BIOGRAPHICAL SKETCH			
NAME Moïse, N. Sydney	POSITION TITLE Professor of Medicine		
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	MM/YY	FIELD OF STUDY
Texas A&M University, College Station, Texas	B.S.	06/1976	Veterinary Science
Texas A&M University, College Station, Texas	D.V.M.	08/1977	Veterinary Medicine
Cornell University, Ithaca, New York	M.S.	01/1985	Veterinary Medicine

A. Personal Statement Dr. Moise is involved in teaching, clinical practice (~30-35%), and research. Her research has centered on spontaneous cardiac rhythms (normal and abnormal) in dogs. More recently she has orchestrated collaborative studies to understand the mechanisms of degeneration of the mitral valve in dogs. She was awarded the AVMA research award for arrhythmia studies and the Bourgelat Award for international contribution to the clinical practice of veterinary medicine. Dr. Moïse for > 5 years was Editor-in Chief of the international *Journal of Veterinary Cardiology* and she continues as an Associate Editor. She is extensively involved in the international aspects of academic veterinary cardiology including speaking world-wide, international organizations and training.

B. Positions and Honors

Positions

1977-1979 Veterinarian, Small Animal Practice, Westheimer Animal Clinic, Houston, TX
1979-1981 Resident of Small Animal Internal Medicine, College of Veterinary Medicine Cornell University
1981-1982 Instructor of Medicine, College of Veterinary Medicine, Cornell University
1982-1984 Post-Doctoral Fellow, College of Veterinary Medicine, Cornell University
1984-1985 Instructor of Medicine, College of Veterinary Medicine, Cornell University
1985-1991 Assistant Professor of Medicine, College of Veterinary Medicine, Cornell University
1991-1997 Associate Professor of Medicine, College of Veterinary Medicine, Cornell University
1993-Present Adjunct Assoc. Prof. of Pediatric Cardiology, SUNY Health Science Center, Syracuse, NY
1996-Present Affiliated Bioengineering Faculty Member, Bioengineering Prog, Cornell University
2006 Interim Chair of the Department of Clinical Sciences June1-September 1, Cornell University
1997-Present Professor of Medicine, College of Veterinary Medicine, Cornell University

Specialty Certification, Editorships and Honors:

1982 American College of Veterinary Internal Medicine (Specialty, Internal Medicine)
1986 American College of Veterinary Internal Medicine (Specialty, Cardiology)
1986 Norden Distinguished Teaching Award
1977 American Animal Hospital Outstanding Senior Student
1999 American Veterinary Medical Association with AKC Research Award
2002 Buchanan Lecture Award
2005-06 Associate Editor, Journal of Veterinary Cardiology
2007 Editor-in-Chief Journal of Veterinary Cardiology
2011 Bourgelat Award presented by the British Veterinary Medical Association

Professional Associations: American College of Veterinary Internal Medicine; Cardiac Electrophysiology Society; Heart Rhythm Society, European Society of Veterinary Medicine, International Veterinary Editors Assoication

