

CURRICULUM VITAE

Manuel Martin-Flores
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EDUCATION

INSTITUTION	DEGREE	YEAR	FIELD
Universidad Catolica de Cordoba Argentina	MV (DVM)	2002	Veterinary Medicine

PROFESSIONAL TRAINING and EXPERIENCE:

2002-2004	Staff Veterinarian, “Amaru” Veterinary Clinic (Small Animal Practice), Cordoba, Argentina
2002-2004	Instructor of Veterinary Pharmacology and Toxicology, Universidad Catolica de Cordoba, Cordoba, Argentina
2004-2007	Resident in Veterinary Anesthesiology, College of Veterinary Medicine, Cornell University, Ithaca, NY. USA.
2007-2013	Lecturer in Anesthesiology, Department of Clinical Sciences, College of Veterinary Medicine, Cornell University, Ithaca, NY. USA.
2013	Assistant Professor. Department of Clinical Sciences, College of Veterinary Medicine, Cornell University, Ithaca, NY. USA.

HONORS and AWARDS:

2nd Prize for Overall Scientific and Presentation Excellence, Resident Research Seminar, March 24, 2006. College of Veterinary Medicine. Cornell University, Ithaca, NY.

2nd Prize, Resident Abstract Presentation, Spring Meeting of the Association of Veterinary Anaesthetists, April 4-6, 2006, Liverpool, UK.

Diplomate, American College of Veterinary Anesthesiologists, 2008.

SCAVMA Teaching Excellence Award for Clinical Sciences, College of Veterinary Medicine, Cornell University 2010.

ASSOCIATION MEMBERSHIPS:

American College of Veterinary Anesthesiologists
New York State Veterinary Medical Society
Southern Tier Veterinary Medical Association

RESEARCH INTERESTS:

Neuromuscular blockade and monitoring during anesthesia.

Refining the use of regional anesthesia in dogs. (In collaboration).

Novel ways of measuring cardiac output.

REFEREED PUBLICATIONS:

1. Litterio NJ, Calvinho LF, **Martin-Flores M**, Tarabla HD, Boggio JC. "Microbiological screening test validation for detection of tylosin excretion in milk of cows with low and high somatic cell counts." *Journal of Veterinary Medicine A*. 54: 30-35 (2007).
2. Campoy L, **Martin-Flores M**. "Situacion clinica en anestesia: cesarean (Clinical case in anesthesia: cesarean section)." *Consulta de difusion veterinaria (Spain)*. 146: 85-87 (2007).
3. Campoy L, **Martin-Flores M**. "Anestesia para cirugia de codo. (Anesthesia for elbow surgery)." *Consulta de difusion veterinaria (Spain)*. 16(152): 61-64 (2008).
4. **Martin-Flores M**, Campoy L, Ludders JW, Erb HN, Gleed RD. "Comparison between acceleromyography and visual assessment of train-of-four for monitoring neuromuscular blockade in horses." *Veterinary Anaesthesia and Analgesia*. 35(3): 220-227 (2008).
5. Campoy L, **Martin-Flores M**, Looney AL, Erb HN, Ludders JW, Stewart JE, Gleed RD, Asakawa M. "Distribution of lidocaine-methylene blue solution staining in brachial plexus, lumbar plexus and sciatic nerve blocks in dogs." *Veterinary Anaesthesia and Analgesia* 35(4): 348-354 (2008).
6. Campoy L, Bezuidenhout AJ, Gleed RD, **Martin-Flores M**, Raw RM, Santare CL, Jay AR, Wang AL. "Ultrasound-guided approach for axillary brachial plexus, femoral nerve, and sciatic nerve blocks in dogs." *Veterinary Anaesthesia and Analgesia* 37(2): 144-153 (2010).
7. Georoff TA, James SB, Kalk P, Calle PP, **Martin-Flores M**. "Evaluation of medetomidine-ketamine-butorphanol anesthesia with atipamezole-naltrexone antagonism in captive male guanacos (*Lama guanicoe*)." *Journal of Zoo and Wildlife Medicine*. 41(2): 255-262 (2010).

