

## CURRICULUM VITAE

19 January 2023

**SALVATORE FRASCA JR.**

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**DATE OF BIRTH:** June 4, 1962  
**PLACE OF BIRTH:** Hartford, Connecticut  
**MARITAL STATUS:** Married to Tara Bourke Manion  
**GENDER:** Male  
**PRONOUNS:** he/his/him

**EDUCATION AND PROFESSIONAL TRAINING:**

**DIPL** 1999 **Diplomate, American College of Veterinary Pathologists,**  
 Board Certification in Veterinary Anatomic Pathology.

**PhD** 1998 **Doctor of Philosophy, Pathobiology, Concentration: Pathology,**  
 Department of Pathobiology, College of Agriculture and Natural Resources,  
 University of Connecticut.

**VMD** 1988 **Veterinariae Medicinae Doctoris, Magna Cum Laude,** School of  
 Veterinary Medicine, University of Pennsylvania.

**AB** 1984 **Artium Baccalarius (Bachelor of Arts) with Distinction in All Subjects,**  
 Major: Biology and Society, College of Arts and Sciences, Cornell  
 University.

1980 **High School Diploma, Cum Laude,** The Loomis Chaffee School,  
 Windsor, CT

**PROFESSIONAL AND RESEARCH EXPERIENCES:**

Jan 2022-Present **Pathologist and Manager, Aquatic and Investigative Pathology by Frasca, LLC.** Senior veterinary anatomic pathologist and research scientist providing diagnostic pathology services focusing on the pathology of aquatic animal species and research pathology support incorporating molecular and tissue technologies. Demonstrable experience in gross and microscopic interpretation of normal and lesioned tissues from a wide range of aquatic animals including teleosts, elasmobranchii, marine invertebrates

emphasizing crustaceans and cephalopods, marine and freshwater birds, marine mammals, and sea turtles. Research support providing interpretation of normal and lesioned tissues in controlled experimental designs. Investigative emphasis involves the incorporation of molecular and tissue technologies in the elucidation of tissue reactions for translational applications, e.g., characterization of gene expression by ultra-sensitive *in situ* hybridization allowing for quantitative and spatial image analysis toward the development of clinically applicable genetic profiles or mechanistic understanding.

Aug 2020-Dec 2021 **Director, Connecticut Veterinary Medical Diagnostic Laboratory, Full Professor and Faculty Diagnostic and Research Veterinary Anatomic Pathologist**, Department of Pathobiology and Veterinary Science, University of Connecticut, Storrs, CT. Served as Director of the Connecticut Veterinary Medical Diagnostic Laboratory (CVMDL), the veterinary diagnostic laboratory of the State of Connecticut and New England region, from August 2020 through October 2021; the CVMDL is accredited by the American Association of Veterinary Laboratory Diagnosticians (AAVLD) for all animal species and is a member laboratory of national and regional laboratory groups, including NAHLN, NPIP, Vet-LiRN. Oversaw the delivery of quality extension, diagnostic testing, and necropsy services to the public of the State and New England, regional and national aquariums, federal agencies, and the University; supervised laboratory-related activities of 6 faculty and 11 staff; ensured compliance with accreditation and membership standards; liaised with state and federal officials; planned and coordinated improvements in infrastructure; led programmatic initiatives in digital pathology and telepathology. Responsible for renewing and sustaining a program in aquatic animal pathology. Focused experience in the pathology of aquatic animal species, including teleosts, elasmobranchii, marine invertebrates, marine and freshwater birds, marine mammals, and sea turtles. Aquatic research focuses on deciphering the pathogenesis of disease incited by bacterial, fungal, viral, and parasitic infectious agents or toxins in aquatic animal hosts. *Led, coordinated, supervised the laboratory's successful AAVLD accreditation renewal in 2020 (during COVID pandemic restrictions) with the CVMDL receiving Full Accreditation / All Species from the AAVLD Accreditation Committee through December 2024.* Served as Director when the CVMDL received recognition by USDA APHIS Veterinary Services as an approved laboratory of the National Animal Health Laboratory Network (NAHLN). Secured \$344,200 USD in federal funds for infrastructure and service program developments. Retired on 1 January 2022 after 20 years of university service.

Jun 2017-Jul 2020 **Full Professor, Faculty Diagnostic and Research Veterinary Anatomic Pathologist**, Comparative, Diagnostic, and

Population Medicine, College of Veterinary Medicine, University of Florida, Gainesville, FL. Hired as a key element of the University of Florida's Preeminence Initiative in One Health – Aquatic Ecosystem Health – Aquatic Pathology. Responsible for developing and sustaining a diagnostic service and research program in aquatic animal pathology in support of initiatives in aquatic animal health, coastal disease ecology, and biomedical research, emphasizing molecular and tissue technologies. Aquatic research interests include genetic approaches to the discovery, characterization, and detection of infectious agents in aquatic hosts. Oncologic research interests focused on characterization of gene expression profiles in canine cancer cell populations, such as osteosarcoma and melanoma, and characterization of the tumor microenvironment through genetic expression toward the development of clinical assays.

Jan 1999-Jun 2017

**Full Professor, Faculty Diagnostic and Research Veterinary Anatomic Pathologist**, Department of Pathobiology and Veterinary Science, University of Connecticut, Storrs, CT. Responsibilities included diagnostic anatomic pathology of non-domestic animal species, research comparative pathology applied to avian, reptilian and aquatic animal species, and didactic and active teaching of undergraduates, graduate students and veterinary residents. Past research has include molecular characterization of paramoebiasis in American lobster, ultrastructural, antigenic and molecular characterization of chlamydia in cultured salmonids, application of molecular mycobacterial diagnostic techniques in piscine hosts, molecular systematics and comparative pathology of melanized fungal infections (phaeohyphomycosis), characterization of viral pathogens in piscine and reptilian hosts, and comparative pathology of mycoplasmosis.

Jun 1998-Dec 1998

**Post-Doctoral Fellow in Pathology**, Department of Pathobiology, University of Connecticut, Storrs, CT. Responsibilities included necropsy, coordination of tissue processing, and interpretation of histopathology of collaborative research projects between the Department of Pathobiology and Animal Health, Pfizer Corp., Groton. Also independently involved in separate research collaborations with other academic and aquarium institutions.

Aug 1993-May1998

**Resident and PhD Student in Veterinary Pathology**, Department of Pathobiology, University of Connecticut, Storrs, CT. Completed a combined residency and PhD program through the Department of Pathobiology and its subdivision, the Northeastern Research Center for Wildlife Diseases. This program satisfied the requirements for qualification for Board Certification by the American College of Veterinary Pathologists and the requirements for the Doctor of Philosophy in Pathobiology by the University of Connecticut. Responsibilities included the following: necropsy of domestic animal, avian,

and wildlife species, lecturing in undergraduate courses in histology and pathology, research in parasitic infections of aquaculture-reared salmonids, with emphasis on myxozoans.

- May 1995 **Aquavet II**, Marine Biological Laboratory, Woods Hole, Massachusetts. Completed a two-week course on the comparative pathology of aquatic animals offered by the veterinary schools of the University of Pennsylvania and Cornell University. Course content focused on the histopathology of shellfish and finfish diseases in aquaculture scenarios pertaining to production and research.
- Aug 1992-Aug 1993 **Internship in Aquatic Animal Medicine**, Mystic Aquarium, Mystic, CT. Completed a one-year internship in aquatic animal medicine under the direction of staff veterinarian, J. L. Dunn, VMD. Responsibilities included: management of pinniped and cetacean medical cases, primary response to stranded marine mammals, husbandry and medical management of penguins, management of aquarium fish medicine, interpretation of hematology and serum biochemical analyses from the aquarium's collection, necropsy of fish and marine mammals, participation in the extern education program, and interaction with the news media.
- Aug 1990-Aug 1993 **Veterinarian**, Brookside Veterinary Hospital, Bridgeport, CT. Worked as a clinician in a computerized small animal and exotic animal hospital. Duties included management of medical and surgical cases involving dogs, cats, companion birds, rabbits and ferrets.
- Aug 1988-May 1990 **Veterinarian**, Animal Health Clinic, Wethersfield, CT. Practitioner in a small animal hospital with duties that included management of medical cases, routine surgical procedures, and preventive care.
- Summer 1986 **Independent Study of Aquatic Animal Medicine**, Mystic Marinelife Aquarium, Mystic CT. Worked as an aquarist caring for exhibit tanks, algal cultures, and plankton cultures, and assisted with maintenance and veterinary care of captive marine mammals (seals, sea lions, whales, dolphins) under the tutelage of J. L. Dunn, VMD.
- Sept 1985-Jan 1987 **Laboratory Assistant, Feline Research Colony**, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, PA. Assisted in the care of cats studied as models of human lysosomal storage diseases, e.g., Mucopolysaccharidosis I and VI and alpha-Mannosidosis. Duties included: pregnancy examination, neonatal care, vaccinations, blood sampling, chemical restraint, medical treatments.

**PROFESSIONAL APPOINTMENTS:**

- Apr 2022-Present     **Professor Emeritus**  
 Department of Pathobiology and Veterinary Science  
 College of Agriculture, Health, and Natural Resources  
 University of Connecticut  
 Storrs, Connecticut 06269
- Jan 2015-Present     **Special Graduate Faculty**  
 Atlantic Veterinary College  
 University of Prince Edward Island  
 Charlottetown, Prince Edward Island, CANADA
- Sept 2011-Present   **Special Graduate Faculty**  
 Ontario Veterinary College  
 University of Guelph  
 Guelph, Ontario, CANADA
- Jul 2003-Present     **Adjunct Research Scientist**  
 Mystic Aquarium  
 Mystic, Connecticut 06355

**PROFESSIONAL LICENSURE, CERTIFICATIONS AND MEMBERSHIPS:**

- 2011-Present   Member, American Fisheries Society, Fish Health Section
- 2005-Present   Member, American Association of Veterinary Laboratory Diagnosticians
- 2004-Present   Member, Charles Louis Davis and Samuel Wesley Thompson DVM  
 Foundation for the Advancement of Veterinary and Comparative Pathology
- 2003-Present   Member, American Society for Microbiology
- 1999-Present   Diplomate, American College of Veterinary Pathologists**
- 1988-Present   Member, American Veterinary Medical Association
- 2012-2017     Director, Study Center of the Charles Louis Davis and Samuel Wesley  
 Thompson DVM Foundation, University of Connecticut
- 2011-2017     Category II Veterinarian, National Veterinary Accreditation Program
- 2000-2017     Member, American Association of Zoo Veterinarians
- 1997-2000     Director of Education, Board of Directors, International Association for  
 Aquatic Animal Medicine.
- 1994-1997     Chairperson, Student Liaison Committee, International Association for  
 Aquatic Animal Medicine.
- 1992-2014     Member, International Association for Aquatic Animal Medicine
- 1988-2017     Licensed Veterinarian, State of Massachusetts  
 (License number available upon request)

1988-2017,  
 2020-Present Licensed Veterinarian, State of Connecticut  
 (License number available upon request)  
 2022-Present Licensed Veterinarian, State of Florida  
 (License number available upon request)

### **PUBLICATIONS (listed in reverse chronological order):**

102. McDermott CT, Innis CJ, Nyaoke AC, Tuxbury KA, Cavin JM, Weber ES, Edmunds D, Lair S, Spangenberg JV, Hancock-Ronemus AL, Hadfield CA, Clayton LA, Waltzek TB, Cañete-Gibas CF, Wiederhold NP, **Frasca S Jr**. Phaeohyphomycosis due to *Exophiala* in aquarium-housed lumpfish (*Cyclopterus lumpus*): clinical diagnosis and description. *Pathogens*, 2022, 11(12):1401. <https://doi.org/10.3390/pathogens11121401>

\*This article has been included in the Special Issue: Emerging Infections in Aquatic Animals, which has been published in the open access journal *Pathogens* (ISSN 2076-0817)

101. Gavitt TD, Mara AB, Goodridge ML, Ozyck RG, Reinhardt E, Miller JM, Hunte M, Tulman ER, **Frasca S Jr**, Silbart LK, Geary SJ, Szczepanek SM. B cells oppose *Mycoplasma pneumoniae* vaccine enhanced disease and limit bacterial colonization of the lungs. *NPJ (Nature Partner Journal) Vaccines*, 2022 Oct 31;7(1):130. doi: 10.1038/s41541-022-00556-z. PMID: 36310317; PMCID: PMC9618410.

100. Martinez ME, Stacy NI, Wellehan Jr JF, Archer LL, **Frasca S Jr**, Rios C, Trumbull EJ, Rivard M, Whitmer ER, Field CL, Duignan PJ. Diffuse large B cell lymphoma and a novel gammaherpesvirus in northern elephant seals (*Mirounga angustirostris*). *Diseases of Aquatic Organisms*, 2022, 149: 59-70.

99. Stilwell NK, **Frasca S Jr**, Farina LL, Subramaniam K, Imnoi K, Viadanna PH, Hopper L, Powell J, Colee J, Waltzek TB. Effect of water temperature on frog virus 3 disease in hatchery-reared pallid sturgeon *Scaphirhynchus albus*. *Diseases of Aquatic Organisms*, 2022, 148: 73-86.

98. Walker L, Subramaniam K, Viadanna PHO, Vann J, Marcquenski S, Godard D, Kieran E, **Frasca S Jr**, Popov VL, Kerr K, Davison AJ, Waltzek TB. Characterization of an alloherpesvirus from wild Lake Sturgeon (*Acipenser fulvescens*) in Wisconsin. *Diseases of Aquatic Organisms*, 2022, 149: 83-96. <https://doi.org/10.3354/dao03661>

97. Powell AL, Tuxbury KA, Cavin JM, Stacy BA, **Frasca S Jr**, Stacy NI, Brisson JO, Solano M, Williams SR, McCarthy RJ, Innis CJ. Osteomyelitis in cold-stunned Kemp's ridley sea turtles (*Lepidochelys kempii*) hospitalized for rehabilitation: 25 cases (2008–2018). *Journal of the American Veterinary Medical Association*, 2021, 259(10): 1206-1216. <https://avmajournals.avma.org/view/journals/javma/259/10/javma.20.08.0443.xml>

96. Lee D-H, Helal ZH, Kim J, Hunt A, Barbieri A, Tocco N, **Frasca S Jr**, Kerr K, Hyeon J-Y, Chung, DH, Risatti G. Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) in a dog in Connecticut in February 2021. *Viruses*, 2021, 13, 2141. <https://doi.org/10.3390/v13112141>  
\*This article has been included in the Special Issue: Drivers of Evolution of Animal RNA Viruses, which has been published in the open access journal *Viruses* (ISSN 1999-4915)
95. Koda SA, Subramaniam K, Pouder DB, Yanong RP, **Frasca S Jr**, Popov VL, Waltzek TB. Complete genome sequences of Infectious Spleen and Kidney Necrosis Virus isolated from farmed albino rainbow sharks *Epalzeorhynchus frenatum* in the United States. *Virus Genes*, 2021, Oct;57(5):448-452. doi: 10.1007/s11262-021-01857-6. Epub 2021 Jul 17. Erratum in: *Virus Genes*. 2021 Oct 15: PMID: 34272657.
94. Turner RC, Innis CJ, Stacy BA, Hernandez JA, Hill RC, Scott KC, **Frasca S Jr**, Garner MM, Burns RE, Arendt MD, Brisson J, Norton TM, Williams SR, Kennedy A, Alexander AB, Stacy NI. Steatitis in Cold-Stunned Kemp's Ridley Sea Turtles (*Lepidochelys kempii*). *Animals*, 2021, 11; 898: 1-16. <https://doi.org/10.3390/ani11030898>
93. Shiomitsu S, Gillen J, **Frasca S Jr**, Santoro D. Evaluation of the cutaneous expression of IL-17, IL-22, IL-31, and their receptors in canine atopic dermatitis. *Research in Veterinary Science*, 2021,136:74–80.
92. Shiomitsu K, Bechtel SM, Thompson PM, **Frasca S Jr**. Molecular diagnosis using RNAscope® *in-situ* hybridization in canine malignancies. *Canadian Journal of Veterinary Research*, 2020, Oct;84(4):319-323.
91. Kehoe SP, Stacy NI, **Frasca S Jr**, Stokol T, Wang C, Leach K, Luo L, Rivera S. Leukocyte and platelet characteristics of the Giant Panda (*Ailuropoda melanoleuca*): morphological, cytochemical, and ultrastructural features. *Frontiers in Veterinary Science*, 2020, Mar 24 | <https://doi.org/10.3389/fvets.2020.00156>
90. Landrau-Giovannetti N, Subramaniam K, Brown MA, Ng TFF, Rotstein DS, West K, **Frasca S Jr**, Waltzek TB. Genomic characterization of a novel circovirus from a stranded Longman's beaked whale (*Indopacetus pacificus*). *Virus Research*, 2020, Feb;277:197826. doi: 10.1016/j.virusres.2019.197826.
89. Kerwin AH, Gromek SM, Suria AM, Samples RM, Deoss DJ, O'Donnell K, **Frasca S Jr**, Sutton DA, Wiederhold NP, Balunas MJ, Nyholm SV. Shielding the next generation: symbiotic bacteria from a reproductive organ protect bobtail squid eggs from fungal fouling. *mBio*, 2019, Sep/Oct, 10(5): e02376-19.
88. Licitra D, Quinn DP, Reeder JE, Gavitt T, Dickson J, Hess B, Mangold BJ, Tuttle AD, Rosas-Rosas A, **Frasca S Jr**, Szczepanek SM. Snake fungal disease in colubridae snakes in Connecticut, USA in 2015 and 2017. *Journal of Wildlife Diseases*, 2019, Jul;55(3):658-662. doi: 10.7589/2018-04-100.