C. Selected Peer-reviewed Publications (from > 100)

1. **Moïse NS**, Meyers-Wallen V, Flahive WJ, et al: Inherited ventricular arrhythmias and sudden death in German shepherd dogs. J. Am. Coll. Cardiol. 24:233-243, 1994.
2. **Moïse NS,** Moon PF, Flahive WJ, et al Phenylephrine induced ventricular arrhythmias in dogs with inherited sudden death. J Cardiovasc Electrophysiol.7:217-230, 1996.
3. Gilmour RF Jr, **Moïse NS**: Triggered activity as a mechanism for inherited ventricular arrhythmias in German shepherd dogs. J. Am. Coll. Cardiol. 27:1526-1533, 1996.
4. **Moïse NS,** Gilmour RF Jr, Riccio ML: An animal model of sudden arrhythmic death. J Cardiovasc Electrophysiol.8:98-103, 1997.
5. **Moïse, NS**, Dugger, DA, Brittain, D et al: Relationship of ventricular tachycardia to sleep/wakefulness in a model of sudden cardiac death. Ped. Res. 40:344-350, 1996.
6. Kornreich BG, **Moïse NS**: Right atrioventricular valve malformation in dogs and cats: an electrocardiographic survey with emphasis on splintered QRS complexes. J. Vet. Int. Med. 11:226-230, 1997.
7. **Moïse NS,** Gilmour RF Jr, Riccio ML, et al: Diagnosis of inherited ventricular tachycardia in German shepherd dogs. Am. J. Vet. Med. Assoc. 210:403-410, 1997.
8. Freeman LC, Pacioretty LM, **Moïse NS,** et al: Decreased density of I_{to} in left ventricular myocytes from German shepherd dogs with inherited arrhythmias. J. Cardiovas. Electrophysiol. 8:872-883, 1997.
9. Dae M, Ursell P, Lee R, Stilson C, Chin M, **Moïse NS**: Heterogeneous sympathetic innervation in German shepherd dogs with inherited ventricular arrhythmias and sudden death. Circulation. 96:1337-1342, 1997.
10. **Moïse NS,** Riccio MJ, Flahive WJ, et al: Age dependent development of ventricular arrhythmias in a spontaneous animal model of sudden cardiac death. Cardiovas Res. 34:483-492, 1997.
11. Riccio ML, **Moïse NS,** Otani NF, et al: Vector quantization of T wave abnormalities associated with a predisposition to ventricular arrhythmias and sudden death. A.N.E. 3(1): Jan., 1998.
12. **Moïse NS**: From cell to cage-side cardiac rhythms in the dog: autonomic influence. J Small Anim Pract.39:460-468,1998.
13. Flanders JA, **Moïse NS,** Gelzer ARM, et al: Introduction of an endocardial pacing lead through the costocervical trunk in 6 dogs. J. Am. Vet. Med. Assoc. 215:46-48, 1999.
14. Sosunov EA, Anyukhovsky EP, Shvilkin A, Hara M, Steinberg SF, Danilo P Jr., Rosen MR, **Moïse NS,** et al: Abnormal cardiac repolarization and impulse initialization in German shepherd dogs with inherited ventricular analysis and sudden death. Cardiovas Res. 42:65-79, 1999.
15. **Moïse NS**: Inherited arrhythmias in the dog: potential experimental models of cardiac disease. Cardiovas Res. 44:37-46, 1999.
16. Merot J, Probst V, Debailleul M, Gerlacin U, **Moïse NS,** et al: Electropharmacological characterization of cardiac repolarization in German shepherd dogs with an inherited syndrome of sudden death. J. Am. Coll. Cardiol. 36:939-947, 2000.
17. Gelzer ARM, **Moïse NS**, Wagner KA, et al: Temporal organization of atrial activity and irregular ventricular rhythm during spontaneous atrial fibrillation: in vivo study in the horse. J Cardiovas Electrophysio.11:773-784, 2000.
18. Sosunov EA, Gainullin RZ, **Moïse NS**, et al: β_1 and β_2–Adrenergic receptor subtype effects in German shepherd dogs with inherited lethal ventricular arrhythmias. Cardiovas Res. 48:211-219, 2000.
19. **Moïse NS**: Monitoring for Sudden Death in Animal Models. J. Cardiac Electrophy. 11:1342-1344, 2001.
20. Kraus MS, **Moïse NS,** Rishniw M, et al: Morphology of ventricular arrhythmias in the boxer described by 12-lead electrocardiography with pace mapping comparison. J. Vet. Int. Med. 16: 153-158, 2002.
21. **Moïse NS** and Estrada A: Noise Reversion in Paced Dogs. J Vet Cardiol. 4 (2):13-21, 2002.

22. Steinberg SF, Alcott SA, Pak E, Hu DH, Protas L, **Moïse NS,** et al: Beta-receptors increase in cAMP and include abnormal CAI cycling in the German shepherd sudden death model. Am J Physiol Heart Cir Physiol., 282: H1181-H1188, 2002.