8. **Martin-Flores M**, Mercue-McKenzie TM, Campoy L, Erb HN, Ludders JW, Gleed RD. "Controlled retrospective study of the effects of eyedrops containing phenylephrine hydrochloride and scopolamine hydrobromide on mean arterial blood pressure in anesthetized dogs." *American Journal of Veterinary Research* 71(12): 1407-1412 (2010).
9. *Sano H, **Martin-Flores M**, Santos LC, Cheetham J, Araos JD, Gleed RD. "Effects of epidural morphine on gastrointestinal transit in unmedicated horses." *Veterinary Anaesthesia and Analgesia* 38(2): 121-126 (2011).
10. **Martin-Flores M**, Boesch J, Campoy L, Gleed RD. "Failure to reverse prolonged vecuronium-induced neuromuscular blockade with edrophonium in an anesthetized dog." *Journal of the American Animal Hospital Association* 47(4): 294-298 (2011).
11. **Martin-Flores M**, Lau E, Campoy L, Erb HN, Gleed RD. "Twitch potentiation: a potential source of error during neuromuscular monitoring with acceleromyography (AMG) in anesthetized dogs." *Veterinary Anaesthesia and Analgesia* 38 (4): 328-335 (2011).
12. Santos LC, Ludders JW, Erb HN, **Martin-Flores M**, Basher KL, Kirch P. "A randomized, blinded, controlled trial on the antiemetic effect of ondansetron on dexmedetomidine-induced emesis in cats." *Veterinary Anaesthesia and Analgesia* 38(4): 320-327 (2011).
13. Santos LC, Gleed RD, Campoy L, **Martin-Flores M**, Ludders JW. "Tracheostomy tube occlusion during emergency tracheostomy in a pigmy goat." *Veterinary Anaesthesia and Analgesia* 38(6): 624-625 (2011).
14. † **Martin-Flores M**, Campoy L. "Comments on the article "Neostigmine-induced neuromuscular blockade in the corrugator supercilii muscle". *Rev Esp Anestesiología Reanimación* 58(10): 618 (2011).
15. Campoy L, **Martin-Flores M**, Ludders JW, Erb HN, Jay AR, Santare CL, Wang AL, Gleed RD. "Comparison of bupivacaine femoral and sciatic nerve blocks versus bupivacaine and morphine epidural for stifle surgery in dogs." *Veterinary Anaesthesia and Analgesia* 39(1): 91-8 (2012).
16. **Martin-Flores M**, Gleed RD, Basher KL, Scarlett JM, Campoy L, Kopman AF. "The TOF-Watch® monitor: Failure to calculate the TOF ratio in the absence of baseline calibration in anaesthetized dogs." *British Journal of Anaesthesia* 108(2): 240-4 (2012).
17. **Martin-Flores M**, Campoy L, Gleed RD. "Further experiences with vecuronium in the horse." *Veterinary Anaesthesia and Analgesia* 39(2): 218-9 (2012).
18. **Martin-Flores M**, Pare MD, Adams W, Campoy L, Gleed RD. "Observations of the potency and duration of vecuronium in isoflurane-anesthetized horses." *Veterinary Anaesthesia and Analgesia* 39(4): 385-9 (2012).
19. Campoy L, **M Martin-Flores M**, Ludders JW, Gleed RD. "Procedural sedation combined with locoregional anesthesia for orthopedic surgery of the pelvic limb in 10 dogs: Case series." *Veterinary Anaesthesia and Analgesia* 39(4): 436-40 (2012).

