CRH infusion in cocaine-dependent individuals. *Archives of General Psychiatry*, 66(4):422-430.
71. Johansson, K, Rossner, X, **DeSantis, SM**, Neovius, K, Neovius, M. (2009). Clinical relevance of findings in meta-analyses of the effects of anti-obesity drugs on blood pressure. *Obesity Facts*, 2:21.
72. Neovius, M, Johansson, K, **DeSantis, SM**, Neovius, K, Rossner, S. (2009). Discontinuation due to adverse events in randomized trials of orlistat, sibutramine, and rimonabant: A meta-analysis. *Obesity Reviews*, 10(5), 564-575.
73. Price, KL, McRae, AL, Saladin, ME, Moran-Santa Maria, MM, **DeSantis, SM**, Back, SE, Brady, KT. (2009). D-Cycloserine and cocaine cue reactivity: Preliminary Findings. *American Journal of Drug and Alcohol Abuse*, 35(6):434-438.
74. Carpenter, MJ, Saladin, ME, **DeSantis, SM**, Gray, KM, LaRowe, SD, Upadhyaya, HP. (2009). Laboratory-based, cue-elicited craving and cue reactivity as predictors of naturally occurring smoking behavior. *Addictive Behaviors*, 34 (6-7):536-541.

## 2008 and prior

75. **DeSantis, SM**, Houseman, EA, Coull, BA, Betensky, RA, Stemmer-Rachamimov AO. (2008). A penalized latent class model for ordinal data. *Biostatistics*, 9(2):249-262.
76. Rogers, JL, **DeSantis, SM**, and See RE. (2008). Extended methamphetamine self- administration enhances reinstatement of D seeking and impairs novel object recognition in rats. *Psychopharmacology*, 199(4):615-624.
77. Fox, AM, Shernan, SK, Collard, CD, Liu, KY, Aranki, SF, **DeSantis, SM**, Jarolim, P, Body, SC. (2008). Preoperative B-type Natriuretic Peptide is an independent predictor of ventricular dysfunction and mortality after primary coronary artery bypass grafting. *Journal of Thoracic and Cardiovascular Surgery*, 136:452-461.
78. Snuderl, M, Chi, SN, **DeSantis, SM**, Stemmer-Rachamimov, A, Betensky, RA, De Girolami, U, Kieran, MW. (2008). Prognostic value of tumor microinvasion and metalloproteinase expression in intracranial pediatric ependymomas. *Journal of Experimental Neuropathology*, 67(9):911-920.
79. Stemmer-Rachamimov, AO, Poliani, PL, **DeSantis, SM**, Betensky, RA, Hurwitz, E, Nutt, C, MacCollin M. (2006). Schwann cell histology revisited. *Journal of Neuropathology and Experimental Neurology*, 64(5):470.

80. Quiroz, R, Gerhard-Herman, M, Kosowsky, JM, **DeSantis, SM**, Kucher, N, McKean SC, Goldhaber, SZ. (2006). Comparison a single endpoint to determine optimal initial warfarin dosing (5mg Versus 10 mg) for venous thromboembolism. *American Journal of Cardiology*, 98(4):535-537.
81. **DeSantis, SM**, Pau, CP, Archibald, LK, Nwanyanwu OC, Kazembe, PN, Dobbie, H, Jarvis, WR, Jason, JM. (2002). Demographic and immune correlates of HHV-8 in Malawi, Africa. *International Journal of Infectious Diseases*, 6:266-71.

#### Other Publications

Eriksson, J, **DeSantis, SM**, Neovius, M. Long-term mortality and trends in short-term survival in preterm infants: A population based study. *Abbott Laboratories*.

### **Major Teaching Responsibilities**

#### **Graduate Education**

- 2008 NRPHD 807 Advanced Applied Statistical Methods for Nursing (10 students)  
BMTRY 726 Multivariate Methods in Biology and Medicine (5 students)
- 2010 BMTRY 722 Analysis of Survival Data (5 students)
- 2011 BMTRY 722 Analysis of Survival Data (3 students)  
BMTRY 789 Statistical Computing for Research (1 lecture)
- 2012 BMTRY 789 Current Topics in Biostatistics and Epidemiology (10 students)
- 2013 PH 1821 Applied Statistical Analysis II (i.e., Multivariate Analysis, 30 students)  
PH 1915 Linear Models (20 students)  
PH 9999 Independent Study (3 students)
- 2014 PH 1821 Applied Statistical Analysis II (i.e., Multivariate Analysis, 30 students)  
PH 1915 Linear Models (20 students)  
PH 9999 Independent Study (4 students)
- 2015 PH 1915 Linear Models (20 students)  
PH 9999 Independent Study (4 students)
- 2016 PH 1915 Linear Models (7 students)  
PH 1997 Teaching and Learning Experiences for Biostatistics PhD (3 students)  
PH 1431 Tools & Methods Systematic Review and Meta-analysis (1 credit, meta-analysis section, 4 students)  
PH 9999 Dissertation/Independent Study (4 students)
- 2017 PH 1915 Linear Models (22 students)  
PH 1997 Teaching and Learning Experiences for Biostatistics PhD (10 students)  
PH 1431 Tools & Methods Systematic Review and Meta-analysis (1 credit, meta-analysis section, 5 students)  
PH 9999 Dissertation/Independent Study (4 students)
- 2018 PH 1997 Teaching and Learning Experiences for Biostatistics PhD (10 students)  
PH 1431 Tools & Methods Systematic Review and Meta-analysis (1 credit, meta-analysis section, 10 students)  
PH 9999 Dissertation/Independent Study (4 students)