23. Obreztchikova MN, Sosunov EA, Anyukhovsky EP, **Moïse NS**, et al: Heterogeneous ventricular repolarization provides a substrate for arrhythmias in German shepherd model of spontaneous arrhythmic death. Circulation. 108:1389-1394, 2003.

24. Sosunov EA, Obreztchikova MN, Anyukhovsky EP, **Moïse NS**, et al: Mechanisms of alpha-adrenergic potentiation of ventricular arrhythmias in German shepherd dogs with inherited arrhythmic sudden death. Cardiovas Res. 61:715-723, 2004.

25. Pariaut R, **Moïse NS**, Kraus MS, et al: Use of transesophageal echocardiography for visualization of the patent ductus arteriosus during transcatheter coil embolization. J Vet Cardiol.. 6:32-39, 2004.

26. Protas L, Sosunov EA, Anyukhovsky EP, **Moïse NS,** et al: Regional dispersion of L-type calcium current in ventricular myocytes of German shepherd dogs with lethal cardiac arrhythmias. Heart Rhythm 2:172-176, 2005.

27. Estrada A, **Moïse NS**, Renaud-Farrell S: When, how and why to perform a double ballooning technique for dogs with valvular pulmonic stenosis. J Vet Cardiol. 7(1):41-51, 2005.

28. Estrada A, **Moïse NS**, Prospective evaluation of the balloon-to-annulus ratio for valvuloplasty in the treatment of pulmonic stenosis in the dog. J Vet Intern Med. 2006;20(4):862-72.

29. Moïse NS: Special focus: The "Fibrillating Heart". Editorial. J Vet Cardiol. 7(2): 71-72, 2005.

30. Menaut P, Belanger MC, Beauchanp G, Ponzio NM, **Moïse NS**: Atrial fibrillation in dogs with and without structural or functional cardiac disease: A retrospective study of 109 cases. J Vet Cardiol. 7(2):75-83, 2005.

31. Gelzer ARM, **Moïse NS**, Koller ML: Defibrillation of German shepherds with inherited ventricular arrhythmias and sudden death. J Vet Cardiol. 7(2):97-107, 2005.

32. Moïse NS, Pariaut R, Gelzer ARM, et al: Cardioversion with lidocaine of vagally associated atrial fibrillation in two dogs. J Vet Cardiol. 7(2):143-148, 2005.

33. Estrada A, **Moïse NS**, Erb HN et al. Prospective evaluation of the balloon-to-annulus ratio for valvuloplasty in the treatment of pulmonic stenosis in the dog. J Vet Intern Med;20(4):862-72, 2006.

34. Liu W, Hackett SR, Cruickshank J, Vikstrom K, **Moïse NS**, Gunn TM. Canine microsatellites associated with genes implicated in cardiac development and function. Animal Genetics. 37:72–89, 2006.

35. Oxford EM, Everitt M, Coombs W, Fox PF, Kraus MS, Gelzer ARM, Saffitz J, Taffet SM, **Moïse NS**, Delmar M. Molecular composition of the intercalated disc in a spontaneous canine animal model of arrhythmogenic right ventricular dysplasia/cardiomyopathy. Heart Rhythm, 4(9):1196-1205, 2007.

36. Moïse NS: Presentation and management of thromboembolism in cats. In Practice: 266-273, 2007.

37. Pariaut R, **Moïse NS**, Koetje BD, et al. Lidocaine converts acute vagally associated atrial fibrillation to sinus rhythm in German Shepherd dogs with inherited arrhythmias. J Vet Intern Med;22:1274–1282, 2007.

38. Pariaut R, **Moïse NS**, Koetje BD, et al. Atrial fibrillation induction during fentanyl and pentobarbital anesthesia in German shepherds with inherited arrhythmias. Am J Vet Res.69:1434–1445, 2008.