20. **Martin-Flores M**, Pare MD, Campoy L, Gleed RD. “The sensitivity of sheep to vecuronium: an example of the limitations of extrapolation.” *Canadian Journal of Anaesthesia* 59(7): 722-3 (2012).
21. * Barton-Lamb AL, **Martin-Flores M**, Scrivani PV, Bezuidenhout AJ, Loew E, Erb HN, Ludders JW. “Evaluation of maxillary arterial blood flow in cats with the mouth closed and opened”. *The Veterinary Journal*. Accepted for publication, December 21 2012.
22. Lopez-Fabregat J, Porta Villa G, **Martin-Flores M**. “Reversal of moderate and intense neuromuscular block induced by rocuronium with low dosis of sugammadex for intraoperative facial nerve monitoring“. *Spanish Journal of Anesthesiology and Critical Care* 60(8): 465-8 (2013).
23. **Martin-Flores M**, Sakai DM, Campoy L, Gleed RD. Recovery from neuromuscular block in dogs: restoration of spontaneous ventilation does not exclude residual blockade. *Veterinary Anaesthesia and Analgesia*. Accepted for Publication, February 2013.
24. ‡ Lorenzutti MA, **Martin-Flores M**, Baldivieso JM, Himelfarb MA, Litterio NJ. Evaluation of neostigmine antagonism at different levels of vecuronium-induced neuromuscular block in isoflurane anesthetized dogs. *The Canadian Veterinary Journal*. Accepted for publication May 2013.
25. **Martin-Flores M**, Cortright CC, Koba SJ. Flexible endoscopy through a laryngeal mask airway for retrieval of an airway foreign body in a dog. *Journal of the American Animal Hospital Association*. Accepted for publication June 6 2013.
26. **Martin-Flores M**, Campoy L, Kinsley MA, Mohammed HO, Gleed RD, Cheetham J. Analgesic and gastrointestinal effects of epidural morphine in horses after laparoscopic cryptorchidectomy under general anesthesia. *Veterinary Anaesthesia and Analgesia*. Accepted for publication June 2013.
27. Scrivani PV, **Martin-Flores M**, Van Hatten R, Bezuidenhout AJ. Structural and functional changes relevant to maxillary blood flow observed during computed tomography and non-selective digital subtraction angiography in cats with the mouth closed and opened. *Veterinary radiology and Ultrasound*. Accepted for publication August 26 2013.
28. **Martin-Flores M**, Scrivani PV, Loew E, Gleed CA, Ludders JW. Maximal and submaximal mouth opening with mouth gags in cats: implications for maxillary artery blood flow. *The Veterinary Journal*. Accepted for publication January 2014.

**PI, corresponding author and mentor for resident project*

‡ This publication was accompanied by the editorial “Managing perioperative neuromuscular block. Facial muscle monitoring may lead to faulty clinical decisions”. Fabregat-Lopez J, Diaz-Cambronero O. *Rev Esp Anesthesiol Reanim* 58(10):569-70 (2011).

‡ PI, mentor and corresponding author.

BOOK CHAPTERS:

1. Neuromuscular Blocking Agents and Monitoring. In *Veterinary Clinics of North America: Equine Practice on Topics in Equine Anesthesia*. SC Clark-Price, ed. Elsevier. Vet Clin North Am Equine Pract, 29(1):131-54, 2013
2. Clinical Pharmacology and Toxicology of Local Anesthetics & Adjuncts. In: *Small Animal Regional Anesthesia and Analgesia, 1st ed.* L. Campoy and M. Read eds. Wiley-Blackwell. 2012.
3. Anesthesia for intracranial surgery. In: *Veterinary Surgery: Small Animal, 1st ed.* K.M. Tobias and S.P. Johnston, eds., Elsevier. 2012
4. Postanesthetic myopathy. In: *Equine Fracture Repair*. 2nd edition, A.J. Nixon, ed., WB Saunders Company, (In press).
5. Administration of anesthetic agents. In: *Veterinary Pharmacology*. 2nd edition. M. Boggio and J.C. Rubio eds., ECCU, Cordoba, Argentina. 2011.
6. Administration of anesthetic agents. In: *Veterinary Pharmacology*. 1st edition. M. Boggio and J.C. Rubio eds., ECCU, Cordoba, Argentina. 2009.

ABSTRACTS (presenter's name is underlined):

1. Litterio NJ, Calvinho J, Tarabla H, **Martin M**, Boggio JC. “Excreción de tilosina en leche de vacas sanas y con mastitis subclínica, determinado con un método cualitativo de inhibición microbiológica.” (Tylosin excretion through milk from healthy cows and cows with sub-clinical mastitis, determined by a microbiological qualitative method). Proceedings 5th meeting of Research Teams on Mastitis and Milk Quality. Department of Food Technology, Faculty of Veterinary Sciences, Universidad Nacional del Centro de la Provincia de Buenos Aires, Tandil, Argentina, December 5, 2003.
2. Boggio JC, **Martin-Flores M**, Lorenzutti M, Himelfarb M, Litterio NJ. “Excreción de amoxicilina en muestras individuales de leche de vacas sanas y con mastitis subclínica utilizando métodos microbiológicos cuantitativos y cualitativos.” (Amoxicillin excretion in individual samples of milk from healthy cows and cows with subclinical mastitis, measured with microbiological quantitative and qualitative methods). Proceedings XIX Panamerican Congress of Veterinary Sciences, October 24-28, 2004, Buenos Aires, Argentina.
3. **Martin-Flores M**, Campoy L, Gleed RD. “Monitoring neuromuscular blockade in horses: a comparison between acceleromyography and visual assessment of train-of-four.” Proceedings of the Resident Research Seminar, March 24, 2006, College of Veterinary Medicine, Cornell University, Ithaca, NY. (Awarded 2nd prize for Overall Scientific and Presentation Excellence).

