

THOMAS TOBIN
MVB, MSc, PhD, MRCVS, DABT, AMAORC

Toxicologist/Pharmacologist/Veterinarian
SUMMARY CURRICULUM VITAE AND BIOSKETCH
ResearchGate Score, 2015: 41.25
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Address: Maxwell H. Gluck Equine Research Center, Rm. 128C
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Education: MVB, (DVM), University College, Dublin, Nat. Univ. Ireland, 1964
MSc, Pharmacology, U of Guelph 1966
PhD, Pharmacology, Medical Center, University of Toronto, 1970
MRCVS – Member, Royal College of Veterinary Surgeons, 1964-date.

Licenses Licensed to practice in Ireland 1964-date, Ontario Vet. license, 1964-1978,
Kentucky Veterinary License, NS-1053, 1978-date.

Boards DABT, Diplomate, American Board of Toxicology Inc., 1980-2015.

Employment: Professor of Veterinary Science, The Maxwell H. Gluck Equine Research
Center, U.K., Professor, the Graduate Center for Toxicology/ Department
of Toxicology and Cancer Biology, UK, 1975-date.

INTELLECTUAL PROPERTY

Patents Filed/Awarded

- 1) **1984:** US Patent # 4,473,640 for morphine detection: "Detection of Morphine and its analogues using enzymatic hydrolysis".
- 2) **1999:** US Patent # 5,883,095 for treatment of EPM (1999) "Formulations and methods to treat and prevent Equine Protozoal Myeloencephalitis".
- 3) **2004:** US Patent Application number: 20040053938 "Novel method and device for treatment of exercise induced pulmonary hemorrhage in horses"
- 4/ **2005:** US Patent Application number: 20050043288 "Composition and method for marking procaine penicillin"
- 5) **2006:** US Patent # 7,074,834 for an equine tranquilizer (2006); "Long acting, reversible veterinary sedative and analgesic and method of use."
- 6) **2014:** US Utility Patent E-filing, Filing, Oz, H and **Tobin T** "Novel Compositions & Methods for Preventing & Treating Apicomplexan Related Disease" utility patent application E-filed August 4th, 2014, EFS ID:

19771622, Application Number: 14451337 International Application Number: n/a Confirmation Number: 496.

7) **2015:** Provisional chemical synthesis patent in draft.

LICENSED IPS/ COMPANIES:

1/ 1987-1989 International Diagnostic Systems; Royalty arrangements for fentanyl, carfentanil, furosemide, acepromazine, cocaine, detomidine, phenylbutazone, alfentanil, sufentanil and 20-plus others, in ELISA and PCFIA format.

2/ 1991: WTT ELISA TESTS, Inc., created by UK with licenses for 50- plus ELISA tests, 1991. Sold to Neogen, Inc., ELISA Technologies, 1993.

3/ 1999: US Patent # 5,583,095 licensed to Bayer, first FDA approved treatment for Equine Protozoal Myeloencephalitis, marketed as **Marquis®**, August 2001, more recently (Fall 2011) marketed as **Protazil®** by Merck Animal Health.

4/ 1999: 20 metabolites/regulatory analytes/deuterated standards licensed to Neogen.

5/ 2011: 12 other metabolites/regulatory analytes/deuterated standards certified reference standards, licensed to Frontier BioPharm, March 2011.

6/ 2012-2014: University of Kentucky Intellectual Property involving novel therapeutic approaches to parasitic disease licensed for patenting and commercialization to VC Equine Research, Inc., September 24th, 2012. A provisional patent was filed by VC equine and a utility patent made possible by this Intellectual Property disclosure was filed on August 4th, 2014 as follows; US Utility Patent E-filing, Filing, Oz, H and **Tobin T** "Novel Compositions & Methods for Preventing & Treating Apicomplexan Related Disease" utility patent application E-filed August 4th, 2014, EFS ID: 19771622, Application Number: 14451337 International Application Number: n/a Confirmation Number: 496.

COPYRIGHTS/ROYALTIES

2003: Unusual mathematical analysis and biologically unique pathogenesis of MRLS copyrighted (US Copyright# TXU1111484). Other copyrights and IP royalties.

TEACHING

Toxicology, Pharmacology, "Ethics in Scientific Research," "Risk Assessment," International Short Courses: "The Commission Veterinarian/Equine Medical Director" 1995 to 2001, and "Testing for Therapeutic Medications, Dietary and Environmental Substances." Six Kentucky Veterinarian's Short Courses, 2000-2001. Bain-Fallon Lectures, Australia, 1990 and 2002. Workshop on Mare Reproductive Loss

Syndrome (MRLS), August 2002, Published, May 2003. Ongoing lectures to Equine Program students, to Graduate Center for Toxicology Students.

HONORS

Ontario Government Faculty Training Grant 1967, Massey College Junior Fellow, Toronto, Ontario 1967-70, Toxicology Student Award, 1993; Toxicology rated the only “extremely effective” graduate program in Kentucky by National Research Council, 1992-93; Bain Fallon Lectures, 1989; The “Dr. Thomas Tobin Purse,” August 1, Emerald Downs, Seattle, Washington, 1999; Millennium Medal, Dubai, 2001. HBPA Man of the Year, 1995; Kentucky HBPA Man of the Year, 1999; Honorary faculty, College of Veterinary Medicine, Cordoba, Argentina, “Thomas Tobin Purse”, Cordoba, August, 2001. The Professor Thomas Tobin Trophy, Cayamanas Racetrack, Jamaica, April 20th, 2002. Bain-Fallon Lectures, Gold Coast, Australia, July 2002, Thomas Tobin Purse, Sao Paulo, Brazil, 2007, Race won by Baroness Margarida Polak Lara, primeira dama do turfe brasileiro, and prize presented to her, National HBPA 2008 Industrial Service Award, 2009, Invited Lecturer Buenos Aires, Argentina, and Montevideo, Uruguay, July 2012, Bogota, Colombia, 2015.

RESEARCH SUPPORT Approximately \$16 million through 2015.

PUBLICATIONS: About 450 plus papers, patents, communications, four books, several volumes of proceedings, uncounted abstracts. Numerous articles published and reprinted in lay journals. ResearchGate score, 41.25 [August, 2105, this score based on only 205 publications].

SELECTED BOOKS:

- 1) *Drugs and the Performance Horse*, by Thomas Tobin. Foreword by HRH, The Duke of Edinburgh. 480 pp., Springfield, Illinois: Charles C. Thomas, 1981.
- 2) *Equine Drugs and Vaccines: A Guide for Owners and Trainers* 1995. Eleanor Kellon and Thomas Tobin. Breakthrough Publications, Ossining, New York.
- 3) *2009 National HBPA Proposed Medication Policy* 160 pages, Wind Publications. Lexington, KY
- 4) *World Rules for Equine Drug Testing and Therapeutic Medication Regulation 2012 Policy of the National Horsemen’s Benevolent and Protective Association* cy 280 pages, February 2012, Wind Publications, 600 Overbrook Drive, Nicholasville KY 40350
- 5) In translation into Spanish: *Reglamentacion Mundial para Evaluacion de Drogas y Regulacion de Medicacion Terapeutica en Equinos; Política 2012 para la Asociación Nacional de Beneficencia y Protección de Jockeys.* Thomas Tobin, Kimberly Brewer, Kent H. Stirling and Teresita Zambruno, Wind Publications, 600 Overbrook Drive, Nicholasville KY 40350, in progress.

WORKSHOPS/ SYMPOSIA

1) *Proceedings of the Workshop on Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horse.* 218 pages, 1995.

- 2) "Furosemide in the Horse: its actions effects and regulatory control" A Testing Integrity Program Seminar held at The New Orleans Hilton Riverside, March 1 1998. Convened by Richard Sams and Scott Stanley, Edited by J.D Harkins, Wyndee Carter and Thomas Tobin; Wind Publications, PO Box 54248, Lexington Kentucky, 40524 9wind@wind.Org)
- 3) *Proceedings of the First Workshop on the Mare Reproductive Loss Syndrome*. 134 pages, 2002.
- 4) Tobin T, Harkins JD, Carter W, Sams R Stanley S: An interim report on the Testing Integrity Program seminar "Furosemide in the Horse: Its Actions, Effects and Regulatory Control". The New Orleans Hilton, Riverside, CA, March, 124 pages, 1998.
- 5) *Proceedings of the First Workshop on Mare Reproductive Loss Syndrome [2003]* Powell, David G, Troppman, Amy and Tobin, Thomas (eds): 134 pages, The Maxwell H Gluck Equine Research Center, College of Agriculture, Food and Environment, University of Kentucky Lexington, KY, August 2002, Published 2003.

BIOGRAPHICAL SKETCH:

Thomas Tobin (TT), Veterinarian, Dublin, 1964, Pharmacologist, MSc, Guelph, 1966, PhD Medical center University of Toronto, 1970, Instructor>Associate Professor, Michigan State University, 1970-1974. From 1975- date, Equine Pharmacology, Therapeutics and Toxicology (EPTT) program at the University of Kentucky. In 1979 organized the Third Int. Symp. on Equine Medication Control, in 1980 became a Diplomate of the America Board of Toxicology, DABT. <http://www.ca.uky.edu/gluck/index.htm>. In 1981 authored/published *Drugs and the Performance Horse*, a 450 page text. In 1983 testified before Congress on the "Corrupt Horse Racing Practices" act; activity on this bill thereafter ceased.

In 1985 TT began the research that introduced ELISA testing to horse racing. Commercialization of this technology led to the creation of the first UK spin-off company, WTT ELISA TESTS, later sold to Neogen Corp (www.neogen.com). Neogen Lexington now employs 150 plus, brings in \$80M plus/year to Lexington and the ELISA IP yields a significant UK royalty, www.EconDev.uky.edu. A number of these ELISA tests have now been adapted for human hair testing, www.omegalabs.net/.

In 1988 TT became Director of the UK Graduate Center for Toxicology, brought in an \$800K NIEHS Training Grant and developed minority programs. By 1993 core faculty and student admissions were up three-fold, extramural funding had increased from 0 to \$800K per year and new courses on "Ethics in Scientific Research" and "Risk Assessment" had been developed. When the NRC reviewed Kentucky doctoral programs in 1993, only the Graduate Center for Toxicology was rated "extremely effective".

In 1994, TT organized and published an international workshop, "Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses," that brought 70 international industry leaders to Lexington. In 1995, TT and colleagues organized "The Commission Veterinarian/Equine Medical Director: A Short Course". In 1995, TT and colleagues founded the Testing Integrity Program (TIP), a national drug testing Quality Assurance Program (www.testingintegrityprogram.org/). In 1995 TT was named "Man of the Year" by the National Horsemen's Benevolent and Protective Association.

In 1996, TT and David Granstrom investigated new therapeutic approaches to Equine Protozoal Myelitis (EPM), rapidly establishing the therapeutic efficacy of diclazuril and toltrazuril. A patent in this area was granted (US patent #5,883,095, 1999) and licensed to Bayer Animal Health; in July 2001, Bayer Marquis® (Bayer DVM.com – Marquis®) became the first FDA-approved treatment for EPM. More recently, diclazuril as Protazil® has been brought to market under this same patent by Merck Animal Health.

In 1998 the industry focused on Clenbuterol. A series of LC-MS-MS based studies led to the publication of a highly sensitive serum test for Clenbuterol, allowing much more sensitive and reliable regulatory control of therapeutic medications than previously. In 1998 TT also organized and published a Testing Integrity Program [TIP] seminar on furosemide.

In 2000, at the direction of the Kentucky Racing Commission (KRC), TT developed a series of nationally accredited continuing education short courses for practitioners and regulatory veterinarians in Kentucky and surrounding states. Six such short courses were offered.

In May 2001, TT chaired the Toxicology Working Group investigating the 2001 Mare Reproductive Loss Syndrome (MRLS) and his group temporarily redirected to work on MRLS. Within three weeks the Eastern Tent Caterpillar was identified as a/the central factor in MRLS. Work in 2002 clearly linked MRLS to the Eastern Tent Caterpillar; in July 2002 TT proposed that the pathogenesis of MRLS followed a biologically unique probabilistic septic penetrating setal emboli model. In August 2002, TT and David Powell organized the first workshop on the Mare Reproductive Loss Syndrome, published in May 2003. In 2003, MRLS was shown to follow a unique probabilistic mathematical model, Accelerated Failure Time Analysis, and the biologically unique pathogenesis for MRLS based on septic penetrating setal fragments ([www.jarvm.com/articles/ Vol2Iss2/ TOBINJARVMVol2No2.pdf](http://www.jarvm.com/articles/Vol2Iss2/TOBINJARVMVol2No2.pdf)) was formally communicated and the copyright registered (US Copyright# TXU1111484).

In 2003 the program contributed to the writing of the first National HBPA Proposed Policy on Drug Testing and Therapeutic Medication (<http://hbpa.org/resources/MedicationPolicy.pdf>) and focused on developing fully validated quantitative analytical methods for agents abused in racing horses. In 2003 it was decided that it would be in the best interests of the racing industry in Kentucky for the program to accredit, and the process of becoming A2LA accredited was initiated. In 2004, following election of a Republican governor, the program redirected to address therapeutics and toxicology, with an emphasis on diagnostics, prophylaxis and therapeutics for equines.