39. Cruickshank J, Quaas RL, Junya Li, Hemsley SA, Gunn TM, **Moïse NS**. Genetic Analysis of Ventricular Arrhythmia Afflicting Young German Shepherd Dogs. J Vet Int Med;23;264-270, 2009.

40. Zhang Z, Zhu L, Sandler J, Friedenberg SG, Egelhoff J, Williams AJ, Dykes NL, Hornbuckle W, Krotscheck U, **Moïse NS**, Lust G, Todhunter RJ: Heritabilities, genetic correlations, and breeding values of four traits collectively defining canine hip dysplasia. Am J Vet Res.70(4):483-492, 2009.

41. Gelzer ARM, Kraus MS, Rishniw M, **Moïse NS**, et al. Combination therapy with digoxin and diltiazem controls ventricular rate In chronic atrial fibrillation in dogs better than digoxin or diltiazem monotherapy: A randomized crossover study in 18 dogs. J Vet Intern Med.23(3):499-508, 2009.

42. Jesty S, Kraus MS, Gelzer ARM, Rishniw, **Moïse NS**. A prospective study evaluating cardiac troponin I concentrations before and after transvenous electrical cardioversion in horses with atrial fibrillation. J Vet Int Med.23(5):1103-1107,2009.

43. Gelzer A, Otani N, Koller M, Enyeart M, **Moise NS**, Gilmour R. Dynamically-induced spatial dispersion of repolarization and the development of VF in an animal model of sudden death. Comput Cardiol 13:309-312, 2009.

44. Fox PR, Oyama MA, Reynolds C, Rush JE, DeFrancesco TC, Keene BW, Atkins CE, Macdonald KA, Schober KE, Bonagura JD, Stepien RL, Kellihan HB, Nguyenba TP, Lehmkuhl LB, Lefbom BK, **Moïse NS**, Hogan DF. Utility of plasma N-terminal pro-brain natriuretic peptide (NT-proBNP) to distinguish between congestive heart failure and non-cardiac causes of acute dyspnea in cats. J Vet Cardiol. Suppl 1:S51-61, 2009.

45. Estrada AH, Pariaut R, **Moïse NS**. Avoiding medical error during electrical cardioversion of atrial fibrillation: prevention of unsynchronized shock delivery. J Vet Cardiol. 11(2):137-139, 2009.

46. Gelzer AMR, Kraus MS, Rishniw M, Hemsley SA, **Moïse NS**. Combination therapy with mexiletine and sotalol suppresses inherited ventricular arrhythmias in German shepherd dogs better than mexiletine or sotalol monotherapy: A randomized crossover study. J Vet Cardiol. 12(2):93-106, 2010.

47. **Moïse NS**, Gladuli A, Hemsley SA, Otani NF. 'Zone of avoidance': RR interval distribution in tachograms, histograms, and Poincaré plots in a Boxer dog. J Vet Cardiol. 12(3):191-196, 2010.

48. Zhou Z, Sheng X, Zhang Z, Zhao K, Zhu L, Guo G, Friedenberg SG, Hunter LS, Vandenberg-Foels WS, Hornbuckle WE, Krotscheck U, Corey E, **Moïse NS**, et al. Differential genetic regulation of canine hip dysplasia and osteoarthritis. PLoS One. 5: 2010.

49. Gladuli A, **Moïse NS**, Hemsley SA, Otani NF. Poincaré plots and tachograms reveal beat patterning in sick sinus syndrome with supraventricular tachycardia and varying AV nodal block. J Vet Cardiol. 13(1): 2011.

50. Oxford EM, Danko CG, Kornreich BG, Maass K, Hemsley SA, Raskolnikov D, Fox PR, Delmar M, **Moïse NS.** Ultrastructural changes in cardiac myocytes from a canine model of arrhythmogenic right ventricular cardiomyopathy. J Vet Cardiol. 13(2):101-113, 2011.