87. **Frasca S Jr**, Castellanos Gell J, Kutish GF, Michaels DL, Brown DR. Complete sequence and annotation of the *Mycoplasma phocicerebrale* strain 1049<sup>T</sup> genome. *Microbiology Resource Announcements*, 2019, Jun 20;8(25): e00514-19. doi: 10.1128/MRA.00514-19.
86. Al-Hussinee L, Subramaniam K, Surachetpong W, Popov V, Hartman K, Starzel K, Yanong R, Watson C, Ferguson H, **Frasca S Jr**, Waltzek T. Tilapia Lake Virus (TiLV): a globally emerging threat to tilapia aquaculture (IFAS Publication Number: FA213). Gainesville: University of Florida Institute of Food and Agricultural Sciences, 2019 Apr | <http://edis.ifas.ufl.edu/fa213>.
85. **Frasca S Jr**, Castellanos Gell J, Kutish GF, Michaels DL, Brown DR. Complete sequence and annotation of the *Mycoplasma phocirhinis* strain 852<sup>T</sup> genome. *Microbiology Resource Announcements*, 2019, Mar 28;8(13):e00131-19. doi: 10.1128/MRA.00131-19.
84. Hyatt MW, Waltzek TB, Kieran EA, **Frasca S Jr**, Lovy J. Diagnosis and treatment of multi-species fish mortality attributed to *Enteromyxum leei* while in quarantine at a U.S. aquarium. *Diseases of Aquatic Organisms*, 2018, Dec 11;132(1):37-48. doi: 10.3354/dao03303
83. **Frasca S Jr**, Kutish GF, Michaels DL, Brown DR. Complete sequence and annotation of the *Mycoplasma phocidae* strain 105<sup>T</sup> genome. *Microbiology Resource Announcements*, 2018, Oct 11;7(14): e01237-18. doi: 10.1128/MRA.01237-18. eCollection 2018 Oct.
82. Harris HE, Fogg AQ, Yanong RPE, **Frasca S Jr**, Cody T, Waltzek TB, Patterson WF III. 2018. First report of an emerging ulcerative skin disease in invasive lionfish (IFAS Publication Number: FA209). Gainesville: University of Florida Institute of Food and Agricultural Sciences, 2018 Sep | <http://edis.ifas.ufl.edu/fa209>.
81. Koda SA, Subramaniam K, Francis-Floyd R, Yanong RP, **Frasca S Jr**, Groff JM, Popov VL, Fraser WA, Yan A, Mohan S, Waltzek TB. Phylogenomic characterization of two novel members of the genus Megalocytivirus from archived ornamental fish samples. *Diseases of Aquatic Organisms*, 2018, Aug 28;130(1):11-24. doi: 10.3354/dao03250
80. Rowatt K, Burns RE, **Frasca S Jr**, Long D. A combination Prussian blue - hematoxylin and eosin staining technique for identification of iron and other histological features. *Journal of Histotechnology*, 2018, Jan 19:1-6 | <https://doi.org/10.1080/01478885.2017.1417696>.
79. Desoubeaux G, Debourgogne A, Wiederhold NP, Zaffino M, Sutton, D, Burns RE, **Frasca S Jr**, Hyatt MW, Cray C. Multi-locus sequence typing provides epidemiological insights for diseased sharks infected with fungi belonging to the *Fusarium solani* species complex. *Medical Mycology*, 2017, 9 October | <https://doi.org/10.1093/mmy/myx089>.
78. Ferguson SD, Wellehan Jr JFX, **Frasca S Jr**, Innis CJ, Harris HS, Miller M, Weber ES, Stockdale Walden H, Greiner EC, Merigo C, Stacy BA. Coccidial infection of the adrenal glands



of leatherback sea turtles (*Dermochelys coriacea*). *Journal of Wildlife Diseases*, 2016, 52(4): 874-882.

77. Leone A, Crawshaw GJ, Garner MM, **Frasca S Jr**, Stasiak I, Rose K, Neal D, Farina LL. A retrospective study of the lesions associated with iron storage disease in captive Egyptian fruit bats (*Rousettus aegyptiacus*). *Journal of Zoo and Wildlife Medicine*, 2016, 47(1):45-55.

76. Bogomolni A, **Frasca S Jr**, Levin M, Matassa K, Nielsen O, Waring G, De Guise S. In-vitro exposure of harbor seal immune cells to Aroclor 1260 alters phocine distemper virus replication. *Archives of Environmental Contamination and Toxicology*, 2016, 70:121-132.

75. Hyatt MW, Rosas Rosas AG, Wolf JC, **Frasca S Jr**. Spongiosis hepatitis in a wild caught, aquarium-maintained red Irish lord, *Hemilepidotus hemilepidotus*. *Journal of Aquatic Animal Health*, 2015, 27(4):203-208.

74. Contador E, Methner P, Ryerse I, Huber P, Lillie BN, **Frasca S Jr**, Lumsden JS. Epitheliocystis in lake trout *Salvelinus namaycush* (Walbaum) is associated with a  $\beta$ -proteobacteria. *Journal of Fish Diseases*, 2015, May 4 on-line DOI: 10.1111/jfd.12369

73. Glinka CO, **Frasca S Jr**, Provatas AA, Lama T, De Guise S, Bosker T. The effects of model androgen 5 $\alpha$ -dihydrotestosterone on mummichog (*Fundulus heteroclitus*) reproduction under different salinities. *Aquatic Toxicology*, 2015, 165:266-276.

72. Bogomolni A, **Frasca S Jr**, Matassa K, Nielsen O, Rogers K, De Guise S. Development of a One-Step Duplex RT-qPCR for the Quantification of Phocine Distemper Virus. *Journal of Wildlife Diseases*, 2015, 51(2):454-465.

71. McNaughton A, **Frasca S Jr**, Mishra N, Tuttle AD. Valvular dysplasia and congestive heart failure in a juvenile African penguin (*Spheniscus demersus*). *Journal of Zoo and Wildlife Medicine*, 2014, 45(4):987-990.

70. Steckler NK, Yanong RPE, Pouder DB, Nyaoke A, Sutton DA, Lindner JR, Wickes BL, **Frasca S Jr**, Wolf JC, Waltzek TB. New disease records for hatchery-reared sturgeon. II. Phaeohyphomycosis due to *Veronaea botryosa*. *Diseases of Aquatic Organisms*, 2014, 111:229-238.

69. Schumacher VL, Mangold B, Lenzycki J, Hinckley L, Sutton DA, **Frasca S Jr**. Occurrence of fruiting structures allows determination of *Purpureocillium lilacinum* as an inciting agent of pleuritis and pneumonia in a loggerhead sea turtle (*Caretta caretta*) by histopathologic correlation to culture. *Medical Mycology Case Reports*, 2014, 6 (October–December):42-45.

68. Wolf JC, Baumgartner WA, Blazer VS, Camus AC, Engelhardt JA, Fournie JW, **Frasca S Jr**, Groman DB, Kent ML, Khoo LH, Law JM, Lombardini ED, Ruehl-Fehlert C, Segner HE, Smith SA, Spitzbergen JM, Weber K, Wolfe MJ. Non-lesions, misdiagnoses, missed diagnoses,

and other interpretive challenges in fish histopathology studies: a guide for investigators, authors, reviewers, and readers. *Toxicologic Pathology*, 2014, On-line First version Aug 11: 1-29.

67. Innis CJ, Braverman H, Cavin JM, Ceresia ML, Baden LR, Kuhn DM, **Frasca S Jr**, McGowan JP, Hirokawa K, Weber III EP, Stacy B, Merigo C. Diagnosis and management of *Enterococcus* spp infections during rehabilitation of cold-stunned Kemp's ridley turtles: 50 cases (2006-2012). *Journal of the American Veterinary Medical Association*, 2014, 245(3):315-323.

66. Young JM, **Frasca S Jr**, Gruber SH, Benz GW. Monogenoid infection of neonatal and older juvenile lemon sharks, *Negaprion brevirostris* (Carcharhinidae), in a shark nursery. *Journal of Parasitology*, 2013, 99(6):1151-1154.

65. Bonar CJ, Garner MM, Weber III ES, Keller CJ, Murray M, Adams LM, **Frasca S Jr**. Pathologic findings in weedy (*Phyllopteryx taeniolatus*) and leafy (*Phycodurus eques*) seadragons. *Veterinary Pathology*, 2013, 50(3):368-376.

64. Sidor IF, Dunn JL, Tsongalis GJ, Carlson J, **Frasca S Jr**. A multiplex real-time polymerase chain reaction assay with two internal controls for the detection of *Brucella* species in tissues, blood and feces from marine mammals. *Journal of Veterinary Diagnostic Investigation*, 2013, 25(1):72-81.

63. Schumacher VL, Innis CJ, Garner MM, Risatti GR, Nordhausen RW, Gilbert-Marcheterre K, Wellehan Jr JFX, Childress AL, **Frasca S Jr**. Sulawesi Tortoise Adenovirus-1 (STADV-1) in two impressed tortoises (*Manouria impressa*) and a Burmese Star tortoise (*Geochelone Platynota*). *Journal of Zoo and Wildlife Medicine*, 2012, 43(3):501-510.

62. Erlacher-Reid C, Tuttle AD, **Frasca S Jr**. Xanthogranulomatous panniculitis of the head of an aquarium-maintained California moray. *Journal of Aquatic Animal Health*, 2012, 24(3):171-177.

61. Ley DH, Moresco A, **Frasca S Jr**. Conjunctivitis, rhinitis, and sinusitis in cliff swallows (*Petrochelidon pyrrhonota*) found in association with *Mycoplasma sturni* infection and cryptosporidiosis. *Avian Pathology*, 2012, 41(4):395-401.

60. Anderson ET, **Frasca S Jr**, Asakawa M, Fatzinger MH, Johnson J, Marcheterre K, Goodale L, Risatti GR, Harms CA. Splenic mycobacteriosis in an Atlantic guitarfish, *Rhinobatos lentiginosus* (Garman). *Journal of Fish Diseases*, 2012, 35(7):541-544.

59. Cavin JM, Donahoe SL, **Frasca S Jr**, Innis CJ, Kinsel MJ, Kurobe T, Naples LM, Nyaoke A, Poll CP, Weber III EPS. *Myxobolus albi* infection in cartilage of captive lumpfish (*Cyclopterus lumpus*). *Journal of Veterinary Diagnostic Investigation*, 2012, 24(3):516-524.

58. May M, Szczepanek S, **Frasca S Jr**, Gates A, Demcovitz D, Moneypenny C, Brown D, Geary SJ. Effects of sialidase knockout and complementation on virulence of *Mycoplasma gallisepticum*. *Veterinary Microbiology*, 2012, 157:91-95.
57. Field CL, Tuttle AD, Sidor IF, Nyaoke A, Deering KM, Gilbert-Marcheterre K, Risatti GR, Spoon T, Meegan J, Romano TA, **Frasca S Jr**, Dunn JL. Systemic mycosis in a California sea lion (*Zalophus Californianus*) with detection of Cystofilobasidiales DNA. *Journal of Zoo and Wildlife Medicine*, 2012, 43(1):144-152.
56. Goertz CEC, **Frasca S Jr**, Bohach GA, Cowan DF, Buck JD, French RA, De Guise S, Maratea J, Hinckley L, Ewalt D, Schlievert PM, Karst SM, Deobald CF, St. Aubin DJ, Dunn JL. *Brucella* sp. vertebral osteomyelitis with intercurrent fatal *Staphylococcus aureus* toxigenic enteritis in a bottlenose dolphin (*Tursiops truncatus*). *Journal of Veterinary Diagnostic Investigation*, 2011, 23(4):845-851.
55. Hawley DM, Grodio J, **Frasca S Jr**, Kirkpatrick, L, Ley DH. Experimental infection of domestic canaries (*Serinus canaria domestica*) with *Mycoplasma gallisepticum*: a new model system for a wildlife disease. *Avian Pathology*, 2011, 40(3):321-327.
54. Szczepanek SM, **Frasca S Jr**, Schumacher VL, Liao X, Padula M, Djordjevic SP, Geary SJ. Identification of lipoprotein MslA as a neoteric virulence factor of *Mycoplasma gallisepticum*. *Infection and Immunity*. 2010, 78(8):3475-3483.
53. Szczepanek SM, Tulman ER, Gorton TS, Liao X, Lu Z, Zinski J, Aziz F, **Frasca S Jr**, Kutish GF, Geary SJ. Comparative genomic analyses of attenuated strains of *Mycoplasma gallisepticum*. *Infection and Immunity*, 2010, 78(4):1760-71.
52. Draghi II A, Bebak J, Daniels S, Tulman ER, Geary SJ, West AB, Popov VL, **Frasca S Jr**. Identification of 'Candidatus' Piscichlamydia salmonis in arctic charr (*Salvelinus alpinus*) during a survey of charr production facilities in North America. *Diseases of Aquatic Organisms*, 2010, 89:39-49.
51. Innis C, Nyaoke A, Williams CR, Dunnigan B, Merigo C, Woodward DL, Weber ES, **Frasca S Jr**. Pathologic and parasitologic findings of cold-stunned Kemp's ridley sea turtles (*Lepidochelys kempii*) stranded on Cape Cod, Massachusetts, 2001-2006. *Journal of Wildlife Diseases*, 2009, 45:594-610.
50. Rivera S, Wellehan Jr JFX, McManamon R, Innis CJ, Garner MM, Raphael BL, Gregory CR, Latimer KS, Rodriguez CE, Diaz-Figueroa O, Marlar AB, Nyaoke A, Gates AE, Gilbert K, Childress AL, Risatti GR, **Frasca S Jr**. Systemic adenovirus infection in sulawesi tortoises (*Indotestudo forsteni*) caused by a novel siadenovirus. *Journal of Veterinary Diagnostic Investigation*, 2009, 21:415-426.

49. Weber ES, Young DA, Waltzek T, Twitchell EL, Vagelli A, Risatti GR, Hedrick RP, **Frasca S Jr**. Systemic iridovirus infection in the banggai cardinalfish (*Pterapogon kauderni*). *Journal of Veterinary Diagnostic Investigation*, 2009, 21:306-320.
48. St. Leger JA, Begeman L, Fleetwood M, **Frasca S Jr**, Garner MM, Lair S, Trembley S, Linn MJ, Terio K. Comparative pathology of nocardiosis in marine mammals. *Veterinary Pathology*, 2009, 46:299-308.
47. Spitsbergen JM, Blazer VS, Bowser PR, Cheng KC, Cooper KR, Cooper TK, **Frasca S Jr**, Groman DB, Harper CM, Law JM, Marty GD, Smolowitz RM, St. Leger J, Wolf DC, Wolf JC. Finfish and aquatic invertebrate pathology resources for now and the future. *Comparative Biochemistry and Physiology, Part C*, 2009, 149:249-257.
46. Nyaoke A, Weber ES, Innis C, Stremme D, Dowd C, Hinckley L, Gorton TS, Wickes B, Sutton D, de Hoog S, **Frasca S Jr**. Disseminated phaeohyphomycosis in weedy, *Phyllopteryx taeniolatus*, and leafy, *Phycodurus eques*, seadragons caused by several species of *Exophiala*. *Journal of Veterinary Diagnostic Investigation*, 2009, 21:69-79.
45. McBride MP, Sims MA, Cooper RW, Nyaoke AC, Cullion C, Kiupel M, Weaver DS, **Frasca S Jr**, Weber ES. Naturally occurring eastern equine encephalitis in a captive harbor seal (*Phoca vitulina*). *Journal of Zoo and Wildlife Medicine*, 2008, 39:631-637.
44. Gates A, **Frasca S Jr**, Nyaoke A, Gorton TS, Silbart LK, Geary SJ. Comparative assessment of a metabolically attenuated *Mycoplasma gallisepticum* mutant as a live vaccine for the prevention of avian respiratory mycoplasmosis. *Vaccine*, 2008, 26: 2010-19.
43. Mohammed J, **Frasca S Jr**, Cecchini K, Rood D, Nyaoke AC, Geary SJ, Silbart LK. Chemokine and cytokine gene expression profiles in chickens inoculated with *Mycoplasma gallisepticum* strains R<sub>low</sub> and GT5. *Vaccine*, 2007, 25:8611-21.
42. Caraguel CGB, Després BM, O'Kelly CJ, **Frasca S Jr**, Gast RJ, Cawthorn RJ, and Greenwood SJ. Microheterogeneity and coevolution: an examination of rDNA sequence characteristics in *Neoparamoeba pemaquidensis* and its prokinetoplastid endosymbiont. *Journal of Eukaryotic Microbiology*, 2007, 54:418-426.
41. Ganley-Leal LM, Brown C, Tulman E, Bergman L, Hinckley L, Johnson KH, Liu X, Van Kruiningen HJ, **Frasca S Jr**. Suppurative polyarthritis in striped skunks (*Mephitis mephitis*) from Cape Cod, Massachusetts: detection of mycoplasma DNA. *Journal of Zoo and Wildlife Medicine*, 2007, 38:388-399.
40. Caraguel CGB, Donay N, **Frasca S Jr**, O'Kelly CJ, Cawthorn RJ, Greenwood SJ. Characterization of *Neoparamoeba pemaquidensis* strains: PCR-RFLP of the internal transcribed spacer region from the amoeba and endosymbiont. *Diseases of Aquatic Organisms*, 2007, 76:141-149.