4. **Martin-Flores M**, Campoy L, Gleed RD. “Comparison between acceleromyography and visual assessment of train-of-four for monitoring neuromuscular blockade in horses.” Proceedings of the Association of Veterinary Anaesthetists Spring Scientific Meeting, April 4-6 2006, Liverpool, UK. (Awarded 2nd prize in the Residency Presentation Competition).
5. Campoy L, **Martin-Flores M**, Looney AL, Stewart J, Ludders JW, Gleed RD. “Distribution of lidocaine-methylene blue solution in brachial plexus, psoas compartment and sciatic nerve blocks.” Proceedings of the Resident Research Seminar, March 2007, College of Veterinary Medicine, Cornell University, Ithaca, NY.
6. **Ludders JW**, Gleed RD, Campoy L, **Martin-Flores M**, Horne WA, Verrilli A, Erb HN. “Historical and physiological indicators of diaphragmatic hernia in horses presenting with colic.” Proceedings of the 14th International Veterinary Emergency and Critical Care Society Symposium, August 17-21, 2008, Phoenix, AZ.
7. **Campoy L**, **Martin-Flores M**, Ludders JW, Erb HN, Jay AR, Santare CL, Wang AL, Gleed RD. “Combined femoral and sciatic nerve block (FS) is a good alternative to epidural anaesthesia (EPI) for tibial plateau leveling osteotomy (TPLO) in the dog.” Proceedings of the World Congress of Veterinary Anaesthesiology, 2009, Glasgow, Scotland.
8. †**H Sano**, **M Martin-Flores**, LCP Santos, J Cheetham, JD Araos, R.D. Gleed. “Effects of epidural morphine on gastrointestinal transit in unmedicated horses.” Proceedings of the World Congress of Veterinary Anaesthesiology, 2009, Glasgow, Scotland.
9. †**Pare M**, **Martin-Flores M**, Adams W, Campoy L, Gleed RD. “Potency and duration of vecuronium in isoflurane-anesthetized horses”, poster presentation. The Harry Zweig Memorial Fund for Equine Research Poster Session, Cornell University 2011.
10. **Clark-Price SC**, Lascola KM, **Martin-Flores M**, Shih A, Mc Govern K, DePedro P, Wilkins PA. “Correlation of a Visual Grading Scale and 3-Axis Accelerometry in Horses Recovering from Intravenous Anesthesia”. Proceedings of the American College of Veterinary Anesthesiologists annual congress. September 2010. San Antonio, Texas.
11. **Martin-Flores M**, Barton-Lamb A, Krisunov A, Thuramalla N, **Krivitski N**, Gleed RD. “Effect of vasodilator and vasopressor therapy on cardiac output and central blood volume in a pediatric animal model”, poster presentation. Nineteenth Pediatric Critical Care Colloquium, Sept 6-9, 2012. Santa Monica, CA.
12. **Martin-Flores M**, Sakai D, Campoy L, Gleed RD. “Monitoring recovery from neuromuscular blockade in dogs: Does return of spontaneous ventilation deceive us?” Proceedings of the American College of Veterinary Anesthesiologists annual congress. September 2012. San Antonio, Texas.
13. †**A Barton**, **M Martin-Flores**, PV Scrivani, Abraham J. Bezuidenhout, Ellis Loew, Hollis N. Erb, John W. Ludders. “Evaluation of maxillary arterial flow in cats with and without use of a spring loaded dental mouth gag”. Proceedings of the American College of Veterinary Anesthesiologists annual congress. September 2012. San Antonio, Texas.
14. †**D.M. Sakai**, **M. Martin-Flores**, M.J. Martin, E.A. Tomak, L. Campoy, R.D. Gleed. Differences between acceleromyography and electromyography for monitoring neuromuscular block. AVA Spring Meeting, London, UK, 2013.