51. Fox PR, Rush JE, Reynolds CA, Defrancesco TC, Keene BW, Atkins CE, Gordon SG, Schober KE, Bonagura JD, Stepien RL, Kellihan HB, Macdonald KA, Lehmkuhl LB, Nguyenba TP, **Moise** NS, et al. Multicenter evaluation of plasma N-terminal probrain natriuretic peptide (NT-pro BNP) as a biochemical screening test for asymptomatic (occult) cardiomyopathy in cats. J Vet Intern Med. 2011(5):1010-1006, 2011.

52. Brisbin A, Cruickshank J, **Moïse NS**, et al. Fast, exact linkage analysis for categorical traits on arbitrary pedigree designs. Genet Epidemiol. 35(5):371-380, 2011.

53. Brewer FC, **Moïse NS**, Kornreich BG, Bezuidenhout AJ. Use of computed tomography and silicon endocasts to identify pulmonary veins with echocardiography. J Vet Cardiol. 14:293-300,2012.

54. Waxman A, Kornreich BG, **Moïse NS**, Butcher J. Interactions between TGFß1 and cyclic strain in modulation of myofibroblastic differentiation of canine mitral valve interstitial cells in 3D culture. J Vet Cardiol. 14:211-222, 2012.

55. Richards JM, Farrar EJ, Kornreich BJ, **Moïse NS**, Butcher J. The mechanobiology of mitral valve function, degeneration, and repair. J Vet Cardiol. 14:47-58,2012.

56. Estrada A, Pariaut R, Hemsley SA, Gatson BH, **Moïse NS**. Atrial-based pacing for sinus node dysfunction in dogs: Initial results. J Vet Intern Med. 26:558-564, 2012.

57. **Moïse NS**. The mitral valve…"and miles to go". Editorial. J Vet Cardiol. 14:1, 2012.

58. Caivano D, Birettoni F, Fruganti A, Rishniw M, Knafelz P, **Moïse NS**, Porciello F. Transthoracic echocardiographically-guided interventional cardiac procedures in the dog. J Vet Cardiol.14(3):431-441, 2012.

59. Cordeiro JM, Calloe K, **Moise NS**, et al. Physiological consequences of transient outward K(+) current activation during heart failure in the canine left ventricle. J Mol Cell Cardiol.52:1291–1129, 2012

60. Jesty SA, Jung SW, Cordeiro JM, Gunn TM, DiDiego JM, Hemsley SA, Kornreich BG, Antzelevitch C, **Moïse NS**. Cardiomyocyte calcium cycling in a naturally occurring German shepherd dog model of inherited ventricular arrhythmia and sudden cardiac death. J Vet Cardiol. In press 2012.

61. Oxford EM, Danko CG, Fox PR, Kornreich BG, **Moïse NS**. Change in ß-catenin localization suggests involvement of the canonical Wnt pathway in boxer dogs with arrhythmogenic right ventricular cardiomyopathy. J Vet Intern Med. In review 2012.

Book: Canine and Feline Cardiology, PR Fox, D Sisson, **Moïse NS**

Funding History (External Only, Only PI or CoI, grants from companies not listed)

Sponsor: National Institutes of Health NIH#1R01HD28938
Title: Sudden Death in Young Dogs with Ventricular Arrhythmias
Award Amount: $966,350
Project Dates: 1991- 1997
Role: PI

Sponsor: American College of Veterinary Internal Medicine Cardiology Award
Title: Heart Rate Variability in Neonatal Dogs
Award Amount: $5,000
Project Dates: 07/1995-07/1996
Role: PI, Mentor for resident Dr. Bruce G. Kornreich

Sponsor: Philippe Foundation
Title: Assessment of Repolarization in a Model of Sudden Death
Award Amount: $ 5,000
Project Dates: 07/1999 – 07/2000
Role: PI

Sponsor: Bernice Barbour Foundation
Title: Determination of the Ideal Balloon Annulus Ratio for the Treatment of Valvular Pulmonic Stenosis
Award Amount: $21,000
Project Dates: 09/2001 – 09/2002
Role: PI, Mentor for resident Dr. Amara Estrada