39. Draghi A, Bebak-Williams J, Popov VL, Noble AC, Geary SJ, West AB, Byrne P, **Frasca S Jr**. Characterization of a Neochlamydia-like bacterium associated with epitheliocystis in cultured arctic char (*Salvelinus alpinus*). *Diseases of Aquatic Organisms*, 2007, 76:27-38.
38. Baker K, Daniels S, Lennington J, Lardaro T, Czap A, Notti RQ, Cooper O, Isacson O, **Frasca S Jr**, and Conover J. Neuroblast protuberances in the subventricular zone of the regenerative MRL/MpJ mouse. *Journal of Comparative Neurology*, 2006, 498:747-761.
37. Hudson P, Gorton TS, Papazisi L, Cecchini K, **Frasca S Jr**, and Geary S.J. Identification of a novel virulence determinant, dihydrolipoamide dehydrogenase (lpd), in *Mycoplasma gallisepticum* through *in vivo* screening of transposon mutants. *Infection and Immunity*, 2006 Feb;74(2):931-9.
36. Javed MA, **Frasca S Jr**, Rood D, Cecchini K, Gladd M, Geary SJ, and Silbart LK. Correlates of immune protection in GT5 vaccinated chickens challenged with pathogenic *Mycoplasma gallisepticum* *R<sub>low</sub>*. *Infection and Immunity*, 2005, 73(9):5410-5419.
35. Tuttle AD, Andreadis TG, **Frasca S Jr**, and Dunn JL. Eastern Equine Encephalitis in an aquarium-maintained flock of African penguins (*Spheniscus demersus*) in southeastern Connecticut, USA. *Journal of the American Veterinary Medical Association*, 2005, 226(12):2059-2062.
34. **Frasca S Jr**, Weber ES, Urquhart H, Liao X, Gladd M, Cecchini K, Hudson P, May M, Gast RJ, Gorton TS, and Geary SJ. Isolation and characterization of *Mycoplasma sphenisci* sp. nov. from the choana of an aquarium-reared jackass penguin (*Spheniscus demersus*). *Journal of Clinical Microbiology*, 2005, 43(6):2976-2979.
33. Mullen TE, Nevis KR, O'Kelly CJ, Gast RJ, and **Frasca S Jr**. Nuclear small-subunit ribosomal RNA gene-based characterization, molecular phylogeny, and PCR detection of the neoparamoeba from western Long Island Sound lobster. *Journal of Shellfish Research*, 2005, 24(3):719-731.
32. **Frasca S Jr**, Kirsipuu VL, Russell S, Bullard SA, and Benz GW. Opercular lesion in wild black drum, *Pogonias cromis*, associated with attachment of the sea louse *Sciaenophilus tenuis* (Copepoda: Siphonostomatoida: Caligidae). *Acta Ichthyologica et Piscatoria*, 2004, 34(2):115-127.
31. Draghi A, Popov V, Kahl M, Stanton JB, Brown CC, Tsongalis GJ, West AB, and **Frasca S Jr**. Characterization of 'Candidatus' *Piscichlamydia salmonis* (gen. nov, sp. nov.) (order *Chlamydiales*), a chlamydia-like bacterium associated with epitheliocystis in farmed Atlantic salmon *Salmo salar*. *Journal of Clinical Microbiology*, 2004, 42(11):5286-5297.

30. Caterina KM, **Frasca S Jr**, Girshick T, and Khan MI. Development of a multiplex PCR for detection of avian adenovirus, avian reovirus, infectious bursal disease virus, and chicken anemia virus. *Molecular and Cellular Probes*, 2004, 18:293-298.
29. Mullen TE, Russell KS, Tucker MT, Maratea JL, Burrage TG, Koerting C, Hinckley L, Perkins CR, De Guise S, **Frasca S Jr**, and French RA. Paramoebiasis associated with mass mortality of American lobster (*Homarus americanus*) in Long Island Sound, USA. *Journal of Aquatic Animal Health*, 2004, 16:29-38.
28. Forzán, M, and **Frasca S Jr**. Systemic toxoplasmosis in a five-month-old beaver, *Castor Canadensis*. *Journal of Zoo and Wildlife Medicine*, 2004, 35(1):113-115.
27. Willens S, Dunn JL, and **Frasca S Jr**. Fibrosarcoma of the brood pouch in an aquarium-reared lined seahorse (*Hippocampus erectus*). *Journal of Zoo and Wildlife Medicine*, 2004, 35(1):107-109.
26. Russell S, **Frasca S Jr**, Sunila I, and French RA. Modification and field trials of a multiplex PCR for the detection of three protozoan pathogens of the eastern oyster, *Crassostrea virginica*. *Diseases of Aquatic Organisms*, 2004, 59:85-91.
25. Stanton JB, Brown CC, Poet S, Lipscomb TP, Saliki J, and **Frasca S Jr**. Retrospective differentiation of canine distemper virus and phocine distemper virus in phocids. *Journal of Wildlife Diseases*, 2004, 40(1):53-59.
24. Boerner L, Nevis KR, Hinkley LS, Weber ES, and **Frasca S Jr**. *Erysipelothrix* septicemia in a little blue penguin (*Eudyptula minor*). *Journal of Veterinary Diagnostic Investigation*, 2004, 16(2):145-149.
23. Maratea J, Ewalt DR, **Frasca S Jr**, Dunn JL, De Guise S, Szkudlarek L, St. Aubin DJ, and French RA. Evidence of *Brucella* infection in marine mammals stranded along the coast of southern New England. *Journal of Zoo and Wildlife Medicine*, 2003, 34(3):256-261.
22. Peglar MT, Amaral-Zettler LA, Anderson OR, Nerad TA, Mullen TE, **Frasca S Jr**, Silberman JD, O'Kelly CJ, Gillevet PM, Sogin ML. Two new small subunit ribosomal RNA gene clades within the morphologically defined subclass Gymnamoebia. *Journal of Eukaryotic Microbiology*, 2003, 50(3):224-232.
21. Papazisi L, **Frasca S Jr**, Gladd M, Liao X, Yogev D, and Geary SJ. GapA and CrmA Co-expression is essential for *Mycoplasma gallisepticum* cytoadherence and virulence. *Infection and Immunity*, 2002, 70(12):6839-6845.
20. Papazisi L, Silbart LK, **Frasca S Jr**, Rood D, Liao X, Gladd M, Javed MA, and Geary SJ. A modified live *Mycoplasma gallisepticum* vaccine to protect chickens from respiratory disease. *Vaccine*, 2002, 20(31-32):3709-3719.

19. Cone DK, and **Frasca S Jr**. Revised diagnosis, site of development, and lesions due to *Myxobolus hyborhynchi* (Myxozoa) parasitizing fathead minnow in the state of Minnesota, U.S.A. *Journal of Aquatic Animal Health*. 2002, 14(3):209-215.
18. Borucinska JD, and **Frasca S Jr**. Pancreatic fibrosis and ductal ectasia associated with the nematode *Pancreatonema americanum*, sp. nov., in spiny dogfish sharks (*Squalus acanthias*) from the northwestern Atlantic. *Journal of Fish Diseases*, 2002, 25:367-370.
17. Borucinska JD, and **Frasca S Jr**. Naturally occurring lesions and microorganisms in two species of free-living sharks: the spiny dogfish (*Squalus acanthias*) and the smooth dogfish (*Mustelus canis*) from the northwestern Atlantic. *Journal of Fish Diseases*, 2002, 25:287-298.
16. Stanton JB, Poet S, **Frasca S Jr**, Bienzle D, and Brown CC. Development of a semi-nested reverse transcription polymerase chain reaction assay for the retrospective diagnosis of canine distemper virus infection. *Journal of Veterinary Diagnostic Investigation*, 2002, 14:47-52.
15. Moravec F, Borucinska JD, and **Frasca S Jr**. *Pancreatonema americanum* sp. n. from the pancreatic duct of the dogfish shark, *Squalus acanthias*, from the coast of Massachusetts, USA. *Acta Parasitologica*, 2001, 46(4):293-298.
14. Moravec F, Spangenberg JV, and **Frasca S Jr**. *Syngnathinema californiense* n. gen., n. sp. (Nematoda: Dracunculoidea) from the Circulatory System of the pipefish, *Syngnathus leptorhynchus*, in California. *Journal of Parasitology*, 2001, 87(6):1429-1432.
13. Bowenkamp KE, **Frasca S Jr**, Draghi II A, Tsongalis GJ, Koerting C, Hinckley L, De Guise S, Montali RJ, Goertz CEC, St. Aubin DJ, and Dunn JL. *Mycobacterium marinum* dermatitis and panniculitis with chronic pleuritis in a captive white whale (*Delphinapterus leucas*) with aortic rupture. *Journal of Veterinary Diagnostic Investigation*, 2001, 13(6):524-530.
12. Bullard SA, **Frasca S Jr**, and Benz GW. Gill lesions associated with *Erpocotyle tiburonis* (Monogenea: Hexabothriidae) on wild and aquarium-held bonnethead sharks (*Sphyrna tiburo*). *Journal of Parasitology*, 2001, 87(5):972-977.
11. **Frasca S Jr**, Van Kruiningen HJ, Dunn JL, and St. Aubin DJ. Gastric intramural hematoma and hemoperitoneum in a northern fur seal (*Callorhinus ursinus*). *Journal of Wildlife Diseases*, 2000, 36(3):565-569.
10. Bullard SA, **Frasca S Jr**, and Benz GW. Skin lesions Caused by *Dermophthirius penneri* (Monogenea: Microbothriidae) on Wild-Caught Blacktip Sharks (*Carcharhinus limbatus*). *Journal of Parasitology*, 2000, 86 (3):618-622.
9. **Frasca S Jr**, Schwartz DR, Moiseff A, and French RA. Feather folliculoma in a captive-bred barn owl (*Tyto alba*). *Avian Diseases*, 1999, 43:616-621.

8. **Frasca S Jr**, Linfert DR, Tsongalis GJ, Gorton TS, Garmendia A, Hedrick RP, West AB, and Van Kruiningen HJ. Molecular characterization of the myxosporean associated with parasitic encephalitis of farmed Atlantic salmon (*Salmo salar*) in Ireland. *Diseases of Aquatic Organisms*, 1999, 33:221-233.
7. **Frasca S Jr**, Poynton SL, West AB, and Van Kruiningen HJ. Epizootiology, pathology, and ultrastructure of the myxosporean associated with parasitic encephalitis of farmed Atlantic salmon (*Salmo salar*) in Ireland. *Diseases of Aquatic Organisms*, 1998, 32:211-225.
6. Arkush KD, **Frasca S Jr**, and Hedrick RP. Pathology associated with the rosette agent, a systemic protist infecting salmonid fishes. *Journal of Aquatic Animal Health*, 1998, 10(1):1-11.
5. **Frasca S Jr**, and Khan MI. Multiple intussusceptions in a juvenile rhea (*Rhea Americana*) with proventricular impaction. *Avian Diseases*, 1997, 41:475-480.
4. **Frasca S Jr**, Hinckley L, Forsyth MH, Gorton TS, Geary SJ and Van Kruiningen HJ. Mycoplasmal conjunctivitis in a European Starling. *Journal of Wildlife Diseases*, 1997, 33(2):336-339.
3. Forsyth MH, Tully JG, Gorton TS, Hinckley L, **Frasca S Jr**, Van Kruiningen HJ and Geary SJ. *Mycoplasma sturni* sp. nov., from the conjunctiva of a European Starling (*Sturnus vulgaris*). *International Journal of Systematic Bacteriology*, 1996, 46(3):716-719.
2. **Frasca S Jr**, Dunn JL, and Van Kruiningen HJ. Acute gastric dilatation with volvulus in a Northern Fur Seal (*Callorhinus ursinus*). *Journal of Wildlife Diseases*, 1996, 32(3):548-551.
1. **Frasca S Jr**, Dunn JL, Cooke JC, and Buck JD. Mycotic dermatitis in an Atlantic white-sided dolphin, a pygmy sperm whale, and two harbor seals. *Journal of the American Veterinary Medical Association*, 1996, 208(5):727-729.

*Articles in press, accepted, in review, in submission, or in preparation*

Fiddes K, Murray M, **Frasca S Jr**, Garner MM, LaDouceur E. Ocular lesions of captive cephalopods. Accepted, *Veterinary Pathology*. 2022.

Hepps Keeney C, Waltzek TB, Viadanna PHO, **Frasca S Jr**, Reinhardt E, Lovy J, Lewbart GA. *Myxobolus lentisuturalis* infection in a farmed population of goldfish (*Carassius auratus*) from the United States. In Review, *Diseases of Aquatic Organisms*, Manuscript: DAO-2022-09-004, Date submitted: 2022-09-09. Accepted 2022-12-08.

Koda SA, Subramaniam K, Groff JM, Yanong RP, Poudier DB, Pedersen M, Pelton C, Garner MM, Phelps NBD, Armien AG, Hyatt MW, Hick PM, Becker JA, Stidworthy MF, **Frasca S Jr**, Waltzek TB. Genetic characterization of infectious spleen and kidney necrosis virus strains in



Banggai cardinalfish *Pterapogon kauderni* from 2000 – 2017. *Journal of Fish Diseases*, Manuscript: JFD-2022-355, Date submitted: 2022-11-08.

Wahlteinez SJ, Newton AL, **Frasca S Jr**, Darymple C, Whitaker B, Arnold JE, Stacy NI. Anesthesia of the Small Spine Sea Star (*Echinaster spinulosus*): Adverse Effects of Tricaine Methanesulfonate (MS-222). *Journal of Zoo and Wildlife Medicine*, 2022, In Preparation.

### **BOOK CHAPTERS:**

**Frasca S Jr**, Gast RJ, Bogolmoni AL, Szczepanek SM. Diagnosing marine diseases. In: Behringer DC, Silliman BR, Lafferty KD (Eds). *Marine Disease Ecology*, pp. 213-231. Oxford University Press, Oxford, United Kingdom, 03 Mar 2020.

**Frasca S Jr**. Neurological diseases. In: Smith, SA (Ed). *Fish Diseases and Medicine*, pp. 261-273. CRC Press, Taylor & Francis Group, Boca Raton, Florida, 2019.

**Frasca S Jr**, Wolf JC, Kinsel MJ, Camus AC, Lombardini ED. Osteichthyes. In: Terio KA, McAloose D, St. Leger J (Eds). *Pathology of Wildlife and Zoo Animals*, pp. 945-993. Academic Press, London, 2018.

Innis CJ, and **Frasca S Jr**. Bacterial and fungal diseases. In: CA Manire, TM Norton, BA Stacy, CJ Innis, CA Harms (Eds). *Sea Turtle Health and Rehabilitation*, pp. 779-790. J. Ross Publishing, Plantation, Florida, 2017.

Speare D, and **Frasca S Jr**. Nervous system. In: Ferguson HW (Ed). *Systemic Pathology of Fish: A Text and Atlas of Normal Tissues in Teleosts and their Responses in Diseases*, 2<sup>nd</sup> edition, pp. 218-243. Scotian Press, Scotland, 2006.

Dierauf LA, **Frasca S Jr**, and Mashima TY. Careers in marine mammal medicine. In: Dierauf LA, and Gulland FMD (Eds). *The Handbook of Marine Mammal Medicine*, 2<sup>nd</sup> edition, pp. 97-115. CRC Press, Boca Raton, Florida, 2001.