15. R.A. Van Hatten, P.V. Scrivani, **M. Martin Flores**, E. Loew, A. Barton-Lamb, R. Carvalho Bichalho, S. Peralta. Comparison of electroretinography and brainstem auditory response to three-dimensional time-of-flight magnetic resonance angiography for detecting reduced blood flow in the maxillary arteries of cats with the mouth opened. Veterinary Dental Forum in New Orleans, LA, October 3-6, 2013

†*PI, corresponding author and mentor for resident project*

≠ *This presentation received the first award for Best Scientific presentation at the 2012 American College of Veterinary Anesthesiologists annual conference.*

Ongoing research

- Continuous noninvasive cardiac output monitoring in a pediatric model; effects of calibration
- Continuous noninvasive cardiac output monitoring in a hemorrhagic swine model.

PRESENTATIONS at SCIENTIFIC MEETINGS -INTERNATIONAL, NATIONAL and REGIONAL:

2006: Veterinary Medical Association of Cordoba, Argentina

“Updates in Veterinary Anesthesia” 3 hours.

“Perioperative management of arrhythmias” 1 hour.

2007: Veterinary Medical Association of Cordoba, Argentina (Each lecture was 1 hour)

“Anesthesia for the patient with endocrinologic disease”

“Anesthesia for the traumatized patient and neuroanesthesia”

“Updates in anesthesia for C-section”

2008: Universidad Catolica de Cordoba, Argentina (Catholic University of Cordoba, Argentina)

“Updates in equine anesthesia” 4 hours.

2009: Western Veterinary Conference, Las Vegas, NV

“Monitoring during general anesthesia for small animals” 1 hour.

2010: CELUCC Teleconference Seminar (Centro de entrenamiento en Cirugia Laparospica de la Universidad Catolica de Cordoba – Training Center for Laparoscopic Surgery at the Universidad Catolica de Cordoba, Argentina). This is a facility that provides training in laparoscopic procedures for Medical Doctors.

“Anesthesia for laparoscopic surgery”

2011 and 2012: Universidad Catolica de Cordoba (Catholic University of Cordoba). Graduate course for Veterinarians, as part of the Specialty in Small Animal Veterinary Medicine, with examination. (16 hours of lectures and 8 hours of wet lab on Small Animal Veterinary Anesthesiology).

2012: Association of Small Animal Veterinarians of Spain (AVEPA). Key speaker (4 hours) for the annual meeting in Cordoba, Spain.

2012: 24th Annual Fred Scott Feline Symposium. Cornell University July 27-29, 2012.
Updates in General anesthesia for the feline patient
Controversies with pain management in cats

2013: New York State Veterinary Conference, Cornell University:
Anesthesia for c-section in dogs
Anesthesia and cardiovascular disease

PRESENTATIONS - STUDENT ORGANIZATIONS:

- Board review for anesthesiology (1 hour/yr). Presented to fourth year veterinary medical students, Cornell University (2005-2009).

RESEARCH GRANTS:

Current:

- Research in Animal Health Program. Amount: \$76,197
Title: "Restoring function in dogs with laryngeal paralysis".
Funded period: 2011-2013
PI: J Cheetham
Role: Consultant
- Feline Health Center: Amount: \$10,716
Title: "Improving Tracheal Intubation in Cats: A Videoscopic Assisted Evaluation of Laryngeal Function and the Effects of Gantacurium".
Funded: June 2012 – June 2013.
PI: **M Martin-Flores**
- Resident Research Grant: Amount: \$ 7,600
Title: Neuromuscular block and laryngeal function in anesthetized dogs.
Funded: 2013-2014
PI: **M Martin-Flores**

Completed:

- Dean's Fund for Clinical Excellence Amount: \$9,960
Title: Effects of epidural morphine in horses undergoing general anesthesia
Dates of funding: November 2005 – October 2006
Principal Investigator: RD Gleed.
Role: Co-PI
Abstract (#9) Manuscript (#7)
- NIH-Consortium with Hospital for Special Surgery. Amount: \$170,351
Title: Evaluation of a MRI biomarker for meniscal repair
Dates of funding October 2009 - 2011
Principal Investigator: LA Fortier
Role: Consultant
- NIH 2R44-HL061994-04A2 Amount: \$10,000
Title: "Minimally Invasive Cardiac Monitor for Neonatal and Pediatric ICU".
Dates of funding: 1 April 2010 - 31 May 2011
PI for Cornell University: RD Gleed
Role: Co-investigator
- Feline Health Center Amount: \$8,758
Title: "Effects of mouth opening on maxillary artery blood flow in cats: implications for the development of post-anesthesia blindness or deafness".
Funded: September 2011 – August 2012
PI: **M Martin-Flores** and P Scrivani
Abstract (#13) Manuscript (#21)
- Bernice Barbour Foundation Amount: \$9,358
Title: "Investigating whether interrupted blood flow in the maxillary arteries is a potential cause of blindness and deafness in cats undergoing dental procedures".
Funded: January 2012 – December 2012
PI: P Scrivani and **M Martin-Flores**
Abstract (#15) Manuscript (#27)

Pending:

Research collaborations: for the following projects I acted as consultant for the development of the IACUC protocol, and provided general anesthesia for those research animals

2007 Dietary inulin supplementation does not promote colonic iron absorption in a porcine model of anemia. PI: Jannine Patterson

2009 Natural orifice transluminal endoscopic surgery. PI: NG Ducharme.

2010 Restoration of cardiac function following infarct in the dog. PI: M Kotlikoff

2011 – 2012 Restoring function in dogs with laryngeal paralysis. PI: J Cheetham.

TEACHING:

FOUNDATION COURSES:

- **VTMED 5500-5510** (Block V): Animal Health and Disease (Fundamentals of Anesthesia and Analgesia). One hour per lecture. 86-92 students

2007 - 2008:

Neuromuscular blockers
Anesthesia for healthy equines
Anesthesia machine laboratory (8 hours)
Monitoring and IV access laboratories (8 hours)

2009:

Mechanisms of general anesthetics 1 and 2
Autonomic pharmacology 1
Neuromuscular blockers
Resuscitation under anesthesia
Anesthesia for healthy equines
Anesthesia machine laboratory (8 hours)
Monitoring and IV access laboratories (8 hours)

2010:

Mechanisms of general anesthetics 1 and 2
Autonomic pharmacology 1 and 2
Neuromuscular blockers
Resuscitation under anesthesia
Anesthesia for the healthy equines
Anesthesia for the compromised patient
Anesthesia machine laboratory (8 hours)
Monitoring and IV access laboratories (8 hours)

2011:

Mechanisms of general anesthetics 1 and 2
Autonomic pharmacology 1 and 2
Hypnotic agents 1 and 2
Inhalational agents 1 and 2
Neuromuscular blockers

Anesthesia for healthy dogs
Anesthesia for healthy horses
Anesthesia and co-existing disease
Anesthesia machine laboratory (8 hours)
Monitoring and IV access laboratories (8 hours)

2012:

Mechanisms of general anesthetics 1 and 2
Autonomic pharmacology 1 and 2
Hypnotic agents 1 and 2
Inhalational agents 1 and 2
Neuromuscular blockers
Anesthesia for healthy dogs
Anesthesia and co-existing disease
Anesthesia machine laboratory (8 hours)
Monitoring and IV access laboratories (8 hours)

2013:

Mechanisms of general anesthetics 1 and 2
Autonomic pharmacology 1 and 2
Inhalational agents 1 and 2
Neuromuscular blockers
Anesthesia for healthy horses
Anesthesia and co-existing disease
Anesthesia machine laboratory (8 hours)
Monitoring and IV access laboratories (8 hours)

- **VTMED 5606:** (Anesthesiology, Clinical Rotation). During 2007-2011 (28 weeks per year), I have provided clinical instruction (via cases and rounds) to approximately 6 students per two-week rotation.

GRADUATE and DISTRIBUTION COURSES:

1. **VTMED 6562 (759):** Animal pain: recognition, prevention and treatment in the 21st century. One hour lecture, 2009-2010; 20-30 students
 2. **VTMED 6617 (715):** Anesthesia for South American camelids. One hour lecture. Castration lab; 4 hours in which students anesthetize and castrated 3-4 llamas or alpacas. 10-15 students.
- **VETCS 7100/7110:** Advanced Veterinary Anesthesia I and II. Each lecture is one hour and directed to resident training and preparation for boards. Approximately 10 attendants per lecture.