In 2005 the program began synthesizing a series of certified reference standards and stable isotope internal standards for therapeutic medications, based on earlier thresholds research pioneered by the program, and currently in the process of being licensed. In July 2006 US Patent # 7,074,843 for a novel veterinary sedative and tranquilizer was awarded and a unique pathogenesis for oligofruktan associated equine laminitis was proposed.

More recently work on certified reference standards and stable isotope internal standards for use in quantitative forensic work in equine medication control continues. The program has generated research support from the Kentucky Science and Engineering Foundation [KSEF] the Racing Medication and Testing Consortium [RMTTC] and National and local Horsemen's Benevolent and Protective Association organizations [HBPAs] the Kentucky Equine Drug Research Council and other equine groups in support of the creation and commercial availability of appropriate reference standards for use in racing chemistry. The research/intellectual property goal is to create and provide certified reference standards and stable isotope internal standards for the 50 or so therapeutic medications used in horses in training, and whose use is regulated by quantitative forensic chemistry. This work is being carried out in association with Frontier

Biopharm Inc. of Richmond Kentucky [www.FrontierBiopharm.com] and the Lexington division of Neogen Corporation Inc. [www.neogen.com].

Medications for which certified reference standards and stable isotope, usually deuterated, internal standards have been developed and are have been or are being brought to market include phenylbutazone, flunixin, ketoprofen, methocarbamol, guaifenesin, clenbuterol, procaine and furosemide. Additionally, a number of certified reference standards for drug metabolite fragments/regulatory analytes include unlabeled and deuterated 3-hydroxylicocaine, 3-hydroxymepivacaine, hydroxyethyl promazine sulfoxide, carboxydetomidine and Hydroxydetomidine, with approximately 5 corticosteroid therapeutic medications scheduled for stable isotope reference standard development.

In 2008 the third edition of the National Horsemen's Benevolent and Protective Association Policy on Drug Testing and Therapeutic Medication Regulation was assembled by the program in cooperation with Mr. Kent Stirling, Chairman of the National HBPA Medication Committee and Executive Director of the Florida Horsemen's Benevolent and Protective Association. In 2009 Mr. Kent Stirling and TT were jointly awarded the 2008 National Horsemen's Benevolent and Protective Association Industry Service Award. In March 2011 the first of a sequence of metabolites/regulatory analytes/deuterated standards certified reference standards were licensed to Frontier BioPharm. In February 2012 the fourth edition of the HBPA medication book, now entitled "World Rules for Equine Drug Testing and Therapeutic Medication Regulation" was published and the first certified reference standard for myo-Inositol TrisPyroPhosphate was released through the FrontierBiopharm LLC licensing agreement.

In 2012 a University of Kentucky Intellectual Property involving novel therapeutic approaches to parasitic disease was licensed for patenting and commercialization to VC Equine Research, Inc. A provisional patent was filed by VC Equine and the utility patent made possible by this Intellectual Property disclosure was filed on August 4th, 2014: US Utility Patent E-filing, Filing, Oz, H and **Tobin T** "Novel Compositions & Methods for Preventing & Treating Apicomplexan Related Disease" utility patent application E-filed August 4th, 2014, EFS ID: 19771622, Application Number: 14451337 International Application Number: n/a Confirmation Number: 496.

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ResearchGate Score, 2015: 41.25

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BORN

Dublin, Ireland, United States Citizen

BUSINESS ADDRESS

Maxwell H Gluck Equine Research Center, Room 128C,
University of Kentucky, 1400 Nicholasville Rd, Lexington, KY 40546-0099

E-Mail: ttobin@uky.edu; Phone: (859) 218 1092; Fax: (859) 257-8542
Dubai phone, from US, (011) 971 50 458 9012

HOME ADDRESS

Nine Mile Farm, 5301 Bethel Rd, Lexington, KY 40511

E-Mail- thomastobin@me.com Cellular Phone: 859-229-9392

MARITAL STATUS

Married, Vicki Wooley-Tobin; Daughter, Mary Courtney Tobin

EDUCATION, LICENSES, BOARDS

MVB (DVM)	National University of Ireland, College, Dublin, 1958-1964, Bachelor of Veterinary Medicine, MVB.
MRCVS	Member of the Royal College of Veterinary Surgeons, 1964-date.
MSc	University of Guelph, Pharmacology, 1964-1966
PhD	University of Toronto, College of Medicine, Pharmacology, 1966-70.
DABT	Diplomate, American Board of Toxicology, 1980-2015
LICENSES	Licensed Veterinarian United Kingdom, 1964-date, Canada 1964-1978, Kentucky, NS-1053 1978-date.

FELLOWSHIPS, DISTINCTIONS, AWARDS

Ontario Government Faculty Training Grant 1967-1970
Massey College Junior Fellow, Toronto, Ontario 1967-1970 [<http://www.masseycollege.ca/>]
Bain Fallon Lectures, Australia 1989
Toxicology Student Award, Graduate Center for Toxicology, 1993
Toxicology rated "*the only extremely effective*" *graduate program in KY in 1992-93 by National Research Council*", 1995
"Man of the Year," National Horsemen's Benevolent and Protective Association, 1995
Hirsch Speaker Series Lecturer, University of Arizona, 1996
"Man of the Year," Kentucky Horsemen's Benevolent and Protective Association, 1999
Dr. Thomas Tobin Purse, Emerald Downs, Seattle, 1999
Dr. Thomas Tobin Purse, Cordoba, Argentina, 2001
Honorary Faculty Member, Province of Cordoba College of Veterinary Medicine, Argentina,
2001 Dubai Millennium Medal 2001, Sheikh Mohammed bin Rashid Al Maktoum
The Professor Thomas Tobin Trophy, Cayamanas Racetrack, Jamaica, April 20th, 2002
Bain-Fallon Lectures, Australia, 2002

Thomas Tobin Purse, Jockey Club of Sao Paulo, Sao Paulo, Brazil, 2007

National HBPA 2008 Industry Service Award, 2009

Invited Lecturer Buenos Aires, Argentina, July 2012, and Montevideo, Uruguay, July 2012

Invited Lecturer, Bogota, Colombia, 2105

PROFESSIONAL AND TEACHING EXPERIENCE

1978 - 2015	Professor, Department of Veterinary Science, Professor, Graduate Center for Toxicology, University of Kentucky
2013- Date	Consultant/Director, Marmoom Equine Research Center, Marmoom, Dubai, United Arab Emirates
1988 - 1993	Director, Graduate Center for Toxicology, University of Kentucky
1975 - 1978	Associate Professor, Dept. of Vet Sci and GCT, Univ. of KY
1970 -1975	Instructor, Assiatant and Associate Professor, Dept. of Pharmacology, Michigan State University, East Lansing, Michigan.
1966-1970	PhD Candidate, Dept of Pharmacology, Medical Center, University of Toronto
1964-1966	MSc, Candidate, Dept of Pharmacology, College of Veterinary Medicine, University of Guelph, Guelph, Ontario, Canada
1958-1964	Veterinary student, National University of Ireland, University College Dublin

INTELLECTUAL PROPERTIES, PATENTS, LICENSES, COPYRIGHTS, ROYALTY ARRANGEMENTS

1) 1984: US Patent # 4,473,640, awarded, September 25, 1984. Detection of morphine and its analogues using enzymatic hydrolysis.

2) International Diagnostic Systems, 1987-1989; Royalty arrangements for fentanyl, carfentanil, furosemide, acepromazine, cocaine, detomidine, phenylbutazone, alfentanil, sufentanil and 20-plus others, in ELISA and PCFIA format.

3) 1989: WTT ELISA Tests. Founder with David Watt and Dan Tai of first UK "Spin Off" company to distribute ELISA tests for use in racing horses and greyhounds. Sold to Neogen Corp, 1992, significant UK royalty. Tests developed and brought to market include:

1 Generic Barbiturate	17 Ethacrynic Acid
2 Generic Benzodiazepine	18 Etorphine
3 Generic Bronchodilator	19 Flunixin
4 Generic Corticosteroid	20 Glycopyrollate
5 Generic Fentanyl	21 Haloperidol Metabolites
6 Generic Opiate 1	22 Isoxsuprine
7 Generic Promazine	23 Levallorphan
8 Generic Tricyclics	24 Lofentanil
9 Azaperone	25 Mazindol Metabolites
10 Boldenone	26 Cotinine
11 Butorphanol	27 Meperidine
12 Clenbuterol	28 Mepivacaine
13 Cocaine Benzoylcegonine	29 Nalbuphine
14 Detomidine/Medetomidine	30 Oxymorphone/Oxycodone
15 Dexamethasone	31 PCP
16 Droperidol	32 Pentazocine

33 Procaine	56 Caffeine
34 Stanozolol	57 Clenbuterol
35 Sulfamethazine	58 Cromolyn (adapted)
36 Tetracaine	59 Diprenorphine
37 Alfentanil	60 Droperidol
38 Bumetanide	61 Glycopyrrolate (adapted)
39 Buprenorphine	62 Imipramine
40 Carfentanil	63 Isoxsuprine
41 Fentanyl	64 Ketorolac
42 Fluphenazine	65 Lidocaine
43 Furosemide (Lasix)	66 Lofentanil
44 Haloperidol (Blood only)	67 Mazindol
45 Mazindol (Sanorex)	68 Medetomidine
46 Methylprednisolone	69 Meperidine
47 Nandrolone	70 Mepivacaine
48 Phenylbutazone (Blood only)	71 Methocarbamol
49 Reserpine	72 Phencyclidine
50 Sufentanil	73 Prazepam
51 THC Metabolites	74 Sulfamethazine
52 Trans-3-hydroxycotinine	75 Temazepam
53 Anileridine	76 Triamcinolone Acetonide
54 Azaperone	and others
55 3, 4-aminobenzoyllecgonine (Cocaine metabolites)	

4) 1981, 1995: Publishing royalties: “Drugs and the Performance Horse, 1981” and “Equine Drugs and Vaccines: A Guide for Owners and Trainers, 1995.”

5) 1999: US Patent #5,883,095, Formulations and methods to treat and prevent Equine Protozoal Myeloencephalitis. Investigational New Animal Drugs: two fast track/no environmental risk INADs for two agents for use in EPM. US Patent #5,883,095 granted in this area; licensed to Bayer Animal Health, 1999, marketed as Marquis®, August, 2001, first FDA approved treatment for EPM, more recently (Fall 2011) marketed as Protazil® by Merck Animal Health. Significant UK and Kentucky New Ace Corp royalty.

6) 2003: Copyright: Unusual mathematical analysis and biologically unique pathogenesis of MRLS copyrighted, US Copyright (US Copyright# TXU1111484)..

7) 2006: US Patent # 7,074,834, Patent Awarded: “Long acting, reversible veterinary sedative and analgesic and method of use. A novel veterinary sedative and tranquilizer.”

8) 1999: Equine Drug Metabolite Standards, Certified Reference Standards, Stable Isotope Internal Standards and Haptens: W. Karpiesiuk, F. Lehner, Eisenberg, R and Tobin, T have synthesized, purified and have licensed or are licensing the release as authentic equine metabolites/forensic standards or haptens, modest UK royalty:

	Parent Medication	Regulatory Analyte/ Internal Standard
1	Acepromazine (metabolite)	1-Hydroxyethyl) promazine
2	Acepromazine (deuterated metabolite)	D ₄ 2-(1-hydroxyethyl) promazine sulfoxide
3	Acepromazine (metabolite)	Acepromazine sulfoxide
4	Amitraz (deuterated metabolite)	D ₆ N-2,4-Dimethylphenyl-N'- methylformamide
5	Bupivacaine (metabolite)	3-Hydroxybupivacaine
6	Chlorpromazine (metabolite)	7-Hydroxychlorpromazine
7	Clenbuterol (deuterated standard)	D ₉ Clenbuterol
8	Clenbuterol (metabolite)	1-(4-Amino-3,5-Dichlorophenyl)ethane-1, 2-diol
9	Clenbuterol (metabolite)	2-(2-)4-Amino-3,5-Dichlorophenyl)-2- hydroxyethylamino)-2-Methyl-Propan-1-Ol
10	Colterol and Bitolterol (metabolite)	3-O-Methylcolterol
11	Carboxydetomidine	D ₄ Carboxydetomidine
12	Hydroxydetomidine	D ₄ Hydroxydetomidine
13	Fluphenazine (metabolite)	7-Hydroxyfluphenazine
14	Furosemide (deuterated standard)	D ₅ Furosemide
15	Flunixin (deuterated standard)	D ₃ Flunixin
16	Guafenesin (deuterated standard)	D ₄ Guafenesin
17	Guanabenz (metabolite)	Hydroxyguanabenz
18	Ketoprofen (deuterated standard)	D ₄ Ketoprofen
19	Lidocaine (deuterated metabolite)	D ₁₀ 3-hydroxylidocaine
20	Lidocaine (metabolite)	3-Hydroxylidocaine
21	Mazindol (metabolite)	2-(2-Aminoethyl)-3-(4-chlorophenyl)-3- hydroxy-2,3-dihydro-isoindol-1-one
22	Mepivacaine (deuterated metabolite)	D ₃ 3-Hydroxymepivacaine
23	Mepivacaine (metabolite)	3-Hydroxymepivacaine
24	Methocarbamol (deuterated metabolite)	D ₄ Methocarbamol