### *Book Chapters In Preparation*

**Frasca S Jr**, Armwood A, Reinhardt E, Lombardini ED, Camus AC. Osteichthyes. In: Terio KA, McAloose D, St. Leger J (Eds). *Pathology of Wildlife and Zoo Animals*, 2<sup>nd</sup> Edition. Academic Press, London, In Preparation, 2022.

**Frasca S Jr** and Paré JA. Fungal infections from the histopathologic perspective. In: McGinnis MR, Fothergill AW, Sutton DA, Libal MC, Paré JA, **Frasca S Jr**. *Veterinary Clinical Mycology*, In Preparation.

**Frasca S Jr** and McGinnis MR. Chapter 6. Identification using molecular methods. In: McGinnis MR, Fothergill AW, Sutton DA, Libal MC, Paré JA, **Frasca S Jr**. *Veterinary Clinical Mycology*, In Preparation.

#### CONFERENCE PRESENTATIONS (underscore indicates presenter):

Tocco N, Reinhardt E, **Frasca S Jr**, St. Pierre S. 2022. *Nasitrema Encephalitis in a male common dolphin*. Annual Zoo and Wildlife Pathology Workshop, September 17-23, AAZV Annual Conference, Houston, TX, United States [International Platform Presentation]

Heckman TI, Abraham T, Chow AM, Littnan EM, Griffin MJ, Waldbieser GC, Welch TJ, Zazdi Z, Shahin K, Mukkatira K, Richey C, Kwak K, Keleher W, Avendaño-Herrera R, Ortega C, Mitchell H, Mohammed HH, LePage V, Risatti G, Hyatt MW, **Frasca S Jr**, Adkison M, Soto E. For *Lac* of a better name: redefining piscine lactococcosis. 2022 International Symposium on Aquatic Animal Health (ISAAH), September 4–8, Santiago, Chile [Platform Presentation, International]

**Frasca S Jr**. 2021. Resources for Fish Diagnostics through the Connecticut Veterinary Medical Diagnostic Laboratory. 2021 Joined Fish Health Committee/Fish Culture Chiefs Virtual Meeting, 21-22 July 2021, Virtual Meeting Format [**Invited Seminar**, Regional]

**Frasca S Jr**. 2021. Aquatic Animal Diseases. Charles Louis Davis and Samuel Wesley Thompson DVM Foundation, Australian Saturday Virtual Seminar Series, 26 June 2021 (AUS), Virtual Meeting Format [**Invited Seminar**, International]

**Frasca S Jr**. 2020. Necropsy technique, histologic anatomy, and select pathology of the American lobster. Charles Louis Davis and Samuel Wesley Thompson DVM Foundation, Virtual Seminar Series, 14 August 2020, Virtual Meeting Format [**Invited Seminar**, International]

Iredale ME, Pelton C, **Frasca S Jr**. 2020. Pneumatosis intestinalis in a lined seahorse (*Hippocampus erectus*). Virtual Symposium of the International Association for Aquatic Animal Medicine, 29-30 June [Virtual Presentation, International]

**Frasca S Jr**. 2020. Diseases of Fish. Diseases of Aquatic and Zoo Animals, Charles Louis Davis and Samuel Wesley Thompson DVM Foundation, Day Seminar Series, 9 June 2020, Virtual Meeting Format [**Invited Seminar**, International]

Kehoe SP, Stacy NI, **Frasca S Jr**, Stokol T, Wang C, Debose S, Leach K, Luo L, Rivera S. 2019. Leukocyte characteristics of the Giant Panda (*Ailuropoda melanoleuca*): morphological, cytochemical and ultrastructural features. 51st Annual Conference of the American Association of Zoo Veterinarians concurrent with ExoticsCon, ZWNF /NAG, and AAFV, 28 September – 4 October, St. Louis, Missouri. [Platform Presentation, International]

Rosas-Rosas AG, Charles LN, Keller CJ, **Frasca S Jr**. 2019. Dermatitis, cellulitis and interstitial myositis, with epidermal erosion and ulceration, vasculitis and perivasculitis in a bigfin reef squid

(*Sepioteuthis lessoniana*). 26th Annual Zoo & Wildlife Pathology Workshop Sponsored by the Davis-Thompson Foundation, 51st Annual Conference of the American Association of Zoo Veterinarians concurrent with ExoticsCon, ZWNF /NAG, and AAFV, 28 September – 4 October, St. Louis, Missouri. [Platform Presentation, International]

**Frasca S Jr**, Burns RE, Hancock-Ronemus A. 2019. Ancistrocomid ciliate gill infestation with proliferative branchitis and intra-epithelial parasitic infection of suction cups in *Octopus bimaculoides*. 26th Annual Zoo & Wildlife Pathology Workshop Sponsored by the Davis-Thompson Foundation, 51st Annual Conference of the American Association of Zoo Veterinarians concurrent with ExoticsCon, ZWNF /NAG, and AAFV, 28 September – 4 October, St. Louis, Missouri. [Platform Presentation, International]

**Frasca S Jr**. 2019. Selected gross pathology of aquatic animals. Annual Gross Pathology Review Course, Charles Louis Davis and Samuel Wesley Thompson DVM Foundation, July 15-19, University of Florida, College of Veterinary Medicine, Gainesville Florida. [Invited Seminar, International]

**Frasca S Jr**. 2019. Selected postmortem examination findings and gross pathology of cetaceans and pinnipeds. Annual Gross Pathology Review Course, Charles Louis Davis and Samuel Wesley Thompson DVM Foundation, July 15-19, University of Florida, College of Veterinary Medicine, Gainesville Florida. [Invited Seminar, International]

Koda SA, Subramaniam K, Yanong RP, Pouder DB, Popov VL, **Frasca S Jr**, Waltzek TB. 2019. First report of a megalocytivirus infection in aquacultured rainbow sharks (*Epalzeorhynchus frenatus*). 5th International Symposium on Ranaviruses, June 4- 6, Townsville, Australia [Poster Presentation, International]

Koda SA, Subramaniam K, Pouder DB, Yanong RP, Petty BD, **Frasca S Jr**, Waltzek TB. 2019. Repeated detections of red seabream iridovirus in Florida pompano maricultured in the Caribbean sea. 5th International Symposium on Ranaviruses, June 4- 6, Townsville, Australia [Poster Presentation, International]

Koda SA, Subramaniam K, Francis-Floyd R, Yanong RP, **Frasca S Jr**, Groff JM, Popov VL, Fraser WA, Yan A, Mohan S, Waltzek TB. 2019. Phylogenomic characterization of two novel members of the genus Megalocytivirus from archived ornamental fish samples. 5th International Symposium on Ranaviruses, June 4- 6, Townsville, Australia [Poster Presentation, International]

Walker L, Subramaniam K, Marcquenski S, Godard D, Koenigs R, Kieran E, **Frasca S Jr**, Kerr K, Davison AJ, Waltzek TB. 2019. Phylogenomic Characterization of Acipenserid Herpesvirus 1 in Lake Sturgeon (*Acipenser fulvescens*). UF College of Veterinary Medicine Research and PHI ZETA Celebration, April 11-12, Gainesville, FL [Poster Presentation, College]

Landrau-Giovanetti N, Subramaniam K, **Frasca S Jr**, Ng TFF, Rotstein DS, West K, Waltzek TB. 2019. Characterization of a novel circovirus from a stranded Longman's beaked whale (*Indopacetus pacificus*). UF College of Veterinary Medicine Research and PHI ZETA Celebration, April 11-12, Gainesville, FL [Poster Presentation, College]

Ahasan MS, Patterson III WF, Yanong RP, **Frasca S Jr**, Subramaniam K, Cody T, Waltzek TB. 2019. Determining the Etiology of an Emerging Ulcerative Disease in Invasive Lionfish. UF College of Veterinary Medicine Research and PHI ZETA Celebration, April 11-12, Gainesville, FL [Poster Presentation, College]

Landrau-Giovanetti N, Subramaniam K, **Frasca S Jr**, Ng TFF, Rotstein DS, West K, Waltzek TB. 2019. Characterization of a novel circovirus from a stranded Longman's beaked whale (*Indopacetus pacificus*). WAVDL PALOOZA IV, March 29, Gainesville, FL [Platform Presentation, College]

Walker L, Subramaniam K, Marcquenski S, Godard D, Koenigs R, Kieran E, **Frasca S Jr**, Kerr K, Davison AJ, Waltzek TB. 2019. Phylogenomic Characterization of Acipenserid Herpesvirus 1 in Lake Sturgeon (*Acipenser fulvescens*). Emerging Pathogens Institute Research Day, February 7, Gainesville, FL. [Poster Presentation, College]

Landrau-Giovanetti N, Subramaniam K, **Frasca S Jr**, Ng TFF, Rotstein DS, West K, Waltzek TB. 2019. Characterization of a novel circovirus from a stranded Longman's beaked whale (*Indopacetus pacificus*). Emerging Pathogens Institute Research Day, February 7, Gainesville, FL [Poster Presentation, College]

Ahasan S, Patterson WF, Yanong RP, **Frasca S Jr**, Subramaniam K, Cody T, Waltzek TB. 2018. Determining the etiology of an emerging ulcerative disease in invasive lionfish. Florida Fish and Wildlife Conservation Commission Lionfish Summit, October 2-4, Cocoa Beach, FL. [Platform Presentation, Regional]

Godard DR, Walker L, Subramaniam K, Marcquenski S, Koenigs R, Kerr K, Kieran EA, **Frasca Jr S**, Davison AJ, Waltzek TB. 2018, Detection, diagnosis, and monitoring of *Acipenserid Herpesvirus 1* (AciHV1) in lake sturgeon in Wisconsin. The Eighth International Symposium on Aquatic Animal Health, September 2-6, Charlottetown, Prince Edward Island, Canada. [Poster Presentation, International]

Walker L, Subramaniam K, Marcquenski S, Godard D, Koenigs R, Kieran E, **Frasca S Jr**, Kerr K, Davison AJ, Waltzek TB. 2018. Phylogenomic characterization of *Acipenserid Herpesvirus 1* in lake sturgeon (*Acipenser fulvescens*). The Eighth International Symposium on Aquatic Animal Health, September 2-6, 2018, Charlottetown, Prince Edward Island, Canada. [Oral Presentation, International]

Koda SA, Subramaniam K, Pouder DB, Yanong RP, **Frasca S Jr**, Waltzek TB. 2018. Repeated detections of Red Seabream Iridovirus in Florida Pompano maricultured in the Caribbean Sea.

The Eighth International Symposium on Aquatic Animal Health, September 2-6, Charlottetown, Prince Edward Island, Canada. [Oral Presentation, International]

Koda SA, Subramaniam K, Pouder DB, Yanong RP, **Frasca S Jr**, Rasmussen JM, Monarski LL, Waltzek TB. 2018. Phylogenomic characterization of megalocytiviruses in archived ornamental fish samples. The Eighth International Symposium on Aquatic Animal Health, September 2-6, Charlottetown, Prince Edward Island, Canada. [Oral Presentation, International]

Ahasan MS, Patterson III WF, Yanong RP, **Frasca S Jr**, Subramaniam K, Cody T, Waltzek TB. 2018. Determining the etiology of an emerging ulcerative disease in invasive lionfish. The Eighth International Symposium on Aquatic Animal Health, September 2-6, Charlottetown, Prince Edward Island, Canada. [Poster Presentation, International]

Brown DR, Michaels DL, **Frasca S Jr**, Anthony SJ, Innis CJ, Pugliares-Bonner K. 2018. Respiratory mycoplasma phylotypes in *Halichoerus grypus* and *Phoca vitulina* seals stranded on the New England coast 2011-2017. The 22th Congress of the International Organization for Mycoplasmaology, July 9-12, Portsmouth, New Hampshire. [Poster Presentation, International]

Koda SA, Subramaniam K, Francis-Floyd R, Yanong RP, **Frasca S Jr**, Groff JM, Popov VL, Fraser WA, Yan A, Mohan S, Waltzek TB. 2018. Phylogenomic characterization of a novel megalocytivirus lineage from archived ornamental fish samples. University of Florida College of Veterinary Medicine Research and PHI ZETA Celebration, April 19-20, Gainesville, FL. [Poster Presentation, Regional]

Walker L, Subramaniam K, Marcquenski S, Godard D, Koenigs R, Kieran E, **Frasca S Jr**, Kerr K, Davison AJ, Waltzek TB. 2018. Phylogenomic characterization of Acipenserid Herpesvirus 1 in lake sturgeon (*Acipenser fulvescens*). University of Florida College of Veterinary Medicine Research and PHI ZETA Celebration, April 19-20, Gainesville, Florida. [Poster Presentation, Regional]

**Frasca S Jr**. Histopathological synopsis of the pathology of the American lobster. 2017. American Fisheries Society 147<sup>th</sup> Annual Meeting, August 20-24, Tampa, Florida. [Platform Presentation, International]

**Frasca S Jr**. Essentials of “pigmented” fungal infections, with relevance to aquatic animals. 2017. American Fisheries Society 147<sup>th</sup> Annual Meeting, August 20-24, Tampa, Florida. [Platform Presentation, International]

Koda SA, Subramaniam K, Francis-Floyd R, Yanong RP, **Frasca S Jr**, Groff JM, Mohan S, Fraser WA, Yan A, Go J, Whittington R, Waltzek TB. 2017. Phylogenomic characterization of a novel megalocytivirus lineage from archived ornamental fish. American Fisheries Society 147<sup>th</sup> Annual Meeting, August 20-24, Tampa, Florida. [Platform Presentation, International]

Steckler NK, **Frasca S Jr**, Subramaniam K, Imnoi K, Hopper L, Powell J, Colee J, Waltzek TB. 2017. The effect of water temperature on frog virus 3 disease in young-of-the-year pallid sturgeon (*Scaphirhynchus albus*). Fourth International Symposium on Ranaviruses, June 7-10, Budapest, Hungary. [Oral Presentation, International]

Koda SA, Subramaniam K, Francis-Floyd R, Yanong RP, **Frasca S Jr**, Groff JM, Mohan S, Fraser WA, Yan A, Go J, Whittington R, Waltzek TB. 2017. Phylogenomic characterization of a novel megalocytivirus lineage from archived ornamental fish. International Symposium on Viruses of Lower Vertebrates, June 4-7, Budapest, Hungary. [Platform Presentation, International]

Steckler NK, **Frasca S Jr**, Subramaniam K, Imnoi K, Hopper L, Powell J, Colee J, Waltzek TB. 2017. The effect of water temperature on frog virus 3 disease in young-of-the-year pallid sturgeon (*Scaphirhynchus albus*). 42nd Eastern Fish Health Workshop, April 3-6, East Lansing, MI [Platform Presentation, International] [♦**AWARD WINNER: BEST STUDENT PRESENTATION**].

Koda SA, Subramaniam K, Francis-Floyd R, Yanong RP, **Frasca S Jr**, Groff JM, Mohan S, Fraser WA, Yan A, Go J, Whittington R, Waltzek TB. 2017. Phylogenomic characterization of a novel megalocytivirus lineage from archived ornamental fish. 42nd Eastern Fish Health Workshop, April 3-6, East Lansing, MI [Platform Presentation, International]

Steckler N, Subramaniam K, Thompson P, Claytor S, Wellehan J, **Frasca S Jr**, Whittington R, Hick P, Waltzek T. 2016. Recent advances in ranaviral phylodynamics. 41st Eastern Fish Health Workshop, April 11-15, Atlantic Beach, North Carolina [Platform Presentation, International]

Steckler N, Wellehan J, **Frasca S Jr**, Whittington R, Hick P, Becker J, Jaramillo D, Ariel E, Toffan A, Holopainen R, Jancovich J, Olesen NJ, Miller D, Polchana J, Kanchanakhan S, Waltzek W. 2015. Repeated detections of ranaviruses in aquaculture and the development of improved molecular tools. Third International Symposium on Ranaviruses, May 30-June 1, Gainesville, Florida [Platform Presentation, International]

Steckler NK, Wellehan JFX, **Frasca S Jr**, Whittington RJ, Hick P, Becker JA, Jaramillo D, Ariel E, Toffan A, Holopainen R, Jancovich JK, Olesen NJ, Miller DL, Polchana J, Kanchanakhan S, Waltzek TB. 2015. Repeated detections of ranaviruses in aquaculture and the development of improved molecular tools. 40th Eastern Fish Health Workshop, March 2-6, Charleston, South Carolina [Platform Presentation, International]

**Frasca S Jr**. 2015. Necropsy, Histology and Pathology of the American Lobster. Continuing Education Program on Crustacean Health and Disease, 40<sup>th</sup> Annual Eastern Fish Health Workshop, March 2-6, Charleston, South Carolina [Invited Speaker, Platform Presentation, International]

Newton AL, Garner MM, LaDouceur E, **Frasca S Jr**, Smolowitz RM, Knowles S, Work TM,

Stidworthy MF. 2015. Current pathology findings in the Pacific coast Sea Star Wasting Disease mortality event. 40<sup>th</sup> Annual Eastern Fish Health Workshop, March 2-6, Charleston, South Carolina [Platform Presentation, International]

Steckler NS, Yanong RPE, Pouder DB, Nyaoke A, Sutton DA, Lindner JR, Wickes BL, **Frasca S Jr**, Wolf JC, Waltzek TB. 2014. Infection due to the melanized fungus *Veronaea botryosa* in hatchery-reared sturgeon. North Florida Marine Science Symposium, St. Augustine, FL.