#### **Ph.D. Biostatistics Dissertation Supervisor or Chair**

Huirong Zhu, PhD, conferred 2016 Biostatistics (Assistant Professor, Texas Children's Hospital)

Ming Yang, PhD, conferred 2017 Biostatistics (Genentech)

Jay Thomas Greene, Ph.D., conferred 2017 Biostatistics (GlaxoSmithKline): *Student paper award, American Statistical Association Mental Health Section, Aug 2018*

Hyunsoo Hwang, Ph.D., conferred 2018 Biostatistics (MD Anderson)

Jada Johnson, active

Derek Brown, MS, active

Elysia Garcia, MS, active

#### **Ph.D. Biostatistics Committee Member**

Mary Tress, PhD, conferred 2011

Matthew Shotwell, PhD, conferred 2011 (Associate Professor at Vanderbilt)

Yanqiu Weng, PhD, conferred 2013 (Novartis)

Yulun Liu, PhD, conferred 2016 (Post Doctoral Researcher at University of Pennsylvania)

#### **M.S. Biostatistics Primary Adviser**

Alicia Chua, conferred 2014 (PhD Student Boston University)  
Megan Schuler, PhD, conferred 2009 (Rand Corporation)

#### **Ph.D. (Non-Biostatistics) Committee Member in Public Health**

Rodion Gorchakov, PhD, conferred 2018, Epidemiology  
Emri Yucel, PhD, conferred 2017, Epidemiology  
Michelle Cook, PhD, conferred 2017, Epidemiology  
Vanessas Cox, PhD, conferred 2017, Epidemiology  
Vancheswaran Gopalakrishnan, PhD, conferred 2017 Epidemiology  
Malachy Nkem, PhD, conferred 2014, Health Promotions

#### **M.S. in Clinical Research Adviser**

Crystal Flynn-Longmire, conferred 2008  
William Goodnight, conferred 2008  
Joshua Eischenberger, conferred 2010  
James McElligott, conferred 2011

#### **Academic Committee Activities**

##### **Institutional Service and Committees**

Biostatistics Faculty Search 2017-2018  
Admissions Committee (2015-2018)  
Student Recruitment Committee 2007-current  
Preliminary Exam Committee 2008-current  
Big Data Faculty Search Committee 2012  
Seminar Speaker Committee 2009-2012  
Hollings Cancer Center Biostatistical Reviewer

#### **Lead Administrative Roles in Biostatistics**

Academic Program Coordinator for Biostatistics  
Academic Council Representative for Biostatistics

#### **Invited Oral Presentations**

DeSantis SM. “Multivariate Network Meta-analysis to Mitigate Outcome Reporting Bias” *Joint Statistical Meetings*, Vancouver, BC August 8, 2018.

DeSantis SM. “Multivariate Mixed Treatments Meta-analysis to Reduce Effects of Publication and Outcome Reporting Bias” *Virginia Commonwealth University*, Richmond, VA April 23, 2017.

DeSantis SM. “Latent Variable Methods for High-Dimensional Data” National Institute of Health and Medical Research (*Institut National de la Sante et de la Recherche Medical, INSERM*), Bordeaux, France June 22, 2016.

DeSantis SM. “Statistical Methods and Health Technology Assessment,” NINDS sponsored Neurocritical Care Research Conference, *Baylor University*, Houston, Texas, August 16, 2014.

DeSantis SM. “Multivariate Mixed Treatment Meta-analysis and Implications for Planning Future Trials,” *Cedar Sinai Medical Center, Division of Biostatistics*, Los Angeles, California, May 23, 2014.

Lazaridis C, DeSantis SM, Smielewski P, Menon DK, Hutchinson P, Pickard JD, Czosnyka M. “Patient-specific thresholds of intracranial pressure in patients with severe traumatic brain injury,” *Neurocritical Care Society, Winner -Distinguished Oral Poster Presentation*, Philadelphia, Pennsylvania, October 2, 2013

DeSantis, SM. “Mixed Treatment Comparisons Meta-Analysis of Alcohol Dependence Trials,” *Health Research Unit, Athens Greece*, May 6-9, 2013.