25	Phenylbutazone (deuterated metabolite)	D ₉ Phenylbutazone
26	Procaine (deuterated metabolite)	D ₁₀ Procaine
27	Promazine (metabolite)	3-Hydroxypromazine
28	Promethazine (metabolite)	Promethazine sulfoxide
29	Propranolol (metabolite)	4-Hydroxypropranolol
30	Propiomazine (metabolite)	2-(1-Hydroxypropyl) promethazine sulfoxide
31	Propionylpromazine (metabolite)	2-(1-Hydroxypropyl) promazine sulfoxide
32	Pyrilamine (deuterated standard)	D ₄ Pyrilamine
33	Pyrilamine (metabolite)	O-desmethylpyrilamine
34	Ropivacaine (metabolite)	3-Hydroxyropivacaine
35	Ropivacaine (metabolite)	4-Hydroxyropivacaine
36	Selegiline (metabolite)	Desmethylselegiline
37	Tramadol (metabolite)	Desmethyltramadol
38	Tripelennamine (metabolite)	3-OH-tripelennamine
39	Nandrolone	D ₃ Nandrolone

9) 2012-2014: University of Kentucky Intellectual Property involving novel therapeutic approaches to parasitic disease licensed for patenting and commercialization to VC Equine Research, Inc., September 24th, 2012. A provisional patent was filed by VC equine and a utility patent made possible by this Intellectual Property disclosure was filed on August 4th, 2014 as follows; US Utility Patent E-filing, Filing, Oz, H and **Tobin T** “Novel Compositions & Methods for Preventing & Treating Apicomplexan Related Disease” utility patent application E-filed August 4th, 2014, EFS ID: 19771622, Application Number: 14451337 International Application Number: n/a Confirmation Number: 496.

10) VALIDATED ANALYTICAL METHODS:

1/ “Confirmation and Quantitation of Furosemide in Equine Serum:” TIP Verified SOP, September 11th 2003 Developed for the Testing Integrity Program by the Equine Pharmacology Laboratory, Gluck Equine Research Center, University of Kentucky.

ADVISORY BOARDS/ACTIVITIES

The Irish Equine Center, Johnstown, County Kildare, Ireland
 Thoroughbred Owners of California
 Equine Testing Program, University of Auckland, New Zealand
 Neogen Corp., Lansing, Michigan

The Alabama; Arizona; Arkansas; Canada; Charles Town, WV; Florida; Iowa; Indiana, Kentucky; Louisiana; Michigan; Minnesota; National, Nebraska, Ohio, Oklahoma, Ontario Canada, Oregon, Pennsylvania, Tampa Bay Downs, FL; Texas; Washington State; West Virginia and Canadian Divisions of The Horsemen's Benevolent and Protective Association

The Keeneland Association, Lexington, Kentucky

The Fasig-Tipton Company, Lexington, Kentucky

FrontierBioPharm, Richmond, Kentucky

New Ace Corp, Lexington KY

Equine Molecular Diagnostics, Lexington, KY.

BioQuine Inc.

Wycliff Pharmacy

SELECTED UNIVERSITY COMMITTEE ASSIGNMENTS

Patents Committee, University of Kentucky, 1985-1988

Director of GCT, *ex officio* member of five plus GCT standing committees, 1988-1993

Safety Committee Chair, Gluck Equine Research Center, 1996

Self-Study Committee Chair, Department of Veterinary Science, 1999

Building Committee, Gluck Equine Research Center, 2001

Toxicology Working Group on Mare Reproductive Loss Syndrome, 2001

Graduate Committee, Dept. of Veterinary Science 2009

Faculty Evaluation Committee, Dept. of Veterinary Science 2009

SELECTED COMMITTEES, NATIONAL AND INTERNATIONAL

Chairman, Executive, Social and US Organizing Committees, Third International Symposium on Equine Medication Control, Lexington, KY, 1979. Raised \$50,000 to support program and organized scientific and social programs for Third International Symposium on Equine Medication Control, June 12, 13, 14, 1979, Lexington, KY. Approximately 120 registrants, 15 countries represented, 50 papers presented; proceedings published 1980.

Chairman, Executive, Social and US Organizing Committees, Seventh International Conference of Racing Analysts and Veterinarians, Louisville, KY, 1988. Raised approximately \$85,000 to support program and organized scientific and social programs for Seventh International Conference of Racing Analysts and Veterinarians, April 10-14, 1988, Louisville, KY. Approximately 285 registrants, 23 countries represented, 70 papers presented, proceedings edited and published, 1990.

Chairman, Executive, Social and US Organizing Committees, Workshop on "Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses," August 18-19, 1994, Lexington, KY. In six weeks raised \$33,000, brought in 70 scientists, veterinarians and industry leaders from around the world to review the problem of limiting the sensitivity of testing for the above substances. Workshop involved 35 presentations, final report presented and workshop proceedings edited and published, April, 1995.

Chairman, Executive Committee of the International Short Course entitled "The Commission Veterinarian/Equine Medical Director: A Short Course". In association with Drs. George Mundy, Scott Stanley, and Rick Sams organized a 3 day short course for commission

veterinarians, November, 1995. 85 registrants attended from 20 countries. Two days of lectures, one day field trip to Ohio State and Turfway Park. Raised approximately \$45K, short course proceedings to be published, precipitated suit against Illinois Hooved Animals Humane Society.

Chairman, Executive Committee of the International Short Course entitled "The Commission Veterinarian/Equine Medical Director: A Short Course". In association with Drs. Mitzi Fisher, Scott Stanley, and Rick Sams organized a 2 day short course for Commission Veterinarians, at Churchill Downs, April 30th and May 1st & 2nd, 2001. 65 registrants attended from 15 countries. Raised approximately \$30K. Publication of proceedings interfered with by arrival on May 5th of the Mare Reproductive Loss Syndrome, MRLS.

Organizing and Fundraising Committee, 19th, ICRAV 2012 Conference held at the Sheraton Society Hill Hotel, Philadelphia, Pennsylvania, September 15-22, 2012. Approximately \$200K raised for this Conference.

OTHER COMMITTEES:

Racing Commissioners International Task Forces:

1991: Task Force on Drug Classification, 1991-present

1995: Testing Integrity Program, Founding Member, 1995.

1996: Veterinary Advisory Board to the Lexington Humane Society (1996)

1995: Research Facilitator, Testing Integrity Program 1995-date

2001: Veterinary Advisor, National HBPA Medication and Drug Testing Policy Working Group, To date.

2001: AAEP "Norwood" Committee on Therapeutic Medications, 2001.

2002: AAEP "Arthur" Advisory Committee to the NTRA Medication Task Force, 2002

2007 Racing Medication and Testing Consortium [RMTC], member, Dietary and Environmental Substances Sub-Committee, 2007-- date

2007: Racing Medication and Testing Consortium [RMTC], member, Veterinary Advisory Committee 2007- date

2009: Racing Medication and Testing Consortium [RMTC], member, committee for the creation of "National Thresholds for Trace level Environmental Substances" 2009 to date.

20010-2013: Racing Medication and Testing Consortium [RMTC] Scientific Advisory Committee,

2012: RMTC Baltimore medication scientific advisory group, September 2012.

2015 ARCI Scientific Advisory Committee.

ACADEMIC ADVISING

Thesis Advisor to:

- 1) Susapto Dirdjosudjono, MS, 1973
- 2) Brian L. Roberts, MS, 1977
- 3) Richard Miller, MS, 1978
- 4) Connie G. White, MS, 1978
- 5) Joan Combie, MS, 1979
- 6) Steve Ballard, MS, 1980
- 7) Theodore Shults, MS, 1980
- 8) Eugenie Green, MS, 1980

- 9) William A. Rees, PhD, 1997
- 10) Levent Dirikolu, PhD Cnd, 2000
- 11) Lisa Collett, MS Cnd, 1982
- 12) Joan D. Combie, PhD, 1982
- 13) David DeQuick, MS, 1984
- 14) Thomas Wood, PhD, 1989
- 15) Jyan-Ming Yang, PhD, 1992
- 16) Sylvia Chay, MS, 1987

- 17) Scott Stanley, PhD, 1992
- 18) Neil Hoglen, MS, 1990
- 19) Joanne Scheurer, MS Cnd, 1993
- 20) Eddie Mitchell, PhD, 1996
- 21) Bradford Bentz, MSc, 1999
- 22) Cedric Holtz, MS, 2000
- 23) Jeffrey Bosken, PhD, 2003
- 24) Manu Mohan Sebastian, BVSc, PhD, 2004
- 25) Fernanda Camargo/Olivier, DVM, PhD, 2007
- 26) Kimberly Brewer DVM, 2012
- 27) Jake Machin, BS, 2015-2019

Post-Doctoral Fellows/Research Associates:

- Dr. John M. Weld, Studies on Endotoxin Shock, 1980-1981.
Dr. Steve Kamerling, Studies on Equine Pain Perception, 1982-1984.
Dr. Stefan Kwiatkowski, Synthesis of Derivatives of Tranquilizers, Stimulants, and Narcotic Analgesics, 1987-1988.
Dr. Ursula Wacjen, Synthesis of Derivatives of Tranquilizers, Stimulants, and Narcotic Analgesics, 1987-1988.
Dr. Ichiro Fuse, Synthesis of Derivatives of Non-steroidal Anti-inflammatory Drugs and Diuretic Drugs, 1987-1988.
Dr. Tomohiro Ichimaru, Synthesis of Derivatives of Non-steroidal Anti-inflammatory and Diuretic Drugs, 1987-1988.
Dr. Alwarsamy Jeganathan, Synthesis of Derivatives of Drugs of Abuse in Racing Horses, 1987-1988.
Dr. Daniel J. Harkins, Studies on the Pharmacological Effects of Therapeutic Agents, 1993-2004.
Dr. Nathan Hall, Studies on Musculoskeletal Injuries in Racing Horses, 1995.
Dr. Wojciech Karpiesiuk: Synthesis of Drug Metabolites, 1995-2009.
Dr. Fritz Lehner: Detection of High Potency Drugs, 1996-2004.
Dr. Levent Dirikolu, Pharmacokinetics of Furosemide, 2002-2004.
Dr. Julio Gutierrez 2009-2011, Reference standard synthesis
Dr Raghotham R Pinninti 2011, Reference standard synthesis
Dr. Thirupathi Yerramreddy 2011, Reference standard synthesis
Dr. Sucheta Kudrimoti, 2012, Reference standard synthesis

Visiting Scientists/Associates:

- Dr. David Snow, Glasgow University: Muscle biopsy work, 1978
Dr. Marie Agnes Popot, France; Etorphine, 1986
Dr. Mei-Ru Dai, China; Immunoassay for etorphine and buprenorphine, 1987
Dr. John Goodman, Energy Lab; Mass spectral confirmation of high potency drugs, 1988
Dr. Antonio Queiroz Neto, Jaboticabal, Brazil, Behavioral Responses in Horses, 1994-1995
Dr. In Mo Lee, Seoul, South Korea, Studies on Musculoskeletal Injuries in Racing Horses, 1996.

EXTRA-CURRICULAR

Guest Editor, Columnist, Contributor, Editorial Board: *EQUUS*, *Hub Rail*, *The Blood-Horse*, *Practical Horseman*, *Journal of Equine Medicine and Surgery*, *Equine Sport Medicine*, *Horsemen's Journal*, *Appaloosa World*, *Modern Horse Breeding*, *Thoroughbred Times*; about 10-plus articles/year published in lay press. University of Toronto Deep Sea Fishing Team, 1968-1973, Cave Run Sailing Association, 1988. The Thoroughbred Club of America, 1978,

The Lexington Polo Club, 1992, The Lafayette Club, 1994, The Iroquois Hunt Club, 1996-2006, Master of Ceremonies, The Bluegrass Charity Ball, 2002-2008.