LaDouceur E, Newton AL, Garner MM, Knowles S, **Frasca S Jr**, Smolowitz RM, Work TM, Stidworthy MF, Wynne J. 2014. Severe, acute, multifocal, epidermal degeneration and necrosis with ulceration, coelomocytic infiltration, and dermal edema in an adult knobby star (*Pisaster giganteus*). 21<sup>st</sup> Annual Zoo and Wildlife Pathology Workshop, 46<sup>th</sup> Annual Conference of the American Association of Zoo Veterinarians held concurrently with the Annual Conferences of the Association of Reptile and Amphibian Veterinarians and the Association of Exotic Mammal Veterinarian, October 19, Orlando, Florida [Case Report, International]

**Frasca S Jr**. 2014. Diseases of Finfish. In: Workshop on Fish Necropsy and Pathology. 46<sup>th</sup> Annual Conference of the American Association of Zoo Veterinarians held concurrently with the Annual Conferences of the Association of Reptile and Amphibian Veterinarians and the Association of Exotic Mammal Veterinarian, October 18-24, Orlando, Florida [Workshop seminar and laboratory, International]

Hyatt MW, Burns RE, **Frasca S Jr**. 2014. Great hammerhead-*ache*. 39<sup>th</sup> Annual Eastern Fish Health Workshop, April 28 – May 2, Shepherdstown, West Virginia [Platform Presentation, International]

MacDonald MM, Groman D, Stryhn H, **Frasca S Jr**, Wadsworth S, Fast MD. 2014. Immunostimulatory effects on sea lice-induced lesions of Atlantic salmon (*Salmo salar*). 39<sup>th</sup> Annual Eastern Fish Health Workshop, April 28 – May 2, Shepherdstown, West Virginia [Platform Presentation, International]

McDermott CT, Clayton LA, Eeg PH, **Frasca S Jr**. 2014. Trimming the fungus among your lumpfish: laser-assisted surgical excision of an *Exophiala* sp. lesion in a lumpfish (*Cyclopterus lumpus*). 39<sup>th</sup> Annual Eastern Fish Health Workshop, April 28 – May 2, Shepherdstown, West Virginia [Platform Presentation, International]

Belton SJ, Tuttle A, Marcheterre K, Sutton DA, **Frasca S Jr**. 2013. *Alternaria* sp. superficial dermatitis in a rehabilitated harbor seal. American College of Veterinary Pathologists 2013 Annual Meeting, November 15-20, Montreal, Quebec, Canada [Poster, International]

♦**Frasca S Jr**. 2013. An overview of pigmented fungal infections in fish. 38<sup>th</sup> Annual Eastern Fish Health Workshop, April 29-May 3, Gettysburg, Pennsylvania [Platform Presentation, International]. ♦**Co-Chair of Special Scientific Session: Emerging Pigmented Fungal Infections of Fish**

Braverman H, Innis CJ, Cavin J, Sims M, Ceresia M, Baden LR, Kuhn D, Williams SR, Hirokawa K, Weber III EP, **Frasca S Jr**, Stacy B, Merigo C. 2013. Diagnosis and treatment of *Enterococcus* sp. infections during rehabilitation of cold-stunned Kemp's ridley turtles (*Lepidochelys kempii*): 50 cases, 2006-2012, 44<sup>th</sup> Annual Conference of the International Association for Aquatic Animal Medicine, April 21-26, Sausalito, California, USA [Platform Presentation, International]

Leone AM, Crawshaw GJ, Rose K, Garner MM, **Frasca S Jr**, Farina LL. 2012. A retrospective study of the lesions associated with iron storage disease in captive Egyptian fruit bats (*Rousettus aegyptiacus*). 19<sup>th</sup> Annual Conference of the Association of Reptilian and Amphibian Veterinarians held in conjunction with the 44<sup>th</sup> Annual Conference of the American Association of Zoo Veterinarians and the Association of Exotic Mammal Veterinarians, October 20-26, Oakland, California [Platform Presentation, International]

Innis CJ, **Frasca S Jr**, Stacy B, Wickes BL, Wellehan JFX, Sutton DA. 2012. Identification and antimicrobial susceptibility of fungi isolated from marine turtles with histologically confirmed mycotic infections: 16 cases, 2005-2012. 19<sup>th</sup> Annual Conference of the Association of Reptilian and Amphibian Veterinarians held in conjunction with the 44<sup>th</sup> Annual Conference of the American Association of Zoo Veterinarians and the Association of Exotic Mammal Veterinarians, October 20-26, Oakland, California [Platform Presentation, International]

Rosas Rosas AG, Baccanale C, **Frasca S Jr**. *Ichthyophonus*-like sp. myositis in a grass frog. 2012. 19<sup>th</sup> Annual Zoo and Wildlife Pathology Workshop, Joint Conference of the American Association of Zoo Veterinarians, Association of Reptilian and Amphibian Veterinarians, and the Association of Exotic Mammal Veterinarians, October 21, Oakland, California [Case Report, International]

Mishra N, Giannini C, **Frasca S Jr**. Epizootic shell disease and parameobiasis in an American lobster (*Homarus americanus*). 2012. 19<sup>th</sup> Annual Zoo and Wildlife Pathology Workshop, Joint Conference of the American Association of Zoo Veterinarians, Association of Reptilian and Amphibian Veterinarians, and the Association of Exotic Mammal Veterinarians, October 21, Oakland, California [Case Report, International]

**Frasca S Jr**, Long D. 2012. Histologic techniques for fish (workshop #34). 38th Annual National Society for Histotechnology Symposium/Convention, September 28 – October 1, Vancouver, British Columbia, Canada [Invited Speaker, International]

Ley D, Moresco A, **Frasca S Jr**. 2012. Conjunctivitis, rhinitis, and sinusitis in cliff swallows associated with mycoplasma sturni infection and cryptosporidiosis. Joint 61st International Conference of the Wildlife Disease Association and the 10th Biennial Conference of the European Wildlife Disease Association, July 22–27, Lyon, France [Poster, International]



LePage V, Contador E, **Frasca S Jr**, Lumsden JS. 2012. Investigation of ulcerative dermatitis in captive *Hippocampus kuda*. 43<sup>rd</sup> Annual Conference of the International Association for Aquatic Animal Medicine, May 12-16, Atlanta, Georgia [Platform Presentation, International]

LePage V, Contador E, **Frasca S Jr**, Lumsden JS. 2012. Investigation of bacterial dermatitis and branchitis in captive syngnathids. 37<sup>th</sup> Eastern Fish Health Workshop, April 23-27, Lake Placid, New York [Platform Presentation, International]

Pugliares KR, St. Leger JA, Innis CJ, Anthony SJ, Ip H, Saliki JT, **Frasca S Jr**, Fire S, Merigo C, Anderson DM, Garron M, and Rowles T. 2012. Pathological findings in harbor seals from New Hampshire and Massachusetts September – December 2011, including identification of influenza subtype H3N8. North East Region Stranding Network Conference, March 5-9, Baltimore, Maryland [Platform Presentation, Regional]

Schumacher VL, Innis C, Garner MM, Risatti GR, Nordhausen R, Gilbert-Marcheterre K, **Frasca S Jr**. 2011. Diagnosis of Sulawesi Tortoise Adenovirus-1 in Impressed Tortoises (*Manouria impressa*) Using Improved Detection Methods. International Conference on Diseases of Zoo and Wild Animals, June 1-6, Lisbon, Portugal [Poster, International]

Ellis JC, Courchesne SJ, Davis B, Tseng F, Murray M, French RA, Sidor I, Fleetwood M, Roudabush A, **Frasca S Jr**, Smyth JA, Akey B, Bunting EM. 2011. Establishment of a Northeast Wildlife Disease Consortium, 67<sup>th</sup> Annual Northeast Fish and Wildlife Conference, Manchester, NH

**Frasca S Jr**. 2011. Histology and histopathology of the eye and sense organs. Continuing Education Program, 36<sup>th</sup> Eastern Fish Health Workshop, 28 March - 1 April, Mount Pleasant, South Carolina [Invited Speaker, International]

**Frasca S Jr**, Sura R, Deering KM, Risatti GR, Sim AR, Sanders GE, Rasmussen JM, Wolf TM, Weber ES, Waltzek TB. 2011. Megalocytivirus infections in public aquaria. 36<sup>th</sup> Eastern Fish Health Workshop, 28 March - 1 April, Mount Pleasant, South Carolina [Platform Presentation, International]

Ellis JC, Courchesne SJ, Davis B, Tseng F, Murray M, French RA, Sidor I, Fleetwood M, Roudabush A, **Frasca S Jr**, Smyth JA, Akey BL, Bunting EM. Establishment of a Northeast Wildlife Disease Cooperative. 2011. Northeast Region Biologists Conference, Baltimore, MD.

Majumder S, Mohammed J, Rood D, Szczepanek SM, Geary SJ, **Frasca S Jr**, Silbart LK. 2010. Up-regulation of inflammatory mediators and pro-apoptotic genes during *Mycoplasma gallisepticum* infection. Conference of Research Workers in Animal Diseases, December 5<sup>th</sup>-7<sup>th</sup> Chicago, IL [Platform Presentation, International]

Ellis JC, Courchesne SJ, Davis B, Melidone R, Akey BL, **Frasca S Jr**, Smyth JA, Bushmich SL, Sidor I, French RA. 2010. Establishment of the Northeast Wildlife Disease Cooperative. AAVLD/USAHA 53<sup>rd</sup> Annual Meeting, November 11-17, Minneapolis, MN

Innis CJ, Sims M, Ceresia M, Baden LR, Kuhn D, Williams SR, Hirokawa K, Weber ES, Merigo C, **Frasca S Jr**. Diagnosis and treatment of *Enterococcus sp.* infections during rehabilitation of cold-stunned Kemp's ridley turtles (*Lepidochelys kempii*): 13 cases. Annual Conference of the Association of Reptilian and Amphibian Veterinarians concurrent with the Annual Conference of the American Association of Zoo Veterinarians, 24-28 October, South Padre Island, Texas [Platform Presentation, International]

Ellis JC, Courchesne SJ, Keating JH, Davis BJ, French RA, Sidor I, **Frasca S Jr**, Smyth JA. 2010. Establishment of a Northeast Wildlife Disease Consortium, 66<sup>th</sup> Annual Northeast Fish and Wildlife Conference, Newton, MA.

Nyaoke A, Weber ES, Innis CJ, Romanelli A, Wickes B, Sutton D, Hedrick RP, **Frasca S Jr**. 2010. Experimental infection of chinook salmon maintained in saltwater aquaria using a novel *Exophiala* species. 35<sup>th</sup> Eastern Fish Health Workshop, 24-28 May, Shepherdstown, West Virginia [Invited Speaker, International]

**Frasca S Jr**. 2010. Pathologies of the brain and nervous system. Continuing Education Program, 35<sup>th</sup> Eastern Fish Health Workshop, 24-28 May, Shepherdstown, West Virginia [Invited Speaker, International]

**Frasca S Jr**. 2010. Comparative histology of aquatic species. 2010 Region I Histotechnology Conference and Symposium, April 23-24, Mystic, Connecticut [Invited Speaker, Regional]

Schumacher VL, Goldie S, **Frasca S Jr**. 2009. Microsporidial vasculitis with hemopericardium in a bearded dragon. 16<sup>th</sup> Annual Zoo and Wildlife Pathology Workshop, Joint Conference of the American Association of Zoo Veterinarians and American Zoo and Aquarium Association Nutrition Advisory Group, October 25-30, Tulsa, Oklahoma [Case Report, International]

Carvallo FR, Roberts L, Khan MI, **Frasca S Jr**. 2009. Myocarditis in a vulture with West Nile virus. 16<sup>th</sup> Annual Zoo and Wildlife Pathology Workshop, Joint Conference of the American Association of Zoo Veterinarians and American Zoo and Aquarium Association Nutrition Advisory Group, October 25-30, Tulsa, Oklahoma [Case Report, International]

Schumacher VL, Mangold B, Lenzycki J, Hinckley L, Sutton D, **Frasca S Jr**. 2009. Pleuritis and Pneumonia Incited by *Paecilomyces lilacinus* in an Aquarium-Held Loggerhead Sea Turtle (*Caretta caretta*). 52<sup>nd</sup> Annual Conference of the American Association of Veterinary Laboratory Diagnosticians and 113<sup>th</sup> Annual Meeting of the United States Animal Health Association, October 7-14, San Diego, California [Poster Presentation, National]

Innis CJ, Garner MM, Nordhausen MA, Wellehan JFX, Childress A, Schumacher V, Gilbert K, Risatti G, **Frasca S Jr**. 2009. Post-mortem detection of Sulawesi Tortoise Adenovirus-1 in two impressed tortoises (*Manouria impressa*) and a Burmese star tortoise (*Geochelone platynota*). 16<sup>th</sup> Annual Conference of the Association of Reptilian and Amphibian Veterinarians held in conjunction with the 30<sup>th</sup> Annual Conference of the Association of Avian Veterinarians and the Association of Exotic Mammal Veterinarians, August 8-15, Milwaukee, Wisconsin [Platform Presentation, International]

Hirokawa K, Innis CJ, Nyaoke A, Schumacher VL, **Frasca S Jr**. 2009. Safety and efficacy of coelioscopic biopsy of liver and spleen in Atlantic salmon. 34<sup>th</sup> Annual Eastern Fish Health Workshop, April 27-30, Lake Placid, New York [Platform Presentation, International]

**Frasca S Jr**. 2009. Fundamentals of diagnostic testing. Northeast Region Stranding Network Conference, March 26-29, Salem, Massachusetts. [Invited Speaker, Regional]

Sidor IF, Field C, Meegan J, Gagnon H, Carlson J, Kniffen J, Hoag J, Ruiz C, Thompson L, LaFleur R, Schwab MC, Tsongalis GJ, Mazzaro L, Romano TA, De Guise S, **Frasca S Jr**, Dunn JL. 2008. Patterns of infection or exposure to marine-origin *Brucella* in North America. Joint Conference of the American Association of Zoo Veterinarians and the Association of Reptilian and Amphibian Veterinarians, October 12-15, Los Angeles, California. [Platform Presentation, International]

Rivera S, Wellehan JFX, McManamon R, Diaz-Figueroa O, **Frasca S Jr**, Garner MM, Gregory CR, Innis CJ, Latimer KS, Marlar AB, Nyaoke A, Raphael BL, Risatti GR. 2008. An epizootic in Sulawesi tortoises (*Indotestudo forstenii*) caused by a novel siadenovirus. Joint Conference of the American Association of Zoo Veterinarians and the Association of Reptilian and Amphibian Veterinarians, October 12-15, Los Angeles, California. [Platform Presentation, International]

Nyaoke A, Deering K, Innis C, Hirokawa K, Smolowitz R, **Frasca S Jr**. 2008. Granulomatous endophthalmitis in a spotfin butterflyfish, *Chaetodon ocellatus*. 15<sup>th</sup> Annual Zoo and Wildlife Pathology Workshop. Joint Conference of the American Association of Zoo Veterinarians and the Association of Reptilian and Amphibian Veterinarians, October 12-15, Los Angeles, California [Case Report, International].

Sidor IF, Goldstein T, Whatmore A, Zabka T, **Frasca S Jr**, Gulland F, Dunn JL. 2008. Transplacental infection with *Brucella* in a California sea lion (*Zalophus californianus*) fetus. Brucellosis 2008 International Conference, September 10-13, Royal Holloway College, University of London, Surrey, United Kingdom.

Field CL, Tuttle AD, Sidor IF, Gilbert K, Risatti G, **Frasca S Jr**, Dunn JL. 2008. Disseminated fungal infection in a California sea lion with detection of cystofilobasidiomycete DNA. 39<sup>th</sup> Annual Conference of the International Association for Aquatic Animal Medicine, May 10-14, Rome, Italy [Platform Presentation, International]

St. Leger JA, Begeman L, **Frasca S Jr**, Garner MM, Lair S, Trembley S, Linn MJ, Fleetwood M, Terio KA. 2008. Comparative pathology of nocardiosis in marine mammals. 5th Conference of the Dutch Society of Wildlife Health, April 11, Faculty of Veterinary Medicine, Utrecht, The Netherlands [Platform Presentation, Regional].