Sponsor: American College of Veterinary Internal Medicine Cardiology Award
Title: Balloon Valvuloplasty for Valvular Pulmonic Stenosis
Award Amount: $5,000
Project Dates: 07/2001-07/2002
R Role: PI, Mentor for resident Dr. Amara Estrada

Sponsor: American Heart Association – Northeast Affiliate
Title: Dynamic Mechanism of Induction of Ventricular Fibrillation
Award Amount: $198,000
Project Dates: 07/01/2004 – 06/30/2007
Role: Co-Investigator with Drs. Robert Gilmour, Niels Otani and Anna Gelzer

Sponsor: American Kennel Club Canine Health Foundation
Title: Microarray Analysis for Cardiac Gene Expression in German Shepherds with Sudden Death
Award Amount: $108,648
Project Dates: 10/01/2004 – 09/30/2006
Role: Co-PI with Dr. Teresa Gunn

Sponsor: American College of Veterinary Internal Medicine Cardiology Award
Title: Induction and conversion of atrial fibrillation in German shepherds with inherited ventricular arrhythmias
Award Amount: $7,000
Project Dates: 07/2004-07/2005
Role: PI, Mentor for resident Dr. Romain Pariaut
Notation: Dr. Pariaut won the Cardiology ACVIM Resident Research Award 2004

Sponsor: American College of Veterinary Internal Medicine Cardiology Award
Title: Cardiomyocyte Calcium Transents in German Shepherd Dogs with Inherited Ventricular Arrhythmias
Award Amount: $7,000
Project Dates: 07/2007-07/2008
Role: PI, Mentor for resident Dr. Sophy Jesty
Notation: Dr. Jesty won the overall ACVIM Resident Research Award 2008

Sponsor: Morris Animal Foundation
Title: Altered Intercellular Communications, Arrhythmias, and Sudden Death in Boxer Dogs
Award Amount: $80,892
Project Dates: 09/2006-09/2009
Role: PI, postdoc Dr. Eva Oxford

Sponsor: American College of Veterinary Internal Medicine Cardiology Award
Title: The Role of Mechanical Strain and Transforming Growth Factor-Beta1 in the Pathogenesis of Myxomatous Mitral Valve Degeneration in the Dog
Award Amount: $7,000
Project Dates: 07/2009-07/2010
Role: PI, Mentor for resident Dr. Andrew Waxman

Sponsor: Morris Animal Foundation Student Fellowship Grants
Title: The Molecular Composition of the Intercalated Disc in Boxers with ARVC/D
Award Amount: $5,000
Project Dates: 07/2009-07/2010
Role: Advisor to Dr. Eva Oxford

Sponsor: American College of Veterinary Internal Medicine Cardiology Award
Title: Impulse Discharge or Exit Block as Causal for the Multimodal Beat Distribution and Zone of Avoidance of the Canine Sinus Node: Clues from Acetylcholine and If Blockade
Award Amount: $7,000
Project Dates: 07/2011-07/2013
Role: PI, Mentor for resident Dr. Fred Brewer IV

Trainees (7 residents, 1 PhD/fellowship student)

Name	Positions
Bruce G. Kornreich	Cardiologist and Director, Feline Health Center, Cornell University
Anna M. Gelzer	University of Pennsylvania, Cornell University, currently private practice
Marc S. Kraus	Ohio State, University of Pennsylvania, Cornell University (Senior Lecturer)
Amara Estrada	University of Florida (Associate Professor)
Romain Pariaut	Louisiana State University (Assistant Professor)
Sophy Jesty	University of Tennessee (Assistant Professor)
Andrew Waxman	Private practice
Seung Woo Jung	Auburn University (Assistant Professor)

Invited presentations and continuing education (only countries listed without specifics of topics)

United States (ACVIM, LaDuque Foundations), United Arab Republic, Ireland, England, Scotland, Germany, Thailand, Brazil, France, Mexico, Spain, Italy, Hong Kong, China, Switzerland, Germany, Russia,