NATIONAL AND INTERNATIONAL ACTIVITIES

Commonwealth of Kentucky, licensed to practice veterinary medicine (1977-present, NS-1053)
 Royal College of Veterinary Surgeons, London, licensed to practice veterinary medicine (1964-present)
 Ontario Veterinary Association, licensed to practice veterinary medicine (1964-1978)
 Canadian Veterinary Medical Association, licensed to practice veterinary medicine (1964-1978)
 Michigan Veterinary Medical Association (1970-1974)
 American Veterinary Medical Association (1970-present)
 Central Kentucky Veterinary Medical Association (1975-1980)
 American Society for Pharmacology and Experimental Therapeutics
 Founding Fellow and Councilor, American College of Veterinary Pharmacology
 American College of Veterinary Toxicology
 British Equine Veterinary Association, associate member
 International Doping Research and Control Group
 Association of Official Racing Chemists (1977-To date)
 International Specialty Group of Racing Analysts and Veterinarians
 American Association of Equine Practitioners
 Society of Toxicology, 1978-1988
 Royal Dublin Society
 Who's Who in the South and Southwest
 Phi Zeta Society
 Member and Founding Fellow, Testing Integrity Program (T.I.P)
 Editorial Board: *Modern Horse Breeding*, 1988; *Journal of Equine Medicine and Surgery*, 1978
 Guest Reviewer: *Science*, *Molecular Pharmacology*, *National Science Foundation*, *JAVMA*, *AJVR*, *J Eq Med & Surg*, *J Vet Pharm Ther*, *Eq Pract*

INVITED PRESENTATIONS, SEMINARS, EXPERT OPINIONS, AND RELATED EVENTS

- 1) Ligand Binding Studies on Na⁺⁺K⁺-ATPase, Department of Biochemistry, Michigan State University, Fall 1971.
- 2) The Cardiac Glycosides and the Na⁺⁺K⁺-ATPase, Department of Chemistry, Michigan State University, Spring 1972.
- 3) First Int'l Symposium on the Na⁺⁺K⁺-ATPase, New York Academy of Sciences Symposium, November 1973.
- 4) Ontario Veterinary Association Conference on Anesthesia in Lab Animal Medicine, Toronto, January 1974.
- 5) Neurochemistry Session Chairman, FASEB, Spring Meeting, Atlantic City, New Jersey, April 1974.
- 6) Cardiac Glycosides, Erythrophleum Alkaloids and the Na⁺⁺K⁺-ATPase, Physiology Institute, University of Aarhus, Denmark, September 1974.
- 7) Erythrophleum Alkaloids and the Na⁺⁺K⁺-ATPase, The Biochemical Society, Galway, Ireland, September 1974.
- 8) Cardiac Glycoside Inhibition of Na⁺⁺K⁺-ATPase: Its relation to their Ionotropic Actions, Department of Veterinary Science, University of Kentucky, October 1974.

- 9) Cardiac Glycosides, Erythrophleum Alkaloids and the Na⁺⁺K⁺-ATPase, Medical College of Pennsylvania, Department of Pharmacology, December 1974.
- 10) Int'l Conference on Doping Research and Control, Paris, France, May 1975.(First ICRAV!)
- 11) Cardiac Glycosides and the Na⁺⁺K⁺-ATPase, Department of Pharmacology, University of Kentucky, September 1975.
- 12) The Pharmacology of Procaine in the Horse and Its Forensic Significance, School of Veterinary Medicine, University of Tennessee, Knoxville, November, 1975.
- 13) Photoaffinity Labeling of the Na⁺⁺K⁺-ATPase, Biochemistry Department, University of Kentucky, February 1976.
- 14) Drugs, Racehorses and the Kentucky Equine Drug Research Program, National Association of State Racing Commissioners Meeting, San Diego, California, March 1976.
- 15) Interaction of Ouabain and Cassaine with Na⁺⁺K⁺-ATPase and Its Relationship to their Inotropic Actions, presented at a symposium on Drug Action at the Molecular Level, London, England, April 1976.
- 16) The Pharmacology and Pharmacokinetics of Procaine in Thoroughbred Horses, presented at Second Int'l Conference on Research and Doping Control, Newmarket, England, May 1976.
- 17) The Pharmacology of Drugs Used in Racing, Seminar, American Association of Equine Practitioners Meeting, Dallas, Texas, November 1976.
- 18) Furosemide in the Horse, National Association of State Racing Commissioners, San Juan, Puerto Rico, March 1977.
- 19) A Review of the Pharmacology of Furosemide in the Horse, presented to Third Int'l Doping Conference, Rome, Italy, March 1977.
- 20) The Pharmacology of Procaine in the Thoroughbred Horse, British Equine Veterinary Association Meeting, Dublin, Ireland, October 1977.
- 21) The Pharmacology of Furosemide in the Horse, Cornell University, Ithaca, New York, November 1977.
- 22) An In Depth Seminar on Medication and Equine Practice, AAEP Meeting, Vancouver, British Columbia, December 1977.
- 23) The Pharmacology of Furosemide in the Horse, Department of Pharmacology, University of Washington, Seattle, December 1977.
- 24) Seminars on Procaine and Lasix[®] in Thoroughbred Horses (Postgraduate Veterinarians Course), Michigan State University, January 1978.
- 25) Session Chairman, Pharmacokinetics Section, 1st Conference of American College of Veterinary Pharmacologists, Baton Rouge, Louisiana, March 1978.
- 26) "Pre-race Testing", presentation to National Association of State Racing Commissioners, Miami, Florida, March 1978.
- 27) Seminar, "The Pharmacology of Furosemide in the Horse," Colorado State University, Fort Collins, April 1978.
- 28) Seminar, "The Pharmacology of Furosemide in the Horse," Purdue University, Lafayette, Indiana, April 1978.
- 29) Seminar, "Plasma and Urinary Concentrations of Drugs and Pharmacological Effects," Chicago Equine Veterinarians Group, May 1978.

- 30) The Pharmacology of Narcotic Analgesics in the Horse: Studies on the Detection, Pharmacokinetics, Urinary Clearance Times and Behavioral Effects of Pentazocine and Fentanyl in the Horse, Fourth Int'l Doping Conference, The Curragh, Ireland, 1978.
- 31) White CG, Woods WE, Tobin T: The Pharmacology of Reserpine in the Horse, I. Effects of Reserpine and Imipramine on Platelet Uptake of Serotonin, presentation and publication, Seventh Int'l Congress of Pharm, Paris, France, 1978.
- 32) The Pharmacology of Narcotic Analgesics in the Horse, Purdue University, Lafayette, Indiana, November 1978.
- 33) Tobin T, Maylin GA, Fregin F et al.: Drugs and Performance Testing in Racehorses, presentation to NASRC, San Francisco, California, March 1978.
- 34) Tobin T: Medication Testing in North America, presentation to European analysts, Cologne, Germany, March 1979.
- 35) Moderator, Pharmacological Studies on Doping Drugs in Horses, Third Int'l Symposium on Equine Medication Control, Lexington, KY, June 1979.
- 36) Tobin T: Lasix® in the Horse, Jockey Club Round Table Conference, Saratoga Springs, New York, August 1979.
- 37) Race Horse Medication, Pharmacologic, Forensic and Administrative Considerations, University of Louisville, KY, September 1979.
- 38) Overview of Antibiotic Therapy in the Horse, Kentucky Equine Practitioners, November 1979.
- 39) Guest Lecturer, College of Veterinary Medicine, University of Missouri, Columbia, Medication and Medication Control in Racing Horses, November 1979.
- 40) Equine Pharmacology Workshop, Columbia, Missouri, November 1979.
- 41) Overview of Basic Antibiotic Therapy in the Horse, 25th AAEP Meeting, Miami, Florida, December 1979.
- 42) Guest Lecturer, Clinical Veterinary Pharmacology, College of Veterinary Medicine, Colorado State University, Fort Collins, January 1980.
- 43) The Pharmacology of Furosemide in the Horse, Diagnostic Laboratory, Iowa State University, Ames, February 1980.
- 44) Drugs and the Performance Horse, Department Large Animal Medicine, University of Guelph, Guelph, Ontario, March 1980.
- 45) Recent Advances in Studies on the Drug-Receptor Complexes, with Special Reference to Na⁺⁺K⁺-ATPase and the Opiate Receptor, Second Symposium on Veterinary Clinical Pharmacology and Therapeutics, University of Pennsylvania, June 1980.
- 46) Two invited papers on a special session on "Medication in Competing Horses," British Equine Veterinary Association:
- 47) (I) Survey of Positive Results from Racecourse Anti-doping Samples in the USA.
- 48) (II) Experiences in the Application of Pre-race Dope Testing.
- 49) Bayes' Theorem and its Significance in Equine Drug Testing, presented at AORC Conference NASRC Meeting, Lexington, KY, April 1980.
- 50) The Pharmacology of Furosemide in the Horse, presented at the 1980 AAEP Meeting, Anaheim, California.
- 51) The Pharmacology of the Corticosteroids in the Horse, presented at 1980 AAEP Meeting, Anaheim, California.

- 52) The Role of Simple Behavioral Models in Performance Studies. Seminar on Drugs in Horse Racing, Racecourse Security Services, Newmarket, England, February 1981.
- 53) Drugs and the Performance Horse, Lexington Rotary Club, March 1981.
- 54) Drugs and the Performance Horse, Student Colloquium, Louisiana State University, Baton Rouge, April 1981.
- 55) Pharmacology of Acepromazine in the Horse, Fourth Int'l Symposium on Equine Medication Control, Melbourne, Australia, May 1981.
- 56) Phenylbutazone Use Under a Controlled Medication Program, Fourth Int'l Symposium on Equine Medication Control, Melbourne, Australia, May 1981.
- 57) An Overview of Antibiotics and Anti-Inflammatory Therapy in the Horse, Quebec Veterinarians Conference, Montreal, Canada, September 1981.
- 58) An Overview of Performance Horse Medication and Its Control, Mid-American Veterinarians Conference, Louisville, KY, October 1981.
- 59) Guest Lecturer, College of Veterinary Medicine, Gainesville, Florida, September/October 1981.
- 60) Drugs and the Performance Horse, Student Chapter of AAEP, Gainesville, Florida, October 1981.
- 61) "Directions," with Carolyn Kell, thirty-minute television program on Drugs and the Performance Horse, Kentucky Educational Television, October 1981.
- 62) Drugs and the Performance Horse, College of Veterinary Medicine, Virginia Tech, Blacksburg, February 1982.
- 63) Endotoxin Shock in Horses, American Society for Veterinary Pharmacology and Experimental Therapeutics, Ohio State University, Columbus, April 1982.
- 64) Pharmaceutical Manufacturer's Association, invited presentation on "Drugs, Medications, and Racing Horses," Louisville, KY, August 1982.
- 65) Symposium on Drugs in Horse Racing and paper on Effects of Drugs on Equine Performance, Fall meeting American Society for Pharmacology and Experimental Therapeutics, University of Louisville, KY, August 1982.
- 66) Guest Lecturer, College of Veterinary Medicine, University of Florida, Gainesville, September/October 1982.
- 67) QED BBC Television Interview on Anabolic Steroids and Racing Horses, Oxford, England, September 1982.
- 68) The Effects of Drugs on Equine Performance, First Int'l Conference on Equine Exercise Physiology, Oxford, England, September 1982.
- 69) Drugs, Medications and Breeding Horses, Munster Thoroughbred Breeders Society, Cashel, Ireland, October 1982.
- 70) Problems, Perceptions and Scientific Realities in Race Horse Medications, invited presentation, Auburn University, Auburn, Alabama, October 1982.
- 71) Drugs and Performance Horses, Kentucky Horsemen's Short Course, October 1982.
- 72) Drugs and Performance Horses, University of Calgary, Canada, February 1983.
- 73) Drugs and Performance Horses, University of Saskatoon, Saskatchewan, Canada, February 1983.
- 74) Drugs and Performance Horses, Harness Horsemen's Association, Columbus, Ohio, March 1983.

- 75) Testimony before the Judiciary Committee, Subcommittee on Criminal Justice, Washington, DC, May 1983, "Phenylbutazone, Furosemide and Drug Testing."
- 76) Drugs and Racing Horses, College of Veterinary Medicine, University of Illinois, November 1983.
- 77) Phenylbutazone and Furosemide in the Racing Horse, Veterinary College of Ireland, Dublin, Ireland, January 1984.
- 78) Drugs, Equine Performance, Drugs in the Growing Horse, Horsemen's Short Course, University of Nevada, Reno, February 1984.
- 79) Plasma Levels of Phenylbutazone in Racing Horses, invited presentation American Academy of Veterinary Pharmacology and Therapeutics, College Station, Texas, April 1984.
- 80) Pain Perception and Control in Equines, Proceedings of the Fifth Int'l Symposium on Equine Medication Control, Toronto, Canada, June 1984.
- 81) The Foreign Substance Rule: Presentation to the Board of the HBPA, Cleveland, Ohio, July 1984.
- 82) Drug Detection in Racehorses, Forensic Decisions on Drug Testing in Racehorses, Antibiotics in Equine Medicine, four hours of lecture, South Florida Veterinary Medical Association, Miami, Florida, Labor Day, 1984.
- 83) Drugs, Medication Rules and Performance Horses, four hour seminar, The Caribbean Veterinary Medication Association, Trinidad, November 1984.
- 84) Medication and Testing for Drugs in Racehorses, Transylvania University, Lexington, KY, February 1985.
- 85) Drug Detection in Racehorses, Forensic Decisions Based on Drug Detection in Racehorses and Antibiotics in Equine Medicine, four hour seminar, New Jersey Veterinary Medical Association, Atlantic City, March 1985.
- 86) Drug Detection in Racing Horses and Antibiotic Use in Equine Medicine, four hour seminar, Indiana Veterinary Medical Association, Indianapolis, March 1985.
- 87) Experiences as an Expert Witness, Educating People While Under Oath, presented at the Sixth Int'l Symposium on Equine Medication Control, Hong Kong, 1985.
- 88) Drugs and Racing Horses, New Hampshire Vet Med Assoc., New Hampshire, February 1986, four hours of continuing education.
- 89) Keeping Track, California Thoroughbred Breeders Assoc., Breeders Cup Meet, Oct. 27, 1986, Pasadena, California, Use of Medication During a Horse's Racing Career: Does It Mask Inheritable Defects.
- 90) Drugs and the Performance Horse, Irish Veterinary Association Meeting, Kildare, Ireland, December 1987.
- 91) Immunoassay Testing in Equine Forensic Chemistry, Southern Group, Irish Thoroughbred Breeders, Killoran Lodge, Co. Tipperary, Ireland, September 1988.
- 92) ELISA Testing for Drugs: A New Technology, Institute for Mines and Minerals, Lexington, KY, September 1988.
- 93) ELISA Testing for Drugs in Horses: A New Technology, Bologna, Italy, October 1988.
- 94) ELISA Testing for Drugs in Horses: A New Drug Testing Technology, North American Judges and Stewards Conference, Livonia, Michigan, October 1988.
- 95) ELISA Testing for Drugs in Horses, Harness Expo, Pompano Beach, Florida, November 1988.