Nyaoke A, Weber ES, Innis CJ, Stremme D, Dowd C, Keller C, Hinckley L, Gorton TS, Wickes B, Thompson E, Sutton D, de Hoog S, **Frasca S Jr**. 2008. Species identifications of *Exophiala* from investigations of phaeohyphomycosis in aquaria. Seadragon Husbandry Symposium, April 8-10, The Dallas World Aquarium, Dallas, Texas [Poster, International].

**Frasca S Jr**. 2008. Histology and histopathology of the nervous system of fish. 33<sup>rd</sup> Annual Eastern Fish Health Workshop, March 31-April 4, Atlantic Beach, North Carolina [Platform Presentation, International].

♦Waltzek T, Weber ES, Young DA, Twitchell EL, Gates AE, Vagelli A, Risatti G, Hedrick RP, **Frasca S Jr**. 2008. Molecular phylogenetic assessment of a systemic iridovirus from the Banggai cardinalfish (*Pterapogon kauderni*). 33<sup>rd</sup> Annual Eastern Fish Health Workshop, March 31-April 4, Atlantic Beach, North Carolina [Platform Presentation, International]. ♦**AWARD WINNER: BEST STUDENT PRESENTATION**].

Hirokawa K, Innis C, **Frasca S Jr**, Nyaoke AC. 2008. Management of chytridiomycosis in *Dendrobates* at the New England Aquarium. 33<sup>rd</sup> Annual Eastern Fish Health Workshop, March 31-April 4, Atlantic Beach, North Carolina [Platform Presentation, International].

Nyaoke A, White-Hunt S, Cavin J, Edmunds D, Innis C, Weber ES, **Frasca S Jr**. 2008. Scleral myxozoanosis in lumpfish, *Cyclopterus lumpus*. 33<sup>rd</sup> Annual Eastern Fish Health Workshop, March 31-April 4, Atlantic Beach, North Carolina [Case Report, International].

Schumacher VL, Bullard SA, **Frasca S Jr**. 2008. "It's not a tumor" in the gill arches of a bluntnose stingray. 33<sup>rd</sup> Annual Eastern Fish Health Workshop, March 31-April 4, Atlantic Beach, North Carolina [Case Report, International].

♦Szczepanek SM, **Frasca S Jr**, Geary SJ. 2007. Global *in vitro* transcriptomic comparison of *Mycoplasma gallisepticum* strains Rlow and F. American College of Veterinary Microbiologists /Conference of Research Workers in Animal Diseases, December 2-4, Chicago, Illinois [Presentation, International]. ♦**AWARD WINNER: BEST ORAL PRESENTATION IN MOLECULAR PATHOGENESIS**].

Levin M, Vaughan K, Risatti G, **Frasca S Jr**, De Guise S. 2007. Response of dolphin-reconstituted severe combined immunodeficient (SCID) mice to vaccination and challenge with canine distemper virus. 17<sup>th</sup> Biennial Conference on the Biology of Marine Mammals. Cape Town, South Africa [Platform Presentation, International].

◆Nyaoke A, Weber ES, Innis CJ, Stremme D, Dowd C, Keller C, Hinckley L, Gorton TS, Wickes B, Thompson E, Sutton D, de Hoog S, **Frasca S Jr**. 2007. Species identifications of *Exophiala* from investigations of phaeohyphomycosis in aquaria. American Association of Veterinary Laboratory Diagnosticians/United States Animal Health Association Annual Conference, October 18-24, Reno, Nevada [Poster, International. ◆**AWARD WINNER: BEST POSTER**].

Wellehan Jr JFX, Stacy BA, **Frasca S Jr**, Innis CJ, Weber ES, Merigo C, Williams CR, Dunnigan B, Foley AM. 2007. Molecular characterization of a coccidian parasite of the adrenal gland in leatherback turtles (*Dermochelys coriacea*). Joint Conference of the American Association of Zoo Veterinarians, American Association of Wildlife Veterinarians and American Zoo and Aquarium Association Nutrition Advisory Group, October 20-26, Knoxville, Tennessee [Platform Presentation, International].

Sidor I, Field C, Meegan J, Kniffen J, Schwab M, Tsongalis G, Romano T, **Frasca S Jr**, Dunn JL. 2007. Comparison of techniques for detection of *Brucella* sp. in marine mammal tissues. Joint Conference of the American Association of Zoo Veterinarians, American Association of Wildlife Veterinarians and American Zoo and Aquarium Association Nutrition Advisory Group, October 20-26, Knoxville, Tennessee [Platform Presentation, International].

McManamon R, Diaz-Figueroa O, Marlar AJ, Innis CJ, Garner MM, Ninesling B, **Frasca S Jr**, Nyaoke A, Risatti GR, Childress AL, Jacobson ER, Stacy B, Wellehan JFX, Ard M, Gregory CR, Latimer KS, McAloose D, Raphael B, Rodriguez C, Zeigler FW, Crane MM, Rivera S. Severe multifocal hepatic necrosis with amphophilic to basophilic intranuclear inclusions (hepatocytes, Kupffer cells, endothelium) in a Forsten's tortoise/Sulawesi tortoise (*Indotestudo forstenii*), evidence of systemic adenoviral infection by a novel adenovirus. 2007. 14<sup>th</sup> Annual Zoo and Wildlife Pathology Workshop. Joint Conference of the American Association of Zoo Veterinarians, American Association of Wildlife Veterinarians and American Zoo and Aquarium Association Nutrition Advisory Group, October 20-26, Knoxville, Tennessee [Case Report, International].

Caraguel CGB, O'Kelly CJ, Legendre P, **Frasca S Jr**, Gast RJ, Després BM, Donay N, Cawthorn RJ, Greenwood SJ. 2007. Molecular characterization of *Neoparamoeba pemaquidensis* - implicated pathogen in the Long Island Sound lobster mass mortality of 1999. 8<sup>th</sup> International Conference & Workshop on Lobster Biology and Management, September 23-28, Charlottetown, Prince Edward Island, Canada [Poster, International].

**Frasca S Jr**, Montali RJ, Smolowitz R. 2007. Histopathologic interpretation of lesions in cephalopods. 32<sup>nd</sup> Annual Eastern Fish Health Workshop, June 18-22, Gettysburg, Pennsylvania [Platform Presentation, International].

Nyaoke A, Weber ES, Innis C, Stremme D, Dowd C, Keller C, Hinkley L, Gorton T, Wickes B, Thompson E, Sutton D, de Hoog S, **Frasca S Jr**. 2007. Advances in our understanding of

phaeohyphomycosis. 32<sup>nd</sup> Annual Eastern Fish Health Workshop, June 18-22, Gettysburg, Pennsylvania [Platform Presentation, International].

Sidor I, J Meegan, JL Dunn, **Frasca S Jr**. Malignant seminoma with medial iliac lymph node metastasis in a 19-year-old intact male northern fur seal (*Callorhinus ursinus*). 2007. Charles Louis Davis Foundation 2007 Marine Mammal Histopathology Workshop, May 5, Orlando, Florida [Case Report, International].

**Frasca S Jr**. 2007. Diseases of Seahorses and Seadragons: the Old and the New. Special Species Symposium, Cornell University College of Veterinary Medicine, April 20-22, Ithaca, New York [Invited Speaker, National]

Sidor IF, Dunn JL, Romano TA, Meegan J, Carlson J, **Frasca S Jr**. Use of real-time PCR for detection of *Brucella* spp. in marine mammal tissues. 2006. American Association of Zoo Veterinarians Annual Conference, September 20, Tampa, Florida [Platform Presentation, International]

Sidor I, **Frasca S Jr**. 2006. Proliferative hyalohyphomycotic nasal sac rhinitis in a harbor porpoise. 13<sup>th</sup> Annual Zoo and Wildlife Pathology Workshop. American Association of Zoo Veterinarians Annual Conference, September 20, Tampa, Florida [Case Report, International]

Nyaoke A, Weber ES, Innis C, Stremme D, Keller C, Hinckley L, Gorton T, de Hoog S, Wickes B, Sutton D, **Frasca S Jr**. 2006. Phaeohyphomycotic branchitis and pharyngitis in a weedy seadragon. 13<sup>th</sup> Annual Zoo and Wildlife Pathology Workshop. American Association of Zoo Veterinarians Annual Conference, September 20, Tampa, Florida [Case Report, International]

**Frasca S Jr**, Nyaoke A, Weber ES, Innis C, Stremme D, Keller C, Hinckley L, Gorton T, de Hoog S, Wickes B, Sutton D. 2006. Phaeohyphomycosis in Aquaria: Identification of a Novel Species of *Exophiala* in Seadragons. 5<sup>th</sup> International Symposium on Aquatic Animal Health, September 2-6, San Francisco, California [Platform Presentation, International]

**Frasca S Jr**, Mullen TE, Nevis KR, O'Kelly CJ, Gast RJ. 2006. Identification of *Neoparamoeba pemaquidensis* from western Long Island Sound Lobster Using Nuclear Small-Subunit Ribosomal RNA Gene-Based Sequence Analysis, Molecular Phylogeny and PCR Detection from Infected Tissues. 5<sup>th</sup> International Symposium on Aquatic Animal Health, September 2-6, San Francisco, California [Platform Presentation, International]

Levin M, Vaughn K, Risatti G, **Frasca S Jr**, De Guise S. 2006. Protection upon vaccination with morbillivirus in cetacean-reconstituted SCID mice. 37<sup>th</sup> Annual Conference of the International Association for Aquatic Animal Medicine, May 6-10, Nassau, Bahamas [Platform Presentation, International]

Young DA, Waltzek T, Twitchell EL, Vagelli A, Weber ES, Risatti G, Hedrick RP, **Frasca S Jr**. 2006. Characterization of a systemic iridovirus from the Banggai Cardinalfish (*Pterapogon*

*kauderni*). 31<sup>st</sup> Annual Eastern Fish Health Workshop, March 27-31, Charleston, South Carolina [Platform Presentation, International]

**Frasca S Jr**, Smolowitz RM. 2005. Emerging diseases of the American lobster. 2005 American College of Veterinary Pathologists/American Society for Veterinary Clinical Pathology Annual Meetings, December 3-7, Boston, Massachusetts [**Invited Speaker**, International]

Sidor IF, Daniels S, **Frasca S Jr**. 2005. Proliferative stomatitis with submucosal angioproliferation and epithelial intracytoplasmic inclusions of seal parapoxvirus. 12<sup>th</sup> Annual Zoo and Wildlife Pathology Workshop. Joint Conference of the American Association of Zoo Veterinarians, American Association of Wildlife Veterinarians and American Zoo and Aquarium Association Nutrition Advisory Group, October 16, Omaha, Nebraska [Platform Presentation, International]

Garner MM, **Frasca S Jr**, Bonar CJ, Weber ES, Raymond JT, Trupkiewicz J. 2005. A retrospective study of diseases of sea dragons. Joint Conference of the American Association of Zoo Veterinarians, American Association of Wildlife Veterinarians and American Zoo and Aquarium Association Nutrition Advisory Group, October 14-21, Omaha, Nebraska [Platform Presentation, International]

Javed MA, **Frasca S Jr**, Rood D, Cecchini K, Gladd M, Geary SJ, Silbart LK. 2005. Correlates of immune protection in GT5 vaccinated chickens against *Mycoplasma gallisepticum* infection. 77<sup>th</sup> Northeastern Conference on Avian Diseases, June 15-17, Ithaca, New York [Platform Presentation, Regional]

Draghi A, Bebak-Williams J, Tsongalis GJ, West AB, Popov VL, **Frasca S Jr**. 2005. Localization by in situ hybridization of a chlamydia-like 16S ribosomal RNA gene sequence within branchial epithelial cells of cultured Arctic char (*Salvelinus alpinus*) with epitheliocystis. 30<sup>th</sup> Annual Eastern Fish Health Workshop, June 13-17, Shepherdstown, West Virginia [Platform Presentation, International]

**Frasca S Jr**, Nyaoke A, Hinckley L, Kamens A, Draghi A, Barnett M, Gorton TS, Stremme D, Keller C, Weber ES, de Hoog S, Grooters A, Wickes B, Sutton D. 2005. Encounters with fungi in syngnathid fish. 30<sup>th</sup> Annual Eastern Fish Health Workshop, June 13-17, Shepherdstown, West Virginia [Platform Presentation, International]

**Frasca S Jr**, Nyaoke A, Hinckley L, de Hoog S, Wickes B, Sutton D, Weber ES, Keller C. 2005. An extreme example of common seahorse diseases. 30<sup>th</sup> Annual Eastern Fish Health Workshop, June 13-17, Shepherdstown, West Virginia [Platform Presentation, International]

**Frasca S Jr**. 2005. Phylogenetic characterization of uncultured microorganisms from aquatic hosts by molecular means. Aquatic Toxicology Workshop, June 2&3, Storrs, Connecticut [Platform Presentation, Regional]

Hudson P, Gorton TS, Papazisi L, Cecchini K, **Frasca S Jr**, Geary SJ. 2004. Identification of novel virulence determinants in *Mycoplasma gallisepticum* through *in vitro* screening of transposon mutants. 15th Congress of the International Organization for Mycoplasma, July 11-16, Athens, Georgia [Poster, International]

Hudson P, Gorton TS, Papazisi L, Cecchini K, **Frasca S Jr**, Geary SJ. 2004. Identification of novel virulence determinants in *Mycoplasma gallisepticum* through *in vitro* screening of transposon mutants. 15<sup>th</sup> Congress of the International Organization for Mycoplasma, July 11-16, Athens, Georgia [Platform Presentation, International]

**Frasca S Jr**. 2004. Animal Diseases Spread by Vermin. 12<sup>th</sup> Annual Poultry Pest Management Workshop, May 26, University of Connecticut, Storrs, Connecticut [**Invited Speaker**, Regional]

Hudson P, Gorton TS, Papazisi L, Cecchini K, **Frasca S Jr**, Geary SJ. 2004. Identification of novel virulence determinants in *Mycoplasma gallisepticum* through *in vitro* screening of transposon mutants. 104<sup>th</sup> General Meeting of the American Society of Microbiology, May 23-27, New Orleans, Louisiana [Platform Presentation, International]

**Frasca S Jr**, Nevis KR, Mullen TE. 2004. Development of polymerase chain reaction- and *in situ* hybridization-based tests for the specific detection of the paramoeba associated with epizootic lobster mortality by determination of the molecular systematics of the genus *Paramoeba*. Long Island Sound Lobster Research Initiative – Working Meeting, May 3-4, Avery Point, Connecticut. [Research Update]

**Frasca S Jr**, Draghi A, Popov VL, Kahl MM, Stanton JB, Brown CC, Tsongalis GJ, West AB. 2004. Characterization of ‘*Candidatus*’ *Piscichlamydia salmonis* (gen. nov, sp. nov.) (order *Chlamydiales*), a chlamydia-like bacterium associated with epitheliocystis in farmed Atlantic salmon *Salmo salar*, by antigenic reactivity, 16S ribosomal RNA gene sequence identity, and molecular phylogenetic inference. 35<sup>th</sup> Annual International Association for Aquatic Animal Health Conference, April 4-9, Galveston, Texas. [Platform Presentation, International]

**Frasca S Jr**, Nevis KR, Draghi A, Mullen TE, Russell S, Kamens A, Nyaoke A, Weber ES, Keller CJ. 2004. Molecular approaches to the detection of infectious disease concerns in commercial aquaria. 29<sup>th</sup> Annual Eastern Fish Health Workshop, March 22-26, Atlantic Beach, North Carolina. [Platform Presentation, International]

Draghi A, Popov VL, Bebak-Williams, **Frasca S Jr**. 2004. Molecular characterization of the chlamydia-like bacterium associated with epitheliocystis in Arctic char (*Salvelinus alpinus*). 29<sup>th</sup> Annual Eastern Fish Health Workshop, March 22-26, Atlantic Beach, North Carolina. [Platform Presentation, International]

**Frasca S Jr**, Nevis KR, Hinkley LS, Boerner L, Weber ES. 2003. Diagnosis of *Erysipelothrix* sp. septicemia in a little blue penguin (*Eudyptula minor*). American Association of Zoo



Veterinarians and Association of Reptilian and Amphibian Veterinarians 2003 Joint Conference, October 4-10, Minneapolis, Minnesota. [Platform Presentation, National]

Sidor I, Weber ES, **Frasca S Jr**. 2003. Deforming branchial interstitial and subintimal fibrosis in a stonefish from a public aquarium. Annual Zoo and Wildlife Pathology Workshop, American Association of Zoo Veterinarians and Association of Reptilian and Amphibian Veterinarians 2003 Joint Conference, October 4-10, Minneapolis, Minnesota. [Platform Presentation, National]