- DeSantis, SM. “Mixed Treatment Comparisons Meta-Analysis of Alcohol Dependence Trials,” *Houston Chapter of the American Statistical Association*, Houston, Texas April 2013.
- DeSantis, SM. “Hidden Markov Models for Zero-modified Time Series Count data” *Conference of Texas Statisticians*, Rice University, Houston, Texas, March 22, 2013.
- DeSantis, SM. “Analysis of Zero Inflated Propensity Matched Count Outcomes in Observational Studies,” *University of Texas Health Sciences Center*, School of Public Health, Houston, Texas, Feb 14, 2013.
- DeSantis, SM. “Challenges in Modeling Longitudinal Drinking Data in Clinical Trials: The COMBINE study,” *Medical University of South Carolina*, Division of Biostatistics and Epidemiology, Charleston, SC, Oct 20, 2012.
- DeSantis, SM. “Hidden Markov Models for Zero Inflated Poisson Counts – Applications in Substance Use,” Division of Biostatistics, *University of Texas School of Public Health*, Houston, TX, May 10, 2012.
- DeSantis, SM. “Hidden Markov Models for Zero Inflated Poisson Counts –Applications in Substance Use,” *Division of Biostatistics, Columbia University Psychiatric Institute*, New York, NY, April 10, 2012.
- DeSantis, SM. “Survival Analysis using SPSS (Short Course)” *Department of Mathematics, University of Porto*, Porto, Portugal, February 14-15, 2012.
- DeSantis, SM. “One and Two Sample Hypothesis Testing,” Master of Philosophy Lecture, *Medical Research Council Biostatistics Unit Cambridge University*, Cambridge, UK, October 2011.
- DeSantis, SM. “Analysis of Zero Inflated Propensity Matched Count Outcomes,” *Division of Biostatistics and Epidemiology, Medical University of South Carolina*, Charleston, SC, April 2011.
- DeSantis, SM. “Post Aprotinin Era,” *American Heart Association*, Chicago, IL, November 2010.
- DeSantis, SM. “Joint Analysis of a Survival Process and Binary Indicators of Latent Class in High-Dimensional Settings,” *University of Carlos III*, Madrid, Spain, March 2010.
- DeSantis, SM. “A Latent Class Model with Hidden Markov Dependence for Array CGH Data,” *International Biometrics Society, Eastern North American Region*, Washington DC, March 2008.
- DeSantis, SM. “Supervised and Unsupervised Latent Class Modeling for High-Dimensional Data,” *Medical University of South Carolina*, Charleston, South Carolina, April 2007.
- DeSantis, SM. “Supervised and Unsupervised Latent Class Modeling for High-Dimensional Data,” *Hoffman La-Roche*, Basel, Switzerland, March 2007.
- Contributed Oral Presentations**
- DeSantis SM. “Modeling high resolution drinking data in clinical trials: An application to the COMBINE study.” *Poster Presentation, Research Society on Alcoholism*, Tampa Florida, July 2013.
- DeSantis, SM. “A Hidden Markov Model for Zero-Inflated Poisson Counts,” *College of Problems on Drug Dependence, Poster Presentation*, Scottsdale, AZ, June 2010.
- DeSantis, SM. “A Hidden Markov Model for Zero-Inflated Poisson Counts with an Application to Cocaine Use Data,” *Joint Statistical Meetings, Oral Presentation*, Washington, DC, 2009.
- Gebregziaber, M, DeSantis SM. “Multiple Imputation of Missing Categorical Data: A Latent Class Approach,” *Joint Statistical Meetings, Oral Presentation*, Washington, DC, 2009.

DeSantis, SM. "A Latent Class Model with Hidden Markov Dependence for Array CGH Data," *International Biometrics Society, Eastern North American Region, Oral Presentation*, San Antonio, TX, March 2009.

DeSantis, SM, Gebregziabher, M. "Latent Class-Based Multiple Imputation of Missing Genotypic Data: An Application to Multiple Myeloma," 8<sup>th</sup> *Annual Scientific Research Retreat of Hollings Cancer Center, Poster Presentation*, Charleston, SC, December 2008.

DeSantis, SM. "Supervised Bayesian Latent Class Models for High-Dimensional Data," *Southern Regional Council on Statistics, Poster Presentation*, Charleston, SC, June 2008.

DeSantis, SM. "A Latent Class Model with Hidden Markov Dependence for Array CGH Data," *Harvard University Department of Biostatistics, Oral Presentation*, June 2007.

DeSantis, SM. "Supervised Bayesian Latent Class models for High-Dimensional Data," *International Biometrics Society, Eastern North American Region, Oral Presentation*, Atlanta, GA, March 2007.

DeSantis, SM. "A Penalized Latent Class Model for Ordinal Responses," *International Biometrics Society, Eastern North American Region, Oral Presentation*, Tampa, FL, March 2006.