- 96) Performance Effects of Drugs in Horses, American Association of Equine Practitioners, San Diego, California, December 1988.
- 97) ELISA Testing for Drugs in Racing Horses, U.N.I.R.E, Rome, Italy, March 1989.
- 98) Drugs, Equine Performance and ELISA Testing for Drugs, Equitana, Essen, West Germany, April 1989.
- 99) Bain Fallon Lectures, eight lectures on Equine Pharmacology and Drug Testing, Coffs Harbour, Australia, May 1989.
- 100) Invited Lecture Tour, North and South Islands, New Zealand, three locations, 18 lectures, May 1989.
- 101) Thoroughbred Racing Protective Bureau, ELISA Testing in Racing Horses, Minneapolis, Minnesota, October 1989.
- 102) Quality Assurance Program Legal Seminar, St. Louis, Missouri, Trace Levels in Equine Drug Testing, November 1989.
- 103) Drug Testing in Racing Horses, four seminars in Mexico City, December, 1989.
- 104) Invited presentations, Eighth International Symposium on Equine Medication Control, Harare, Zimbabwe, February 1990.
- 105) Southern Arizona Veterinary Medical Association, Tucson, Arizona, six seminars on medication in Racing Horses, June 1990.
- 106) ELISA Testing in Racing Horses, Central Kentucky Farm Manager's Club, June 1990.
- 107) Five lectures to veterinarians, Buenos Aires, November 1990.
- 108) Four lectures to administrators, Buenos Aires, November 1990.
- 109) Twelve lectures to Oklahoma Veterinary Medical Association, Oklahoma City, Oklahoma, January 11-12, 1991.
- 110) Drug Testing and the Graduate Center for Toxicology at the University of Kentucky, Kentucky State University, February 1991.
- 111) Drug Testing and Exotic Drugs in Racing Horses, Johnson & Wells University, Providence, Rhode Island, February 1991.
- 112) Six presentations to the South African Equine Practitioners Association, February 18-19, 1991, Caledon, Cape Province, South Africa.
- 113) Presentation to Capetown Turf Club Members on ELISA Testing and Drug Testing in Racing Horses, February 19, 1991.
- 114) Presentation to Durban Turf Club Members on ELISA Testing and Drug Testing in Racing Horses, February 20, 1991.
- 115) Presentation to Turffontein (Johannesburg) Turf Club Members on ELISA Testing and Drug Testing in Racing Horses, February 21, 1991.
- 116) Expert testimony, South Africa, Affidavit for Turffontein Turf Club on Narcotic Analgesics in Racing Horses. February 1991.
- 117) Four presentations to the Indiana Equine Veterinarians Group on Drugs, Drug Testing and ELISA Testing in Racing Horses, Andersonville, Indiana, March 13, 1991.
- 118) Drugs, Racehorses and Illegal Drug Detection, Benedict College, Columbia, South Carolina, April 1991.
- 119) Trace Levels of Medications in Racing Horses, invited presentation to the floor, Racing Commissioners International Meeting, Cincinnati, Ohio, May 1991.

- 120) American Association of Clinical Chemistry, Southeast Ohio Valley Group, ELISA Based Analytical Procedures: A Revolution in Equine Drug Testing, Lexington, Kentucky, October 12, 1991.
- 121) Expert Testimony on Testosterone in Racing Horses on behalf of Iowa Racing Commission Hearing, December, 1991.
- 122) Expert testimony, Cook County Courthouse, State vs Wilkie, June, 1991, on behalf of prosecutor.
- 123) Two phone depositions, Hearing on Glycopyrrolate, California Horse Racing Board, January & February, 1992, commission witness.
- 124) Deposition/Affidavit on behalf of the Colorado State Racing Commission on Pharmacology of Isoxuprine, August, 1992.
- 125) Immunology and the Betting Window, presentation to the Clinical Ligand Assay Society, St. Louis, Missouri, November, 1992.
- 126) Immunology and the Betting Window. Presentation to Sigma Diagnostics Group, Sigma Chemical Company, St. Louis, Missouri, November, 1992.
- 127) Review of videotape for the Suretie of the Province of Quebec, Quebec, Canada.
- 128) Use of Analgesics in Racing Horses and Their Regulatory Control, invited presentation, British Equine Veterinary Association, September, 1993.
- 129) Four lectures on Control of Medications in Racing Horses, Royal Western India Turf Club, Bombay, India, January 3, 1994.
- 130) Presentation on Control of Therapeutic Medications in Racing Horses, Kunigal Stud, Bangalore, January 5, 1994.
- 131) Presentation on Control of Medication in Racing Horses to HRH Prince Miteb, HH Prince Sultan, the Executive Director of the Riyadh Equestrian Club and the club's veterinarians, Riyadh, Saudi Arabia, January 11, 1994.
- 132) Invited presentation on Thresholds and Clearance Times for Therapeutic Agents in Racing Horses, Winter meeting of HBPA, Hot Springs, Arkansas, February 21, 1994.
- 133) Invited presentation on Thresholds and Clearance Times for Therapeutic Agents in Racing Horses, ARCI meeting, Los Vegas, Nevada, May 23, 1994.
- 134) Invited presentation on No Effect Thresholds for Local Anesthetics in Racing Horses, 10th International Conference of Racing Analysts and Veterinarians, Stockholm, Sweden, July 7, 1994.
- 135) Presentation on Workshop on Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses to National Summer HBPA Meeting, Chicago, Illinois, July 25, 1994.
- 136) Workshop on Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses, Lexington, Kentucky, August 18-19, 1994.
- 137) Invited presentation on the outcome of the Workshop on Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses, AAEP Annual Meeting, Vancouver, British Columbia, Saturday, December 3, 1994.
- 138) Invited presentation, panel discussion "Are You Positive You Are Negative", University of Arizona Conference on Racing, Tucson, Arizona, December 8, 1994.
- 139) Report on "Thresholds for Therapeutic Medications in Racing Horses", Spring meeting of the National Horsemen's Benevolent and Protective Association, Houston, Texas, April 13, 1995.

- 140) The Need for Thresholds for Therapeutic Medications in Racing Horses, Farm Manager's Club, Lexington, Kentucky, April 4, 1995.
- 141) Thresholds for Therapeutic Medications in Racing Horses: A Television/Live Presentation at the ARCI Meeting in Oklahoma City, Oklahoma, April 23, 1995. Arranged for TV clips by Wayne Lukas, Dick Mandella and John Forsythe, structured program in association with Scott Stanley and Rick Sams.
- 142) Television clips: a) Amantadine and Rimantadine Prophylaxis of Equine Influenza, b) Thresholds for Therapeutic Medications in Racing Horses. Clips made April 18, 1995, for Derby release.
- 143) University of Kentucky Equine Law Seminar, invited presentation on Thresholds in Equine Medication Control, Thursday, May 4, 1995.
- 144) Kentucky Equine Research Short Course "Recent Advances in Equine Nutrition", "Drugs and Drug Testing: What Should the Feed Manufacturer Know," May 11, 1995, Lexington, Kentucky.
- 145) Presentation, Irish Turf Club Analytical Laboratory Review Committee, June 21, 1995.
- 146) Invited presentation: "Update on Equine Medication Research," Salishan Lodge, Oregon, July 25, 1995. Voted Man of the Year by the National HBPA.
- 147) Calgary Exhibition and Stampede: Opinion letter to defuse Chuck Wagon Racing Crisis, August, 1995.
- 148) Expert opinion on Clanobutin, The Southern Africa Jockey Club, Nov. 1995.
- 149) Invited Review, Irish Turf Club, September 1995, Kildangan Stud, Co Kildare
- 150) Invited Presentations on Equine Medication. Indiana Veterinary Medical Association. February, 1996.
- 151) Invited Presentation, "Doping or Therapeutic Medication" The Dutch Association of Equine practitioners, Amersfoort, Holland, March 6, 1996.
- 152) "Medication and Medication Control in Racing Horses," Hirsch Series Speaker Lectures, the University of Tucson, Tucson, Arizona, March 29, 1996.
- 153) Expert opinion on Sodium Bicarbonate: For the Oregon State Racing Commission, March, 1996.
- 154) Invited Presentation, International Conference of Racing Analysts and Veterinarians, Report on Workshop on "Testing for Therapeutic Medications, Environmental and Dietary Substances in Racing Horses, May 1966, Brisbane, Australia.
- 155) Invited Presentation, "Therapeutic Medications, "No Effect Thresholds" and the Performance Horse" The Members Room, Kalgoorlie Turf Club, Kalgoorlie, Western Australia, May 27, 1996.
- 156) Invited Presentation, "Therapeutic Medications, "No Effect Thresholds" and the Performance Horse" The Southern Districts Thoroughbred Association Supported by The Breeders, Owners, Trainers, and Reinsmen Association Trotting Association, Golden Nugget Room, Gloucester Park, Perth, Western Australia, May 30, 1996.
- 157) Invited Presentation, "Therapeutic Medications, "No Effect Thresholds" and the Performance Horse" A Presentation at Ellerslie Racecourse, Auckland, New Zealand, June 1, 1996.
- 158) "Therapeutic Medications, "No Effect Thresholds" and the Performance Horse" A Presentation to Equine Practitioners and Regulators, Auckland University Medical Center, New Zealand, June 2, 1996.

- 159) "The Detection, Actions, Uses and Effects of Drugs and Medications in Performance Horses". A series of seminars to BHP staff, Limerick, Ireland, July 1-5, 1996.
- 160) "The Philosophical Basis For "No Effect Thresholds" or "NETs." Annual Conference of the American Veterinary Medical Association, Louisville, Kentucky July 21, 1996.
- 161) South American Anti-Doping Technology and Medication Testing Conference - The Jockey Club of Brasiliero. August 8th and 9th, 1996, The Rio De Janeiro JCB Central Offices.
- 162) "Performance Affecting Agents and Medications in Racing Horse: An Overview of Their Uses and Effects in Racing Horses"
- 163) "Testing for Performance Affecting Agents and Medications in Racing Horses"
- 164) "Testing for Therapeutic Medications, Environmental and Dietary Substances: The Need for Limited Sensitivity Testing".
- 165) "The North American Approach to Medication Control; The ARCI Foreign Substances Classification System and the American Association of Equine Practitioners Therapeutic Medication List".
- 166) "No Effect Thresholds": One North American Approach to Limiting the Sensitivity of Testing for Approved Therapeutic Agents.
- 167) The Jockey Club of Sao Paulo, Sao Paulo, Brazil, August 12th, 1996. Two hour seminar on "Equine Medication Control in North America and "No Effect Thresholds" or NETS.
- 168) UNESP at Jaboticabal, Jaboticabal Veterinary School, August 13th, 1996. One hour seminar on "Equine Medication Control in North America and "No Effect Thresholds" or NETS.
- 169) Presentations to the "Confederacion Hipica De Puerto Rico, Inc." Second Technical Convention. El Conquistador Beach Resort, Puerto Rico, Sept. 15th, 1996.
- 170) Trinidad and Tobago Racing Authority, Santa Rosa Racing Facility, Churchill Roosevelt Highway, O'Meara, Arima, Trinidad. September 27th, 1996.
- 171) "Performance Affecting Agents and Medications in Racing Horse: An Overview of Their Detection, Actions, Effects and Uses."
- 172) "Limited Sensitivity Testing for Therapeutic Medications, the ARCI Foreign Substances Classification System, the American Association of Equine Practitioners Therapeutic Medication List and Developing "No Effect Thresholds" or NETs.
- 173) Environmental and Dietary Contaminants and "Positives". AAEP Denver, Sunday, December 8, 1996.
- 174) "Quantification of Pharmacological Response in the Horse." U of Arizona RTIP, Tucson, Dec 11th, 1996.
- 175) "Thresholds Research Progress." Two presentations to HBPA December 15th and 16th, Phoenix, AZ, Dec. 1996.
- 176) Video Teleconference; "Overview of Medication Control" distance seminar format for Maryland practitioners, presented, March 1997.
- 177) Presentations on "Drug Detection and Control in Racing Animals" at the Scientific Centre for Racing Camels, Al Ain, Abu Dhabi, United Arab Emirates, April 7-8th 1997.
- 178) "Regulators, Regulations and the Marketing of Therapeutic Medications" April 16-17th 1997, Merck Inc., Rahaway, New Jersey.
- 179) Presentation on Equine Protozoal Myelitis, Equine Dressage Clinic, New Jersey. April 19th 1997.
- 180) Presentation on analytical/pharmacological relationships for Lidocaine, Association of Racing Commissioners International meeting. Boston, Sunday April 20th, 1997.