**Frasca S Jr**, Kirsipuu V, Russell S, Bullard SA, Benz GW. 2003. Opercular lesions associated with infections of the sea louse, *Sciaenophilus tenuis* (Copepoda: Caligidae), in black drum, *Pogonias cromis*, from Mississippi Sound. American Society of Parasitologists, August 1- 5, Halifax, Nova Scotia. [Platform Presentation, National]

Mullen TE, Nevis KR, **Frasca S Jr**, Gast RJ, Peglar MT, Gillevet PM, O’Kelly CJ. 2003. Characterization of the amoeba associated with Paramoebiasis in American lobster (*Homarus americanus*) by small subunit ribosomal gene analysis. 34<sup>th</sup> Annual International Association for Aquatic Animal Health Conference, May 9-14, Waikaloa, Hawaii. [Platform Presentation, International]

**Frasca S Jr**, Nevis KR, Mullen TE, Gast RJ, Peglar MT, Gillevet PM, O’Kelly CJ. 2003. Molecular characterization of the amoeba associated with Paramoebiasis in American lobster (*Homarus americanus*) by small subunit ribosomal gene analysis. 28<sup>th</sup> Annual Eastern Fish Health Workshop, April 21-24, Gettysburg, Pennsylvania. [Platform Presentation, International]

**Frasca S Jr**, Draghi A, Popov VL, Stanton JB, Brown CC, Bebak-Williams J, Tsongalis GJ, West AB. 2003. Molecular characterization of the chlamydia-like bacterium associated with epitheliocystis in farmed Atlantic salmon (*Salmo salar*). 28<sup>th</sup> Annual Eastern Fish Health Workshop, April 21-24, Gettysburg, Pennsylvania. [Platform Presentation, International]

**Frasca S Jr**, Kirsipuu V, Russell S, Bullard SA, Benz GW. 2003. Opercular lesions associated with infections of the sea louse, *Sciaenophilus tenuis* (Copepoda: Caligidae), in black drum, *Pogonias cromis*, from Mississippi Sound. Southeastern Society of Parasitologists, April 16-18, University of South Alabama, Mobile, Alabama. [Platform Presentation, Regional]

**Frasca S Jr**, Gast R, O’Kelly CJ, Dove ADM, Chistoserdov A, Smolowitz R. 2003. Parasites and Diseases of Lobsters. Third Annual Long Island Sound Lobster Health Symposium, March 7, Bridgeport, Connecticut [Platform Presentation, Regional]

Hobbie KR, Lewbart GA, Mohammadian L, Linder K, **Frasca S Jr**. 2002. Clinical and pathological investigation of “submarine syndrome” in a group of Japanese koi (*Cyprinus carpio*). International Association for Aquatic Animal Medicine 33<sup>rd</sup> Annual Conference, May 4-8, Albufeira, Portugal, 2002. [Platform Presentation, International]

**Frasca S Jr**, Mullen Jr T, Burrage T, French RA. 2002. Histopathologic and molecular aspects of paramoebiasis in lobster (*Homarus americanus*) with emphasis on the Long Island Sound die-off. 27<sup>th</sup> Annual Eastern Fish Health Workshop, March 18-22, Charleston, South Carolina. [Platform Presentation, Regional]

**Bullard SA**, **Frasca S Jr**, Benz GW. 2002. Skin and gill lesions elucidate monogenean-shark relationships. Marine and Estuarine Graduate Student Symposium, January 26, Ocean Springs, Mississippi. [Platform Presentation, Regional]

**Papazisi L**, Silbart L, Rood D, **Frasca S Jr**, Geary SJ. 2001. Development of a protective live attenuated *Mycoplasma gallisepticum* vaccine for poultry. Conference of Research Workers in Animal Diseases, November. [Platform Presentation, National]

**Frasca S Jr**. *Molecular Diagnosis of Mycobacteriosis*. 2001. American Association of Zoos and Aquariums Eastern Workshop, Sponsored by the Tennessee Aquarium, April 6, Chattanooga, Tennessee. [Invited Presentation, Regional].

**Reynolds, TL**, **Frasca S Jr**, Russell KS, Whiteley HE, Mumford SL. 2001. Variable development of cataracts and retinal degeneration in pollack (*Pollachius virens*) maintained in three different aquarium settings. International Association for Aquatic Animal Medicine 32<sup>nd</sup> Annual Conference, April 28-May 2, Tampa, Florida. [Platform Presentation, National]

**Frasca S Jr**, Bullard SA, Benz GW. 2001. Lesions provide clues to the life histories of two monogeneans that infect sharks. International Association for Aquatic Animal Medicine 32<sup>nd</sup> Annual Conference, April 28-May 2, Tampa, Florida. [Platform Presentation, National]

**Stanton JB**, Poet S, Brown CC, Saliki JT, **Frasca S Jr**, Lipscomb TP, Kennedy S, Duignan PJ, Daoust P-Y, Jauniaux T. 2001. Immunohistochemistry as a tool for the differentiation of marine mammal morbilliviruses. International Association for Aquatic Animal Medicine 32<sup>nd</sup> Annual Conference, April 28-May 2, Tampa, Florida. [Platform Presentation, National]

**Spangenberg JV**, Moravec F, **Frasca S Jr**. 2001. A new genus and species of nematode from the circulatory system of the bay pipefish (*Sygnathus leptorhynchus*) in California. International Association for Aquatic Animal Medicine 32<sup>nd</sup> Annual Conference, April 28-May 2, Tampa, Florida. [Platform Presentation, National]

**French RA**, **Frasca S Jr**, Russell KS, Mullen Jr. T, Burrage T. 2001. Paramoebiasis in the American Lobster, *Homarus americanus*. Twenty-sixth Annual Eastern Fish Health Workshop, April 23-26, Shepherdstown, West Virginia. [Platform Presentation, Regional]

**Bullard SA**, **Frasca S Jr**, Benz GW. 2001. Lesions associated with the Monogenean *Erpocotyle tiburonis* on gills of wild and captive bonnethead sharks (*Sphyrna tiburo*). Mississippi Academy of Sciences Sixty-Fifth Annual Meeting, Tupelo, Mississippi. [Platform Presentation, Regional]

Maratea J, Frasca S Jr, DeGuise S, St. Aubin DJ, Dunn JL, Szkudlarek L, French RA. 2000. Survey of *Brucella* in Marine Mammals Stranded off the Coast of Southern New England. Long Island Sound Research Conference, November 17-18, Stamford, Connecticut. [Platform Presentation, Regional]

Bowenkamp K, Frasca S Jr. 1999. Mycobacterial pneumocystitis and interstitial nephritis in an Amazonian fish, *Arapaima gigas*. Fifth Annual Northeast Veterinary Pathology Conference, The State University of New York at Cobleskill, Cobleskill, New York. [Platform Presentation, Regional]

Willens S, Dunn JL, St. Aubin DJ, Frasca S Jr, Carter W, Burkhardt JE. 1999. Pharmacokinetics of Oral Trovafloxacin Administration in the Little Skate (*Raja erinacea*). Proceedings of the International Association for Aquatic Animal Medicine 30<sup>th</sup> Annual Conference, Boston, Massachusetts. [Platform Presentation, National]

Bullard SA, Frasca S Jr, Benz GW. 1999. Skin lesions caused by *Dermophthirius penneri* (Monogenea: Microbothriidae) on wild-caught blacktip sharks, *Carcharhinus limbatus* (Carcharhinidae). American Society of Parasitologists Annual Meeting, Monterey, California. [Platform Presentation, National]

Bullard SA, Frasca S Jr, Benz GW. 1999. Skin lesions caused by *Dermophthirius penneri* (Monogenea: Microbothriidae) on wild-caught blacktip sharks, *Carcharhinus limbatus* (Carcharhinidae). Southeastern Society of Parasitologists Annual Meeting, Columbiana, Alabama. [Platform Presentation, Regional]

Frasca S Jr, Linfert DR, Tsongalis GJ, Gorton TS, Garmendia AE, Hedrick RP, West AB, Van Kruiningen HJ. 1998. Molecular characterization of the myxosporean associated with parasitic encephalitis of farmed Atlantic salmon (*Salmo salar*) in Ireland. The 29th Annual International Association for Aquatic Animal Medicine Conference, San Diego, California. [Platform Presentation, National]

Frasca S Jr, Poynton SL, West AB, Van Kruiningen HJ. 1997. Parasitic encephalitis of netpen-reared Atlantic salmon (*Salmo salar*) in Ireland. The 28th Annual International Association for Aquatic Animal Medicine Conference, Harderwijk, The Netherlands. [Platform Presentation, International]

Frasca S Jr, Hinckley L, Forsyth MH, Gorton TS, Geary SJ, Van Kruiningen HJ. 1997. Conjunctivitis in a European starling associated with *Mycoplasma sturni*, a novel mycoplasma. The 53rd Annual Northeast Fish and Wildlife Conference, Framingham, Massachusetts. [Platform Presentation, Regional]

Frasca S Jr, Poynton SL, West AB, Van Kruiningen HJ. 1997. Parasitic encephalitis of netpen-reared Atlantic salmon (*Salmo salar*) in Ireland. The 53rd Annual Northeast Fish and Wildlife Conference, Framingham, Massachusetts. [Platform Presentation, Regional]

**Frasca S Jr**, Ganley LM, Van Kruiningen HJ. 1996. Suppurative polyarthritis in yearling skunks. The 52nd Annual Northeast Fish and Wildlife Conference, Farmington, Connecticut. [Platform Presentation, Regional]

**Frasca S Jr**, Khan MI. 1996. Multiple intussusceptions in a juvenile rhea (*Rhea americana*) with proventricular impaction. The 68th Northeastern Conference on Avian Diseases, University Park, Pennsylvania. [Platform Presentation, Regional]

**Arkush KD, Frasca S Jr**. 1996. Pathology associated with natural infections of the rosette agent in winter run chinook captive broodstock and experimental infections in other species. The 27th Annual International Association for Aquatic Animal Medicine Conference, Chattanooga, Tennessee. [Platform Presentation, National]

**Haulena M**, Scarratt AM, **Frasca S Jr**, Ferguson HW. 1996. Successful treatment of a necrotizing dermatitis in lined seahorses (*Hippocampus erectus*). The 27th Annual International Association for Aquatic Animal Medicine Conference, Chattanooga, Tennessee. [Platform Presentation, National]

**Frasca S Jr**, Dunn JL, Cooke JC, Buck JD. 1993. *Fusarium* sp infection associated with dermatitides in an Atlantic white-sided dolphin (*Lagenorhynchus acutus*), a pigmy sperm whale (*Kogia breviceps*), and a harbor seal (*Phoca vitulina*). The 24th Annual International Association for Aquatic Animal Medicine Conference, Chicago, Illinois. [Platform Presentation, National]

## MASTERS AND PhD STUDENTS GRADUATED

### Major Advisor Responsibility:

Arely G. Rosas-Rosas

Master of Science in Pathobiology, by Examination

Area of Concentration: Veterinary Anatomic Pathology

University of Connecticut

Major Advisor: **S. Frasca Jr.**; Associate Advisors: Joan Smyth, Kirklyn Kerr, Rachel Burns  
08/2010-08/2014

Ana I. Blanco Iglesias

Master of Science in Pathobiology, by Examination

Area of Concentration: Veterinary Anatomic Pathology

University of Connecticut

Major Advisor: **S. Frasca Jr.**; Associate Advisors: Joan Smyth, Kirklyn Kerr, Rachel Burns  
08/2012-08/2014

Shayla J. Belton

Master of Science in Pathobiology, by Examination

Area of Concentration: Veterinary Anatomic Pathology

University of Connecticut

Major Advisor: **S. Frasca Jr.**; Associate Advisors: Joan Smyth, Kirklyn Kerr, Rachel Burns

08/2011-08/2014

\*University Multicultural Scholarship Award Recipient

Kristina M. Cordes

Master of Science in Pathobiology, by Examination

University of Connecticut

Major Advisor: **S. Frasca Jr.**; Associate Advisors: Joan Smyth, Paulo Verardi

06/2010-08/2011

Vanessa L. Schumacher

Master of Science in Pathobiology

University of Connecticut

*Cell culture and development of improved diagnostic methods for isolation of Sulawesi Tortoise Adenovirus-1, an emerging pathogen of chelonians.*

Major Advisor: **S. Frasca Jr.**; Associate Advisors: Charles J Innis, Guillermo Risatti

08/2007-11/2010

Carol Akinyi Nyaoke

Doctor of Philosophy in Pathobiology, Concentration: Pathology

University of Connecticut

*Exophiala species infection in aquaria: identification, environmental study and challenge experiments*

Major Advisor: **S. Frasca Jr.**; Associate Advisors: E. Scott Weber III, Joan Smyth, Charles J. Innis, Guillermo Risatti

08/2003-05/2010

Beth A. Lieblick

Master of Science in Pathobiology

University of Connecticut

*Relationship of Feline Herpesvirus-1 Viral Load to Serologic Status and the Occurrence of URD in Shelter Cats at the Connecticut Humane Society*

Major Advisor: **S. Frasca Jr.**; Associate Advisors: Guillermo Risatti, William Bryant

08/2005-08/2007

Andrew Draghi II

Doctor of Philosophy in Pathobiology, Concentration: Microbiology

University of Connecticut

*Molecular Characterization of Chlamydia-Like Bacteria Associated with Epitheliocystis in Farmed Salmonids, Atlantic Salmon (Salmo salar) and Arctic char (Salvelinus alpinus), and Environmental Chlamydiae from Aquatic Environments.*

Major Advisor: **S. Frasca Jr.**; Associate Advisors: G. J. Tsongalis, S. J. Geary, J. Bebak-Williams, A. B. West  
01/1999-12/2006

Thomas E. Mullen  
Master of Science in Pathobiology  
University of Connecticut  
*Molecular Characterization of a parasitic Paramoeba sp. (Lobosea, Gymnamoebia) in American Lobster (Homarus americanus) with emphasis on the molecular systematics of related naked lobose amoebae.*

Major Advisor: **S. Frasca Jr.**; Associate Advisors: R.A. French, S. J. Geary  
09/2000 – 07/2002

Associate Advisor Responsibility:

Elizabeth Catherine Scherbatskoy  
Master of Science in Veterinary Medical Sciences  
College of Veterinary Medicine  
University of Florida  
*Characterization of a Novel Picornavirus Isolated from Moribund Aquacultured Clownfish*  
Major Advisor: Thomas B. Waltzek; Associate Advisors: **S. Frasca Jr.**, Terry Fei Fan Ng, Kuttichantran Subramaniam, and Roy Yanong.  
Degree Award: Fall 2020

Nelmarie Landrau Giovannetti  
Doctor of Philosophy in Veterinary Medical Sciences  
College of Veterinary Medicine  
University of Florida  
*Detection and Characterization of Emerging Pathogens in Stranded Cetaceans*  
Major Advisor: Thomas B. Waltzek; Associate Advisor: Kuttichantran Subramaniam, Kristi West, John Lednicky, **S. Frasca Jr.**  
Degree Award: Spring 2019

Erica P. Ross  
Doctor of Philosophy in Agriculture and Life Sciences  
Fisheries and Aquatic Sciences  
University of Florida  
*The effects of environmental change and pathogen specificity on the chemosensory ecology of Panulirus Argus: refining fundamental tools and implementing new technology*  
Major Advisor: Donald Behringer; Associate Advisors: Charles Derby, **S. Frasca Jr.**, Roy Yanong, Nancy Denslow  
Degree Award: Spring 2019

Natalie K. Steckler  
 Doctor of Philosophy in Veterinary Medical Sciences  
 College of Veterinary Medicine  
 University of Florida  
*Ranaviruses in aquaculture: genetic diversity, improved molecular tools, and experimental analysis of husbandry factors influencing morbidity*  
 Major Advisor: Thomas B. Waltzek; Associate Advisors: **S. Frasca Jr.**, Lisa Farina, James Wellehan, Marco Salemi  
 08/2013 – 08/2017

Samantha Koda  
 Master of Science in Veterinary Medical Sciences  
 College of Veterinary Medicine  
 University of Florida  
*Phylogenomic characterization of a novel Megalocytivirus lineage from archived ornamental fish samples*  
 Major Advisor: Thomas B. Waltzek; Associate Advisors: Kuttichantran Subramaniam, Ruth Francis-Floyd, Roy Yanong, **S. Frasca Jr.**  
 08/2015 – 04/2017

Andrea L. Bogolmoni  
 Doctor of Philosophy in Pathobiology, Concentration: Pathology  
 University of Connecticut  
*Assessing Differences in Species Susceptibility to Phocine Distemper Virus (PDV) in Harp (Phoca groenlandica), Harbor (Phoca vitulina concolor) and Gray Seals (Halichoerus grypus) of the Northwest Atlantic*  
 Major Advisor: Sylvain De Guise; Associate Advisors: **S. Frasca Jr.**, Ole Neilson, Guillermo Risatti, Evan Ward  
 08/2010-08/2014