2005:

Pericardial disease
Perioperative arrhythmia management
One lung anesthesia
Laparoscopy, thoracoscopy and anesthesia

2006:

Anatomy and physiology of the endocrine system (Diabetes, DKA, Cushing and Addison's disease)

2007:

Anesthetic equipment

2008:

Pericardial disease
One lung anesthesia

2009:

Anatomy and physiology of the neuromuscular junction. Drugs used for neuromuscular blockade.

2010:

Monitoring neuromuscular function
Anesthesia for colics

2011:

Monitoring neuromuscular function
Anatomy and physiology of the neuromuscular junction

2012

One lung ventilation

- 4. VETCS 7000:** Pathophysiology of Gastrointestinal Surgery. One hour lecture directed to Large Animal Surgery Residents in preparation for their specialty board examination. "Anesthesia for colic surgery". January 2011.
"Anesthesia for colics" December 2013.

- 5. VTMED 6321:** Management of fluids and electrolyte disorders. One hour lecture "Respiratory and mixed acid-base disorders". Years 2007-2013. 86-92 students.

SENIOR SEMINAR ADVISING:

Kate Berlin, 2009. "Anesthetic risks and complications in a neurologic Weimaraner".
Shannon Cabell, 2013. "A Case of Suspected Tracheal Rupture in a 12-year-old Domestic Shorthair Cat".
Joy Tseng, 2013: "Anesthetic complications in a Pomeranian with penetrating thoracic wounds".

VETERINARY STUDENT ADVISING:

Advisor for Lisa Terezakis and Nicolas Sherman (DVM Class of 2014)
Luis Macho, Chris Nieves and Drew Enders (DVM class of 2015)

Alina Tsareva and Bona Yu (DVM class 2017)

STUDENTS INVOLVED IN RESEARCH PROJECTS:

Eileen Lau, DVM class 2011. Vet Research Opportunity (2 units). “Twitch potentiation: a potential source of error during neuromuscular monitoring with acceleromyography (AMG) in anesthetized dogs.” (Veterinary Anaesthesia and Analgesia 38(4): 328-335, 2011).

RESIDENT TRAINEES:

Dr Berit Fischer, 2008. DACVAA.	Clinical Assistant Professor, College of Veterinary Medicine, University of Illinois.
Dr Veronica Salazar, 2008. DACVAA.	Head of Anesthesiology Service, Universidad Alfonso X, Madrid, Spain.
Dr Jordyn Boesch 2007-2010. DACVAA	Clinical Assistant Professor, College of Veterinary Sciences, Cornell University.
Dr Luiz Santos 2008-2011. DACVAA	Registrar, Veterinary Anaesthesia. School of Veterinary and life sciences. Murdoch University, Australia.
Dr Hiroki Sano 2008-2011 DACVAA	Senior Lecturer. Massey University, Palmerston North, New Zealand.
Dr Monique Pare 2009-2012	Staff anesthesiologist. New Hampshire Veterinary Specialists. NH.
Dr Ashley Barton 2010-2013	Anesthesiologist. Angell Animal Medical Center, Boston
Dr Daniel Sakai 2011-2014	
Dr Alvaro Cisternas 2012-2015	
Dr Annatasha Bartel 2012-2015	
Dr Diego Portela 2013-2016	

COMMITTEE ASSIGNMENTS and ACTIVITIES:

DEPARTMENT: **Dentistry Faculty Search Committee member, 2010.**

Intern Selection Committee, 2009, 2010 and 2011.
Anesthesiology search committee member, 2012.
Small Animal Internal Medicine search committee member 2013.

AMERICAN COLLEGE OF VETERINARY ANESTHESIOLOGISTS:

- Examination committee member 2011-2013. (Permanent committee)
- American College of Veterinary Anesthesia and Analgesia, abstract reviewer 2013.
- Examination committee – essay questions (ad hoc). 2014.

JOURNAL REVIEWER:

Veterinary Anaesthesia and Analgesia
The Veterinary Journal
Canadian Veterinary Journal
Journal of the American Veterinary Medical Association
Journal of Equine Veterinary Science
Veterinary Ophthalmology
Journal of Clinical Monitoring and Computing