- 181) Review of analytical/pharmacological relationships for therapeutic and performance altering drugs, seminar presentation, BHP, Limerick, Ireland, July 3, 1997.
- 182) Presentation on "Developing and Marketing ELISA Tests in an Evolving Regulatory Environment". Washington, DC. July 17-18th, 1997.
- 183) "Analytical/Pharmacological Relationships for Therapeutic Medications". Summer HBPA conference, Las Vegas, Nevada, 1997.
- 184) "Analytical Pharmacological Relationships: An Overview of Progress". Testing Integrity Program, New Bolton Center, Philadelphia, PA., September, 1998.
- 185) Presentation on "Lasix and EIPH" on behalf of the Thoroughbred Owners & Breeders Association. The Breeder's Cup, Hollywood Park, California, 1997.
- 186) "Analytical Pharmacological Relationships" update on progress in this field. Presented to the National HBPA, Ft. Lauderdale, Florida, January, 1998.
- 187) Television clip – Superscience "Diclazuril and EPM," Monday, February 9th, Channel 36.
- 188) Presentation on "Diclazuril and Equine Protozoal Myelitis" Eighth International Conference on Infectious Diseases. Dubai, United Arab Emirates, March 1998.
- 189) Presentations on "Analytical-Pharmacological Relationships," Reviews and specific cases, the 12th International Conference of Racing Analysts and Veterinarians, Vancouver, British Columbia, April, 1998.
- 190) "Hay, Oats & Water – Then (?) and Now," Presentation to the Thoroughbred Owners of California, July 23, Del Mar, California, 1998.
- 191) "Hay, Oats & Water – Then (?) and Now" Presentation to the Medication Committee and the Board of the National HBPA, Des Moines, Iowa, July 26th and 27th, 1998.
- 192) "EPM and the Performance Horse: New Treatments and Management Options" Presented at the Kentucky Horse Council Seminar, Red Mile Place, Lexington, November 25th, 1998.
- 193) "Limits on the Sensitivity of Testing" Conference on Applied Biotechniques in the Equine, Brazilian Horse Breeders. Belo Horizonte, Brazil, November 25th, 1998.
- 194) "Limits on the Sensitivity of Testing" Sao Paulo Veterinarians and Regulators Group, Sao Paulo, Brazil, November 26th, 1998.
- 195) "Limits on the Sensitivity of Testing" College of Veterinary Medicine, Jaboticabal, Brazil, November 27th, 1998.
- 196) Representing Testing Integrity Program (TIP) at the RaceTrack Industry Testing Program, Tucson, Arizona, December 10th, 1998.
- 197) "Analytical Techniques in Racing Chemistry" BHP Laboratories, Limerick, Ireland. January 8th, 1999.
- 198) "Limitations of the Sensitivity of Testing". Presentation to Harness Racing Stewards, Perth, WA, January 11th, 1999.
- 199) Clenbuterol: Review of current research in this area. Presentation to the Medication Committee, National Horsemen's Benevolent & Protective Association, January 16th, Ft. Lauderdale, FL.
- 200) Seminar for Merial on introduction of Omeprazole in Equine Market. Boston, MA, February 26, 1999.
- 201) "Panel of Experts on Medication" March 6th, 1999, Orlando Florida. Thomas Tobin, Richard Sams, George Maylin, and Thomas Lomangino. Hosted by Stan Bergstein of Harness Tracks of America.
- 202) Six plus presentations to the Association of Official Racing Chemists on Drug Testing in Racing Horses, March 10th - March 16th, 1999, New Orleans, Louisiana

- 203) Presentation on Drug Testing and medication control, March 26th, 1999, Dover, Delaware, Seminar @ Delaware Harness Commission Offices.
- 204) Seminar on Medication Control, June 24, 25th, 26th, 1999, Boston, MA for The Controlled Release Society.
- 205) Attendance at the National Council of Legislators from Gaming States (NCLGS) Seminar, July 11th, 1999, Louisville, KY
- 206) Presentation on Clenbuterol, July 16th - 17th, 1999, Chicago, Illinois. Association of Racing Commissioners International (ARCI) Workshop.
- 207) Attendance at Summer Meeting of The Horsemen's Benevolent and Protective Association Meeting, August 2nd - 6th, 1999, Seattle, Washington.
- 208) Presentation to Thoroughbred Owners of California, Del Mar Racetrack, August 7th, 1999, San Diego, California.
- 209) "Seminar on Clenbuterol"; August 21st, 1999; Association of Racing Commissioners International, Del Mar Hilton; San Diego, CA
- 210) Presentation on Clenbuterol Regulation. October 9th - 11th, 1999, Palm Beach, FL. Presentation on Clenbuterol Regulation. National Association of Parimutual Regulators.
- 211) Presentation on "Equine Medication Control: Clenbuterol and Cocaine." National HBPA Meeting, New Orleans, LA, January 30 - February 1, 2000.
- 212) "SuperTesting": Seminar at the Gluck Equine Research Center with Mr. James Gallagher of the NTRA February 7th, 2000.
- 213) Organization of Racing Investigators, Keeneland, Lexington, KY. "Past, Present and Future of Horse Drug Testing". Wednesday, March 22nd, 2000.
- 214) Testing Integrity Program, Davis, California. March 30th - April 1, 2000. Presentations on Clenbuterol, Cocaine and Pyrilamine.
- 215) "Therapeutic Medication of Racing Horses: A Short Course"; Kentucky Racing Commission/Kentucky Racing Commission/Kentucky Equine Drug Council. Short Course, Three Hours. Keeneland, April 21st, 2000.
- 216) New Directions in Equine Drug and Medication Testing. Equine Law Section of the Kentucky Bar Association. Marriott Griffin Gate, May 3, 2000.
- 217) "Therapeutic Medication of Racing Horses: A Short Course": Kentucky Racing Commission/Kentucky Racing Commission/Kentucky Equine Drug Council. Short Course, Three Hours. Churchill Downs, June 8, 2000.
- 218) Invited presentation and discussion group on Product Entry into the Equine Market, Boehringer/3M at the 3M Corporate Retreat, Wonewok, Wisconsin, June 9-12, 2000.
- 219) Representing the Department and the College of Agriculture at the "Memoire" of Mr. Cedric Holtz, Dijon, France, July 26, 2000.
- 220) Review of Equine Research. National Horsemen's Benevolent and Protective Association, Minneapolis, Minnesota, August 4, 2000. Charles Hughes and Thomas Tobin
- 221) Clenbuterol in the Horse: An Overview. The 3M Corporation, Minneapolis, Minnesota, August 5, 2000. Charles Hughes and Thomas Tobin.
- 222) Invited presentation to 13th International Conference of Racing Analysts and Veterinarians. "No Effect Levels – an Overview and a Pharmacological Approach." Cambridge, England, August 9, 2000.
- 223) "Therapeutic Medication of Racing Horses: A Short Course": Kentucky Racing Commission/Kentucky Racing Commission/Kentucky Equine Drug Council. Short Course, Three Hours. Ellis Park, June 8, 2000.

- 224) Eighth Testing Integrity Workshop. "High Sensitivity and High Throughput ELISA and Mass Spectral Analysis." Lexington, Kentucky. October 6,7, and 8, 2000.
- 225) "Therapeutic Medication and Racing Horses: A Short Course." Extended program with three guests faculty and 50+ registrants. Churchill Downs, Louisville, KY. October 31, 2000.
- 226) "Medication: Then and Now." Stewards Accreditation Short Course. University of Louisville, November 13, 2000.
- 227) Invited panelist, "Therapeutic Medication and the Racing Horse." The American Association of Equine Practitioners Meeting, San Antonio, Texas. November, 2000.
- 228) Invited speaker, Testing Integrity Program, Race Track Industry Program. Tucson, Arizona. December, 2000.
- 229) Therapeutic Medication & Racing Horses: A Short Course: Turfway Park, LLC, Florence, Kentucky. March 20, 2001. Guest Faculty: Dr. Mitzi Fisher, Dr. Thomas Wood; 40 registrants.
- 230) Therapeutic Medication & Racing Horses: A Short Course: Turfway Park, LLC, Florence, Kentucky. March 20, 2001. Guest Faculty: Dr. Mitzi Fisher, Dr. Thomas Wood; 40 registrants.
- 231) The Commission Veterinarian/Equine Medical Director 2001: A Short Course: Kentucky Derby Museum, Louisville, Kentucky. May 1-2, 2001. Extensive guest faculty; 80+registrants/participants, extensive international list of attendees.
- 232) Presentation on the Mare Reproductive Loss Syndrome (MRLS), Keeneland, May 28th, 2001.
- 233) Board Meeting, Thoroughbred Owners of California, Del Mar, California, Saturday, July 21st, 2001.
- 234) With Dr. Levent Dirikolu, presentation on Formulation Strategies for Clazuril Anti-Protozoals, Bayer Animal Health, Kansas City, Kansas, August 10th, 2001.
- 235) "Zero Tolerance – A Myth" presentation to the Board of the National Horsemen's Benevolent and Protective Association, Copley Plaza, Boston, MA, Monday, August 13th, 2001.
- 236) College of Veterinary Medicine, Cordoba, Argentina, August 16th, 17th and 18th – 14 lectures in Continuing Education Short Course, Honorary Faculty Member, College of Veterinary Medicine of the Province of Cordoba.
- 237) Cordoba: History of Equine Medication Control: Medication Control from the early Eighteen-hundreds to today.
- 238) Cordoba: Equine Drugs and Medications: Their absorption, distribution, metabolism and elimination in the horse. Equine Drug Metabolism: an overview of why chemists test horse urine. Equine Drug Testing: an overview.
- 239) Cordoba: An overview of the Pharmacological Actions of Performance altering Drugs effects, including how drugs and medications are used to influence racing performance.
- 240) Cordoba: The "NO Effect Threshold" concept and how "No effect Thresholds" are developed.
- 241) Cordoba: The Narcotic Analgesics and their actions and detection in the Horse.
- 242) Cordoba: Central Stimulant Drugs and their actions and effects.
- 243) Cordoba: Selected Tranquilizers and their actions and effects (class 2 agents).
- 244) Cordoba: Selected Tranquilizers and their actions and effects (class 3 agents).
- 245) Cordoba: Selected Broncodilators and their actions and effects.

- 246)Cordoba: Selected Non-steroidal Anti-inflammatory Medications and their actions and effects.
- 247)Cordoba: Furosemide and other agents used in the control of Exercise Induced Pulmonary Hemorrhage....
- 248)Cordoba: Anabolics and their actions and effects.
- 249)Cordoba: The rules of the Therapeutic Road.
- 250)Cordoba: Equine Protozoal Myelitis: A New Therapeutic Approach.
- 251)Dubail Grass Sickness Research Group, Dubai, UAR. Presentation on "Toxicokinetics of Cyanide in the Horse", September 22nd, 2001. Dubai Millenium Medal.
- 252)Chicago Hilton, Boshringer Ingelheim Working Group on Torpex. Presentation on Detection Times for Albuterol after Administration by Torpex. October 16th, 2001.
- 253)Keeneland Racecourse. Presentation and Press Conference on "Proposed Policy on Drug and Medication Testing" by the National Horsemen's Benevolent and Protective Association.,October 18th, 2001.
- 254)Attendance and Presentations at TIP Meeting and AAEP Medication Summit, Tucson, Arizona, December 2001.
- 255)"Overview of the Proposed Policy on Drug Testing and Medication Control," Las Vegas, Nevada, Tuesday, January 22nd , 2002.
- 256)"An Overview of MRLS", Karakata Sales Complex, Karakata, New Zealand. Sponsored by the University of Auckland, January 26th, 2002.
- 257)"An Overview of Equine Medication Research". Presented to the Board of the Florida HBPA, Gulfstream Park, February 14th , 2002.
- 258)Equine Medication Control Thresholds: An Overview. The Conference Center, Bank of Nova Scotia, Kingston, Jamaica, April 18th, 2002.
- 259)Furosemide and EIPH: An Overview. The Conference Center, Bank of Nova Scotia, Kingston, Jamaica, April 18th, 2002.
- 260)Highest No-Effect Dose for Pharmacological Responses to Acepromazine in the Horse: A Preliminary Communication. Presented to the Research Committee of the Testing Integrity Program, May 1st, 2002.
- 261)"ELISA Testing of Racing Horses: A Regulatory Revolution". Presented for the California Association of Toxicologists, Tempe, Arizona, May 18th, 2002.
- 262)"Town and Gown: Academic 'Spin-offs' in the Bluegrass". Presented to the Lexington Kiwanis Club, Kentucky Inn, Lexington, Kentucky, July 9th, 2002.
- 263)Intellectual Property Presentation with Videotape in Support of a Patent Application on a New Equine Sedative, Analgesic and Tranquilizer. The Patent Office, Washington, D.C., July 11th, 2002.
- 264)Presentation to Medication Committee of the National Horsemen's Benevolent and Protective Association, Vancouver, Canada, July 19th, 2002.
- 265)An overview of current drug issues in racing and comparison of medication rules around the world. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 266)Practical experiences with drug testing in the pre-purchase in the USA and other places. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.

- 267) Factors affecting the excretion time and detection limits for NSAIDs-PBZ, finadyne, ketoprofen, meclofenamic acid, meloxicam, etc. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 268) Sensitivity of testing, threshold levels and minimum pharmacologic activity. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 269) Excretion and detection of corticosteroids – triamcinolone, Depomedrol, Voren depot, dexamethasone, betamethasone, etc. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 270) Anabolic steroids – excretion and detection of oil and water based, injectable and oral. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 271) Sedatives – excretion and detection. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 272) Excretion and detection of medications used to treat respiratory tract disease e.g. clenbutorol, demborexine, lasix, etc., nebulised drugs vs systemic. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 273) Look to the future new drugs, new tests and an overview of MRLS research. Australian Equine Veterinary Association invited lecture, Bain-Fallon Lectures, The Gold Coast, Australia, July 2002.
- 274) Drug and Medication Testing and Its Regulatory Control. Stewards Short Course, Retama Park, San Antonio, Texas, September 17, 2002.
- 275) Erythrophleum in Racing Horses: Detection and Regulatory Control. Stewards Short Course, Retama Park, San Antonio, Texas, September 17, 2002.
- 276) Shock Wave Therapy in Racing Horses: Detection and Regulatory Control. Stewards Short Course, Retama Park, San Antonio, Texas, September 17, 2002.
- 277) Presentation on new Kentucky Medication Rule. Kentucky Racing Commission Meeting, The Red Mile, September 24, 2002.
- 278) “Drug and Medication Detection in Racing Horses.” Kentucky Equine Management Internships, Gluck Equine Research Center, Lexington, Kentucky, October 9, 2002.
- 279) Drug and Medication Testing and Regulatory Control in Racing Horses. Stewards Short Course, Louisville, Kentucky, November 12, 2002.
- 280) Town and Gown: Academic “Spin-offs” in the Bluegrass, with a minor in caterpillars. Presented to the Lexington Sunrise Rotary Club, The Lafayette Club, Lexington, Kentucky, November 26, 2002.
- 281) Phoenix Arizona, National Horsemen’s Benevolent and Protective Association, Winter Meeting. Presentation on National HBPA Proposed Policy on Drug Testing and Therapeutic Medication. January 26, 2003.
- 282) New Orleans, Louisiana. National Horsemen’s Benevolent and Protective Association Winter Convention. January 31, 2004.
- 283) Atlanta, Georgia. Clayton State University Biology Seminar. March 9, 2004.
- 284) Dubai, UAE: 15th International Conference of Racing Analysts and Veterinarians, March 19-26, 2004.
- 285) Portland Oregon: National Horsemen’s Benevolent and Protective Association Summer Meeting, July 21st-24th, 2004

- 286) Louisville KY. American Association of Equine Practitioners workshop, Brown Hotel, Louisville, July 25th, 2004.
- 287) Istanbul Turkey, Invited Presentation, International Racehorse Owners Association, August 21st- 24th, 2004.
- 288) Rio Jockey Club, Nov 1st, 2004
- 289) Congreso Mundial Equino Confepaso, November 19-21, 2004.
- 290) January 15-18 2005 , National Horsemen's Benevolent and Protective Association Winter Meeting, San Antonio, Texas, Presentation on the matter of trace level morphine identifications and regulatory approaches to the same
- 291) Attended Equine Guelph Research Meeting as representative of Ontario Horsemen's Benevolent and Protective Association and as Equine Guelph Grant Reviewer. Feb 15th-16th, 2005
- 292) Visit to Oklahoma City to present to the Oklahoma Horse Racing Commission concerning medication rules. June 16th, 2005
- 293) November 21-23, 2005, Congreso Mundial Equino Confepaso, Fedequinas Congress San Juan, Puerto Rico, Review of Equine Drug Testing, Performance Affecting Substances and Regulation of Therapeutic Medications in Paso Fino Horses
- 294) National Horsemen's Benevolent and Protective Association, Summer Meeting, Toronto, Ontario, Canada, July 20-24th 2005. Presentation on the matter of trace level identifications of dexamethasone in racing horses
- 295) Proc 51st Annual Convention American Association of Equine Practitioners Seattle, Washington, Dec 3-6th, 2005. Camargo FC, Tobin T: "A Review of Environmental Morphine Identifications (EMIs): Worldwide Occurrences and Responses of Authorities". Proc 51st Annual Convention American Association of Equine Practitioners pp 58-64, 2005.
- 296) Presentation at 52nd Annual Convention American Association of Equine Practitioners, December 2006, San Antonio, Texas; presentation, Camargo FC, Hughes C, Lehner AF, Stirling K, Tobin T: "Trace" Benzoylcegonine (BZE) Identifications In Post-Race Urines: Probable Sources And Regulatory Significance Of Such Identifications. In Press, Proc 52nd Annual Convention American Association of Equine Practitioners, December 2006, San Antonio, Texas
- 297) Congreso Mundial Equino Confepaso, Fedequinas Congress, Bogota, Colombia, October 2006 .28th and 29th, two platform presentations, "Avoiding Inconsequential "Positives": The Rules of the Regulatory Road for Regulators" T. Tobin and K.H. Stirling and "Horsemen Avoiding Positives: The Rules of the Therapeutic Road" T. Tobin and K.H. Stirling.
- 298) 16th International Conference of Racing Analysts and Veterinarians, Tokyo, Japan, October 21-27th, 2006, platform presentation "Synthesis of deuterated analytical standards: Ketoprofen-d3 and Flunixin-d3. Proceedings of the 16th International Conference of Racing Analysts and Veterinarians, Tokyo, Japan.
- 299) August 15th 2006, Thoroughbred Owners of California (TOC), Annual Medication Meeting, invited presentation, donation in support of Gluck research program, presentation on deriving thresholds for therapeutic medications and visit with UC Davis faculty and CHRB and TOC staff.
- 300) National Horsemen's Benevolent and Protective Association, Summer Meeting, Minneapolis, July 13th-14th 2006, Invited presentation on the "Brass Hat" matter and the need for concentrations thresholds for therapeutic medications

- 301) American Endurance Riders Annual Conference (AERC), San Antonio Texas, February 24-25, 2006. Crowne Plaza Riverwalk, San Antonio "Thomas Tobin, University of Kentucky's Gluck Equine Research C
- 302) Visit to Abu Dhabi, personal guest of HH Sheik Sultan, of the Abu Dhabi Royal Family; January 16-19th 2006. Review of Endurance Racing and discussions and presentations concerning same and invitation to support UK research Program
- 303) National Horsemen's Benevolent and Protective Association Winter Meeting, Tampa Florida, January, 13th-14th 2006. Presentation on the matter of trace level benzoylcegonine detections, with particular reference to recent matters in Indiana and West Virginia.
- 304) Orlando Florida, December 1-4, 2007. Attendance at Orlando AAEP meeting and presentation of paper on regulatory thresholds for caffeine and related substances.
- 305) Buenos Aires, Montevideo, Sao Paulo, November 2-13th 2007. Presentations in Buenos Aires, lecture series the Uruguayan Veterinary Medical Association November 8-9th, 10 lectures covering various aspects of equine drug testing and therapeutic medication
- 306) Sao Paulo, Nov 10-12th 2007. Guest of Sao Paulo, Jockey Club, review of Sao Paulo, equine drug testing laboratory, race named in honor of and and visit with Senior Sao Paulo Jockey Club Member Baroness Margarida Polak Lara
- 307) Tokyo Japan 16th October 21-26TH 2007. Attended the International Conference of Racing Analysts and Veterinarians, and gave a platform presentation on Certified Reference Standards
- 308) Bogotá Colombia, October 28-29th 2007. Attended Fedequinas Association Biannual International Congress and gave two Invited platform presentations on therapeutic medication regulation
- 309) Williamsburg, Virginia July 17-20 2007. Attended the summer National Horsemen's Benevolent and Protective Association meeting and gave a platform presentation to the meeting
- 310) San Diego, California, December 4-6, 2008. Attendance at AAEP at San Diego and presentation of paper on regulatory thresholds for therapeutic medications
- 311) Antalya, Turkey, October 11- 17, 2008. Attended 17th international conference of Racing Analysts and Veterinarians, one platform presentation on tramadol in horses, and three Coauthored presentations
- 312) Toronto Ontario, September 23-24, 2008. Presentation to Ontario to racing commission group on thresholds for morphine in post-race samples, supported by the Ontario HBPA.
- 313) West Chester, Pennsylvania, August 4-5, 2008. Visit with Pennsylvania Equine Drug Testing and Research laboratory and the University of Pennsylvania at Kennett Square as part of a certified reference standards Project
- 314) Hershey, Pennsylvania, July 18-20, 2008. Attendance at summer meeting of the National Horsemen's Benevolent and Protective Association, presentation on the 2008 iteration of the National HBPA Proposed Policy for Drug Testing and Therapeutic Medication Regulation
- 315) Davis, California, April 27-30, 2008. Attendance at Racing & Medication Testing Consortium workshop on Anabolic Steroid Analysis, on behalf of the National Horsemen's Benevolent and Protective Association
- 316) Lexington, Kentucky, April 17, 2008. Attendance at Fourth Kentucky Innovation and Enterprise Conference and poster presentation

- 317) New Orleans, Louisiana, January 24-27, 2009. Attendance and presentation on anabolic steroid testing at the National Horsemen's Benevolent and Protective Association Winter Conference .
- 318) Shepherdstown, WVA . (2009) Oral presentation at National Horsemen's Benevolent and Protective Association Summer Convention , Thresholds: How we got to where we are, the Indiana project, and where we are heading
- 319) Dublin, Ireland November 7th (2009) Oral presentation at University College. Equine Medication Regulation: 1800 to November 7th, 2009.
- 320) Dublin, Ireland (2009) Oral presentation at Irish Veterinary Association Equine Division. The Mare Reproductive Loss Syndrome in Kentucky, 2001/2002
- 321) Tuscon, AZ (2009) Oral presentation at National Horsemen's Benevolent and Protective Association Winter Meeting, Anabolic Steroid Regulation: An "OK" Proposal
- 322) QueensTown, New Zealand , March 7-13 (2010) Oral presentation at 18th International Conference of Racing Analysts and Veterinarians "Certified Reference Standards and Stable Isotope Internal **Standards for Equine Therapeutic Medication Regulation**"
- 323) Queens Town, New Zealand, March 7-13 (2010) Oral presentation at 18th International Conference of Racing Analysts and Veterinarians "The role of expert testimony in adversarial proceedings."
- 324) Queens Town, New Zealand , March 7-13 (2010) Oral presentation at 18th International Conference of Racing Analysts and Veterinarians "Experiences as an Expert: Educating People While Under Oath, 25 Years since Hong Kong"
- 325) Minneapolis, Minnesota July 23rd (2010) Presentation at National HBPA Summer meeting "Fatal Musculoskeletal Injury Rates, Thresholds For Phenylbutazone And Pre-Race Examinations: A Preliminary Report"
- 326) Hot Springs, Arkansas, March 17th, 2011. The McKinsey Report: 20 Years Later. Presentation to the National Horsemen's Benevolent and Protective Association Winter Meeting.
- 327) Seattle Washington. Thomas Tobin, To Race or not to Race on Lasix: The Ethical Dilemma: Presentation to the National Horsemen's Benevolent and Protective Association Summer Meeting, Seattle, Washington, Friday, July 22st, 20211.
- 328) Racing Medication and Testing Consortium/ Association of Racing Commissioners International Medication Advisory Committee Meeting, Baltimore, Maryland, January 9th, 2012.
- 329) Fort Lauderdale, Florida, Lasix Revisited: The American Horsemen's Story: National Horsemen's Benevolent and Protective Association Winter Meeting Saturday, January 14, 2012.
- 330) Summer meeting, June 28th , National Horsemen's Benevolent and Protective Protective Association [NHBPA], Des Moines, Iowa.
- 331) 1/ Presentation "Furosemide: lack of affect on numbers of racing starts." Kimberly Brewer and Thomas Tobin.
- 332) Buenos Aires Presentations for the Organización Sudamericana de Fomento delSangre Pura de Carrera Buenos Aires at San Isidro Racetrack, Buenos Aires, Argentina
- 333) Buenos Aires Monday July 2nd,
- 334) 1.1/ "Trace level identifications of human therapeutic substances transferring from human to horses;an overview of the current situation" Thomas Tobin and Kimberly Brewer
- 335) 1.2/Sscreening methods/ELISA Tests: Thomas Tobin and Kimberly Brewer

- 336) Buenos Aires 1.3/ Thresholds for therapeutic medications: Thomas Tobin and Kimberly Brewer
- 337) Buenos Aires 1.4/ Environmental substances/pollution: Thomas Tobin and Kimberly Brewer
- 338) Buenos Aires 1.5/ Factors which affect withdrawal times of therapeutic drugs used in sports horses: Thomas Tobin and Kimberly Brewer
- 339) Buenos Aires Tuesday, July 3rd, 2012 Buenos Aires Thomas Tobin and Kimberly Brewer
- 340) Buenos Aires 2.1/ Troublesome drugs + those which most usually give positive results. which are they, and why do they test positive? Thomas Tobin and Kimberly Brewer
- 341) Buenos Aires 2.2: Avoiding unnecessary positive results. Thomas Tobin and Kimberly Brewer
- 342) Buenos Aires 2.3: Clarifying definitions, so that veterinarians who work either at private practice or doping control laboratories may share the same meanings when it comes to specific language. Thomas Tobin and Kimberly Brewer
- 343) Buenos Aires 2.4: / Animal welfare + increase of its importance at a world-wide basis + relationship with thoroughbreds: Thomas Tobin and Kimberly Brewer
- 344) Soring KH, Brewer K, Kind AJ and Tobin (2012) FOREIGN SUBSTANCES REPORTED IN IOWA RACING, 2001 – 2011: A REVIEW AND ANALYSIS, Presented at the 19th International Conference of Racing Analysts and Veterinarians, Philadelphia Pennsylvania, September 15-22, 2012. [UK #400, Ag. Experiment Station Number, 12-14-098]
- 345) Kind AJ, Soring K, JD, Brewer K, Eisenberg, R., Hughes CG, Hartmann-Fishbach, P and Tobin T (2012) Cathinone and Related “Bath Salt” Substances – Detection in Equine Urine and Potential Sources, Presented at the 19th International Conference of Racing Analysts and Veterinarians, University of Pennsylvania, Philadelphia, Pennsylvania, September 2012. [UK401, Ag. Experiment Station Number, 12-14-099]
- 346) Gutierrez J, Eisenberg R, Ferguson EM, Hughes C and Tobin T (2012) “Synthesis of myo-inositol trispyrophosphate (ITPP) for use as an analytical standard” Presented at the 19th International Conference of Racing Analysts and Veterinarians, Philadelphia, Pennsylvania, September 15-22, 2012. [UK 398 Ag. Experiment Station Number, 12-14-100] .
- 347) Kudrimoti S, Gutierrez J, Eisenberg R, Ferguson EM, Hughes C and Tobin T (2012) Synthesis of 3-Hydroxy-mepivacaine-*d*₃ as an Internal Standard for Equine Medication Regulation Presented at the 19th International Conference of Racing Analysts and Veterinarians, University of Pennsylvania, Philadelphia, Pennsylvania, September 2012. [UK 402 Ag. Experiment Station Number, 12-14-101]
- 348) Scientific Conference, Pittsburgh, Pennsylvania, Friday, September 28th 2012 with Dubai Veterinarians representing Sheik Mohammed bin Rashid al Maktoum.
- 349) Baltimore Racing Medication and Testing Consortium Scientific Advisory Committee Meeting, Baltimore, Maryland, Monday, October 22 and Tuesday October 23rd, Saturday, February 23, 2013
- 350) Scientific Conference, Dubai UAE, February 14th, 2013 with Dubai Veterinarians representing Sheik Mohammed bin Rashid al Maktoum.
- 351) Scientific Conference, Dubai UAE, Wednesday, July 3rd to Monday, July 8th and three visits to the Dubai MER Laboratory.
- 352) National HBPA Summer Meeting, Mystic Lake Casino, Shakopee, Wisconsin, presentation entitled Clenbuterol: Unusual Aspects of its Urinary Detection/Excretion.

- 353) Denver, Colorado, September 17th, attendance and brief presentation to the Racing Medication and Testing Consortium,[RMTTC], Denver, Colorado, meeting attended on behalf of the National HBPA.
- 354) December 1-15th 2013: Travel to Dubai, United Arab Emirates and presentation to Dubai authorities on aspects of Equine physiological optimization and medication regulation.
- 355) National HBPA Winter Meeting, Pasadena, California, Saturday January 25th, Thomas Tobin, Kimberly Brewer and Charlie Hughes “Scientifically validated regulatory thresholds for use in racing regulation” Presentations and associated panel discussion.
- 356) Kentucky Association of Equine Practitioners meeting January 28th, 2014 “Scientifically defined thresholds/ withdrawal time guidelines for racing regulation” by Thomas Tobin, Kimberly Brewer and Charlie G. Hughes Red Mile, Lexington, KY, 40511, Presentations and associated panel discussion.
- 357) Darley Flying Start Student Seminar: “*Furosemide and EIPH: Efficacy and Controversy: The American Horsemen’s Story*”: Friday, January 31st, 2014, at the Maxwell H. Gluck Equine Research Center
- 358) Third Annual Univ of Kentucky Equine Showcase, February 5th, Thomas Tobin, Kimberly Brewer and Charlie Hughes “Where did that positive come from? Let me count the ways” Four Points Sheraton, 1938 Stanton Way, Lexington, KY 40511. Presentations and associated panel discussion
- 359) 5) Racing Medication and Testing Consortium Board Meeting, Gulfstream Park, Florida, March 17th, 2014, attendance as alternate National Horsemen’s Benevolent and Protective Association and brief presentation to the Racing Medication and Testing Consortium Board meeting attended on behalf of the National HBPA..
- 360) National HBPA Summer Meeting, Oklahoma City, Saturday, August 16th 2014 , Thomas Tobin, Kimberly Brewer and Charlie Hughes “Cobalt, Lasix, Thresholds and Withdrawal Times; An Overview” Presentation to Summer Meeting audience as part of a panel discussion on Cobalt and Lasix and associated panel discussion.
- 361) 5) Racing Medication and Testing Consortium Board Meeting, Gulfstream Park, Florida, March 17th, 2014, attendance as alternate National Horsemen’s Benevolent and Protective Association and brief presentation to the Racing Medication and Testing Consortium Board meeting attended on behalf of the National HBPA..
- 362) S. Kudrimoti¹, R. Eisenberg², G. A. Maylin³, Charlie Hughes¹, and T. Tobin^{1*} Synthesis and characterization of 4-hydroxyxylazine and 4-hydroxyxylazine-*d*₆ standards for use in xylazine regulation in competition horses: Presented at the 20th International Conference of Racing Analysts and Veterinarians, Sugar Beach, Mauritius, September 2014.
- 363) R. Eisenberg¹, S. Kudrimoti², C. G. Hughes², G. A. Maylin³, and T. Tobin^{2*} Dihydroprednisone, an isomeric metabolite of methylprednisolone: synthesis of an analytical standard. Presented at the 20th International Conference of Racing Analysts and Veterinarians, Sugar Beach, Mauritius, September 2014.
- 364) S. Kudrimoti¹, R. Eisenberg², G. A. Maylin³, C.G. Hughes¹ and T. Tobin^{1*} 20-Dihydroprednisone: Synthesis of an isomeric equine metabolite of prednisolone for use as an analytical standard; Presented at the 20th International Conference of Racing Analysts and Veterinarians, Sugar beach, Mauritius, September 2014.
- 365) K. Brewer¹, C. R. Harden², C.G. Hughes³ and T. Tobin³ “Shipping-in,” a risk factor associated with fatal musculoskeletal racing injuries: Presented at the 20th International Conference of Racing Analysts and Veterinarians, Sugar Beach, Mauritius, September 2014.

- 366) A.M. Briceño^{1*}, A.M. Sanchez¹, R.H. Galley², K. Brewer³, C. Hughes⁴, T. Tobin⁴ Increased Incidence of Sudden Death Associated with Exercise Induced Pulmonary Hemorrhage (EIPH) in Horses Racing at Higher Altitude in Venezuela: Presented at the 20th International Conference of Racing Analysts and Veterinarians, Sugar beach, Mauritius, September 2014.
- 367) Fenger, C. K.^a, Tobin, T.^b, Casey, P. J.^c, Roualdes, E.^d, Langemeier, J. L.^a, and Haines, D.M. Supplementation Improves Earnings, Performance and Recovery in Racing Thoroughbreds Bovine Colostrum Presented at the 20th International Conference of Racing Analysts and Veterinarians, Sugar Beach, Mauritius, September 2014.
- 368) RMTC Board of Directors Meeting, Canterbury Downs, Oct. 13th 2014: attendance as alternate National Horsemen's Benevolent and Protective Association and brief presentation to the Racing Medication and Testing Consortium, [RMTC], Minneapolis Minnesota, meeting attended on behalf of the National HBPA.
- 369) Presentation to Azam Syed, Pharmacy in Charge, Zabeel Palace, Dubai and visits to and presentations to the Marmoom Equine Research Center, Dubai UAE, December 3-14th 2014.
- 370) National HBPA Winter meeting, carefree Arizona, Thursday, February 7th, 2015 Thomas Tobin, Kimberly Brewer and Charlie Hughes "Cobalt, Lasix, Thresholds and Withdrawal Times; An Overview" Presentation to Summer Meeting audience as part of a panel discussion on Cobalt and Lasix and associated panel discussion.
- 371) Mumbai, India, Royal Western India Turf Club, Mumbai, Feb. 27th, 2015 "Where did that positive come from? Highly sensitive testing: Let me count the ways", Thomas Tobin, Kimberly Brewer, Kent Stirling and Charlie Hughes. Travel arrangements made for live presentation at RWITC seminar but visa problems restricted presentation to Skype video format Feb. 27th, 2015.
- 372) Presentation to Azam Syed, Pharmacy in Charge, Zabeel Palace, Dubai and visits and presentations to the Marmoom Equine Research Center, Dubai UAE, March 26th 2015.
- 373) Association of Racing Commissioners International, Scientific Advisory Committee Meeting. Regulatory thresholds for Cobalt and Gamma Amino Butyric Acid [GABA] Committee meeting Tuesday April 21st presentation on GABA to ARCI 10 AM Thursday April 25th 2015.
- 374) Presentation to the Union Nacional de Asociaciones Ganaderas Colombianas- UNAGA, Bogota Colombia "Where did that positive come from: Highly sensitive testing; Let me count the ways" Wednesday July 15th, 2015.
- 375) National HBPA Summer Meeting, Denver, Colorado, Saturday, August 8th, 2015: Glenys K. Noble, Kimberly Brewer, MaryAnn O'Connell, K. H. Stirling, A. Morales Briceno, J. Machin, and C. Hughes. T. Tobin: "Revisiting the Racing Medication and Testing Consortium [RMTC] Xylazine Guidelines, with Australian Assistance; Presentation to the Summer 2015 Medication Forum of the National Horsemen's Benevolent and Protective Association Meeting, Denver, Colorado, Saturday, August 8th 2015.
- 376) K. Brewer, J. Machin, K. Stirling, Abelardo Morales Briceno, C. Hughes and T. Tobin. Canadian Environmental Methamphetamines Identifications Linked to a Horse Trailer: Presentation to the Summer 2015 Medication Forum of the National Horsemen's Benevolent and Protective Association Meeting, Denver, Colorado, Saturday, August 8th 2015.
- 377) A. Morales, A. Méndez, M. Armas, C. Guarino, M. Moya, E. Suniaga, K. Brewer, T. Tobin. 2.2 Título del Trabajo: Efecto de la terapéutica combinada Levotiroxina-Clembuterol en ratones Balb/c y ratas Sprague-Dawley. 2.3 Nombre del Congreso (entidad patrocinante):

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2.4 Fecha: Noviembre, 2014. 2.5 Ciudad y País: Caracas, Venezuela

378) A. Morales, A. Méndez, M. Armas, C. Guarino, M. Moya, E. Suniaga, K. Brewer, T. Tobin.
3.2 Título del Trabajo: Efecto de la terapéutica combinada Levotiroxina-Clembuterol sobre la arteria aorta en ratones Balb/c. 3.3 Nombre del Congreso (entidad patrocinante): 76 Aniversario del Instituto Nacional de Higiene Rafael Rangel y 37 Jornadas Científicas 3.4 Fecha: Noviembre, 2014. 3.5 Ciudad y País: Caracas, Venezuela

379) A. Morales, A. Mendez, M. Armas, C. Guarino, M. Moya, E. Suniaga, K. Brewer, T. Tobin.
4.2 Título del Trabajo: Efecto de la levotiroxina-clembuterol sobre la arteria aorta en ratas Sprague Dawley. 4.3 Nombre del Congreso (entidad patrocinante): XXIII Jornadas Científicas Dr. Francisco de Venanzi, Instituto de Medicina Experimental Dr. José Gregorio Hernández. 4.4 Fecha: Noviembre, 2014. 4.5 Ciudad y País: Caracas, Venezuela

380) National HBPA Winter meeting, Carefree Arizona, Thursday, February 7th, 2015 Thomas Tobin, Kimberly Brewer and Charlie Hughes "Cobalt, Lasix, Thresholds and Withdrawal Times; An Overview" Presentation to Winter Meeting audience as part of a panel discussion on Cobalt and Lasix and associated panel discussion.

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