Neha Mishra  
 Master of Science in Pathobiology, by Examination  
 Area of Concentration: Veterinary Anatomic Pathology  
 University of Connecticut  
 Major Advisor: Joan Smyth; Associate Advisors: **S. Frasca Jr.**, Kirklyn Kerr, Rachel Burns  
 08/2010-08/2014

Elena Contador  
 Master of Science in Pathobiology  
 Ontario Veterinary College  
 University of Guelph,  
*Epitheliocystis in lake trout (Salvelinus namaycush)*  
 Major Advisor: John S. Lumsden; Associate Advisors: **S. Frasca Jr.**, C. Jardine

06/2011 -01/2014

Véronique LePage

Master of Science in Pathobiology

Ontario Veterinary College

University of Guelph,

*A Study of Syngnathid Diseases and Investigation of Ulcerative Dermatitis*

Major Advisor: John S. Lumsden; Associate Advisors: R. Stevenson, **S. Frasca Jr.**

07/2008 -08/2012 [completed while attending and graduating from veterinary school]

Steven M. Szczepanek

Doctor of Philosophy in Pathobiology, Concentration: Microbiology

University of Connecticut

*Comparative genomics of Mycoplasma gallisepticum: implications for pathogenesis*

Major Advisor: S. J. Geary; Associate Advisors: **S. Frasca Jr.**, L. K. Silbart

08/2005-12/2009

Meghan Anne May

Doctor of Philosophy in Pathobiology, Concentration: Microbiology

University of Connecticut

*Stability, Interdependence, and Fibronectin-Binding Capabilities of the Putative Cytoskeletal Proteins of Mycoplasma gallisepticum.*

Major Advisor: S. J. Geary; Associate Advisors: **S. Frasca Jr.**, L. K. Silbart, J. Graf, T. S. Gorton

08/2001-8/2006

Paul Nicholas Hudson

Doctor of Philosophy in Pathobiology, Concentration: Microbiology

University of Connecticut

*The Identification of Novel Virulence-Associated Determinants in Mycoplasma gallisepticum through In Vivo Screening of Transposon Mutants.*

Major Advisor: S. J. Geary; Associate Advisors: **S. Frasca Jr.**, K. Noll, J. Graf

08/2000-7/2006

Inga Frost Sidor

Master of Science in Pathobiology, by Examination

University of Connecticut

Major Advisor: S. De Guise; Associate Advisors: **S. Frasca Jr.**, R. Habler, M. Pokras

Graduation: 12/2004

Kristen M. Caterina

Master of Science in Pathobiology

University of Connecticut

*Development of a multiplex PCR for the detection of enteric pathogens of poultry.*



Major Advisor: M. I. Khan; Associate Advisors: **S. Frasca Jr.**, T. Girshick  
08/2001-12/2003

Britt Kara Ingvertsen  
Master of Science in Animal Science, by Examination  
University of Connecticut  
Major Advisor: M. J. Darre; Associate Advisors: J. Nadeau, **S. Frasca Jr.**  
Graduation: 05/2003.

K. Spencer Russell  
Master of Science in Pathobiology  
University of Connecticut  
*Multiplex Polymerase Chain Reaction Modification and Field Trials for the Detection of Haplosporidium nelsoni, Haplosporidium costale, and Perkinsus marinus in the Eastern Oyster (Crassostrea virginica).*  
Major Advisor: R. A. French; Associate Advisors: **S. Frasca Jr.**, I. Sunila  
09/1999-02/2002

Leka Papazisi, D.V.M.  
Doctor of Philosophy in Pathobiology, Concentration: Microbiology  
University of Connecticut  
*Mycoplasma gallisepticum Virulence Factors and Vaccine Design.*  
Major Advisor: S. J. Geary; Associate Advisors: **S. Frasca Jr.**, L. Silbart, K. Noll  
01/1998 – 08/2002

Jennifer Maratea  
Master of Science in Pathobiology  
University of Connecticut  
*Evidence of Brucella in Marine Mammals Stranding along the Coast of Southern New England.*  
Major Advisor: R.A. French; Associate Advisors: **S. Frasca Jr.**, D. J. St. Aubin, J. L. Dunn  
09/1997 – 05/2001

## **PATHOLOGY RESIDENTS TRAINED AND SPONSORED TOWARD ACVP BOARD CERTIFICATION IN VETERINARY ANATOMIC PATHOLOGY**

Emily Reinhardt, BVSc, MS, DACVP (2021)

Matthew Kuhar, VMD, DACVP (2021)

Kara Priest, DVM, MS, DACVP (2019)

Neha Mishra, MVSc, MS, PhD, Diplomate ACVP (2017)

Ana I. Blanco Iglesias, DVM, MSc, MRCVS, MS, Diplomate ACVP (2015)

Kathleen M. Deering, DVM, Diplomate ACVP (2015)

Arely G. Rosas-Rosas, MVZ, MS, Diplomate ACVP (2015)

Francisco Carvallo, MV, DSc., Diplomate ACVP (2011)

Francois Courtin, DVM, Diplomate ACVP (2011)

Vanessa Lea Schumacher, DVM, MS, Diplomate ACVP (2010)

Stephanie White-Hunt, DVM, Diplomate ACVP (2009)

Michael Goedken, DVM, PhD, Diplomate ACVP (2006)

Inga Frost Sidor, DVM, Diplomate ACVP (2004)

Kathryn Bowenkamp, DVM, PhD, Diplomate ACVP (2004)

Prashant Nambiar, DVM, PhD, Diplomate ACVP (2003)

Elizabeth Hendricks, DVM, PhD, Diplomate ACVP (2002)

## **TEACHING RESPONSIBILITIES:**

### **Lecturer in *Aquavet I, an Introduction to Aquatic Animal Medicine, and Aquavet II.***

Member of the *Aquavet* faculty from 1994 to the present. Current lecturing responsibilities include histology and pathology of finfish (*Aquavet I*), neoplasia, non-infectious diseases and infectious diseases of coldwater fish (*Aquavet II*). Previous teaching duties addressed aspects of the care, diseases, stranding, and principles of necropsy pertaining to pinnipeds and cetaceans. Coordinated and instructed laboratory necropsies of seals and harbor porpoises offered as a component of this curriculum. The *Aquavet I* and *Aquavet II* courses are classroom and laboratory courses offered by the College of Veterinary Medicine, Cornell University.

### **Instructor of *Principles of Pathobiology* (U Conn PVS 4300, formerly PVS 297).**

Responsible for teaching general and systemic pathology in an undergraduate course that serves as the capstone course for the curriculum of the Department of Pathobiology and Veterinary Science. Instructor in Spring 2021, delivered in synchronous on-line format.

### **Instructor of *Veterinary Pathology Seminar* (U Conn PVS 5394, formerly PVS 312).**

Responsible for teaching descriptive anatomical pathology of domestic and non-domestic animals to veterinary residents and graduate students as a member of a multi-instructor team of veterinary pathologists. Course content follows that of the Armed Forces Institute of Pathology's Wednesday Slide Conference, supplemented by case material from the Connecticut Veterinary Medical Diagnostic Laboratory – U Conn (in-house) diagnostic service, regional pathology conferences, and diagnostic consultations. Gross images are reviewed weekly using images from case material in shared databases, e.g. PIGL.

**Instructor of *Practicum in Veterinary Anatomic Pathology* (U Conn PVS 5392).**

This is a course designed to provide service-based learning of veterinary anatomic pathology by direct review with faculty pathologists. Each faculty pathologist is responsible for one-on-one teaching of descriptive anatomical pathology of domestic and non-domestic animals to veterinary residents through gross and microscopic evaluation of necropsy and biopsy case material from accessions of the Connecticut Veterinary Medical Diagnostic Laboratory.

**Course Coordinator and Instructor, VEM 5115, Introduction to Histology and Embryology, College of Veterinary Medicine, University of Florida (2018-2019).**

Responsible for lecture and laboratory content of this course for first-year veterinary students. Regarding histology, the focuses are on cell biology and basic tissue types (e.g. epithelial tissues, connective tissues, muscle, and nervous tissues). Regarding embryology, the focuses are on blastulation, gastrulation, neurulation, formation of the basic body plan and body cavities, implantation, placentation, development of the cardiovascular and nervous systems.

**Instructor, VEM 5110, 5111, 5112, Anatomic Systems I, II, III, College of Veterinary Medicine, University of Florida (2018-2020)**

Responsible for teaching first-year veterinary students histologic structure and function of the organ systems of the vertebrate body. This is delivered in a system-based format in conjunction with the macroscopic anatomy and physiology presented by other faculty instructors.

**Instructor, VEM 5161, General Pathology, College of Veterinary Medicine, University of Florida (2018-2019).**

Responsible for teaching second-year veterinary students (i) cellular adaptations and cellular expression of death (e.g. necrosis, apoptosis, necroptosis), (ii) cellular accumulations, mineralization, amyloidosis, (iii) hemodynamic disorders, thrombosis, and shock. One of four faculty to teach this course.

**Coordinator, Residency Training Program in Veterinary Anatomic Pathology, University of Connecticut (2010-2017).**

Responsibilities included managing educational opportunities and academic progress of veterinarians enrolled in the Department's residency training program in veterinary

anatomic pathology, recruiting prospective residents, coordinating efforts with administration.

**Instructor of *Principles of Pathobiology* (U Conn PVS 4300, formerly PVS 297).**

Responsible for teaching general and systemic pathology in an undergraduate course that serves as the capstone course for the curriculum of the Department of Pathobiology and Veterinary Science. Instructor Spring 2011 through Spring 2017.

**Instructor of *Histologic Structure and Function* (U Conn PVS 3100, formerly PVS 296).**

Responsible for teaching microscopic anatomy and tissue physiology of mammalian organ systems in an undergraduate course in histology that is a required course in the Pathobiology Major of the College of Agriculture and Natural Resources. Instructor of note as of Fall 2008 through Fall 2011.

**Instructor of *Biomedical Issues in Pathobiology* (U Conn PVS 1000, formerly PVS 113).**

Responsible for the development and teaching this introductory course in current biomedical applications and interests pertaining to pathology, including lecture content, examinations, and student evaluations. This course is designed for undergraduates, e.g. freshman and sophomores, from a broad variety of backgrounds, and course content highlights topics of global importance to medicine and biotechnology with emphasis on the role of pathology. Instructor of note from Spring 2001 through Spring 2008.

**Instructor of *Diseases of Finfish and Shellfish* (U Conn PVS 4351, formerly PVS 256).**

Responsible for the lecture content of this course. Provide lectures on finfish pathology and microbiology, and coordinate speakers with expertise in shellfish pathology and microbiology. This course is taken by undergraduate and graduate students, and is part of the aquaculture minor at the University of Connecticut.

**GRANTS FUNDED:**

National Animal Health Laboratory Network Infrastructure (Lab Level 2 Designation) FY21 CT Cooperative Agreement II

PI: **Salvatore Frasca Jr.**

Funding Agency: United States Department of Agriculture, Animal Plant Health Inspection Service, Veterinary Services

Funding Opportunity ID: FAIN - AP21VSD&B000C109

Funding Approved: \$211,200

Funding Period: 9/1/2021 - 8/31/2022

National Animal Health Laboratory Network Infrastructure (Lab Level 2 Designation) FY21 CT Cooperative Agreement

PI: **Salvatore Frasca Jr.**

Funding Agency: United States Department of Agriculture, Animal Plant Health Inspection Service, Veterinary Services

Funding Opportunity ID: FAIN - AP21VSD&B000C059  
 Funding Approved: \$133,000  
 Funding Period: 6/1/2021 - 5/31/2022

Development of *In Vitro* and Molecular Diagnostic Tools for the Globally Emerging Tilapia Lake Virus

PI: Thomas B. Waltzek; CO-PIs: **Salvatore Frasca Jr.**, Kuttichantran Subramaniam  
 Funding Agency: USDA-NIFA-AFRI-006609  
 Opportunity Title: Agriculture and Food Research Initiative - Foundational and Applied Science  
 Funding Approved: \$200,000  
 Funding Period: 7/1/2019 - 6/30/2021

Health Assessment Monitoring of American Lobster in Long Island Sound

PI: **Salvatore Frasca Jr.**; Co-PI: Sylvain De Guise, Christopher Perkins, Milton Levin  
 Funding Agency: State of Connecticut Department of Energy and Environmental Protection  
 Funding Approved: \$ 90,331  
 Funding Period: 11/12 – 06/13, extended to 01/14

Determining relative susceptibility of monk seal, northern fur seal, California sea lion, and northern elephant seal to phocine distemper virus using an in vitro approach

PI: Sylvain De Guise; Co-PI: **Salvatore Frasca Jr.**, Guillermo Risatti, Milton Levin  
 Funding Agency: National Oceanic and Atmospheric Administration (NOAA)  
 Funding Approved: \$ 30,000  
 Funding Period: 09/12 – 09/13

Pathogenesis of the American isolate of Phocine Distemper Virus (PDV USA 2006) in harbor, grey and harp seals

PI: Sylvain De Guise; Co-PI: **Salvatore Frasca Jr.**, Guillermo Risatti, Keith Matassa  
 Funding Agency: NOAA/Prescott Grant Program  
 Funding Approved: \$ 46,078  
 Funding Period: 07/10 - 06/11

Isolation and characterization of Sulawesi Tortoise Adenovirus-1, an emerging pathogen of chelonians, with development of improved detection methods

PI: Vanessa L. Schumacher; Co-PI: **Salvatore Frasca Jr.**  
*Note: S. Frasca Jr assumed the role of PI as of 12/10 with the departure of Dr Schumacher for her new position with the Vetsuisse Faculty at the Institute of Animal Pathology, University of Berne, Switzerland*  
 Funding Agency: Morris Animal Foundation  
 Funding Approved: \$9,202  
 Funding Period: 01/10 – 01/11, extended to 05/12

University of Connecticut Research Foundation Conference Support: Oceans and Human Health Seminar Series.

PI: Sylvain De Guise; Co-PIs: J. Evan Ward, **Salvatore Frasca Jr.**, Hans Dam  
Funding Agency: University of Connecticut Research Foundation  
Funding Approved: \$ 2,000  
Funding Period: 10/09 – 09/10

Isolation of Sulawesi Tortoise Adenovirus-1 by Cell Culture and Egg Inoculation

PI: **Salvatore Frasca Jr.**  
Funding Agency: University of Connecticut Research Foundation  
Funding Approved: \$ 1,500  
Funding Period: 09/09 – 08/10

Environmental study to determine sources of *Exophiala* spp. in an outbreak of aquarium-acquired phaeohyphomycosis

PI: **Salvatore Frasca Jr.**  
Funding Agency: Connecticut Sea Grant College Fund  
Funding Approved: \$ 2,500  
Funding Period: 02/08 – 09/08

Interdisciplinary Research & training Initiative on Coastal ecosystems & Human Health (I-RICH)

PI: J. Evan Ward, CO-PI: Hans Dam, Sylvain De Guise, **Salvatore Frasca Jr.**, Tracy Romano, Gary Wikfors  
Funding Agency: NOAA/ Oceans and Human Health  
Funding Approved: \$ 460,248  
Funding Period: 08/07 – 08/10

Collaborative Program in Aquatic Pathobiology with New England Aquarium

PI: **Salvatore Frasca Jr.**; Co-PI: E. Scott Weber, Charles J. Innis  
Funding Agency: New England Aquarium  
Funding Approved: \$ 42,914  
Funding Period: 05/07 – 12/09

Collaborative Program in Aquatic Pathobiology with New England Aquarium

PI: **Salvatore Frasca Jr.**; Co-PI: E. Scott Weber, Charles J. Innis  
Funding Agency: New England Aquarium  
Funding Received: \$ 28,585  
Funding Period: 05/06 – 05/07

Arctic Char Aquaculture Field Survey – Field Study of Farms and Aquaculture Facilities for Chlamydia-Like Bacteria.

PI: **Salvatore Frasca Jr.**, Co-PI: Julie Bebak-Williams.

Funding Agency: The Conservation Fund-Freshwater Institute  
 Funding Approved: \$8,809.97  
 Funding Period: 8/05 – 12/05

Arctic Char Aquaculture Field Survey – Field Study of Farms and Aquaculture Facilities for Chlamydia-Like Bacteria.

PI: **Salvatore Frasca Jr.**, Co-PI: Julie Bebak-Williams.  
 Funding Agency: Connecticut Sea Grant  
 Funding Approved: \$4,500  
 Funding Period: 8/05 - 12/05

Protection upon vaccination with morbillivirus in cetacean-reconstituted SCID mice.

PI: Sylvain De Guise and **Salvatore Frasca Jr.**  
 Funding Agency: Morris Animal Foundation  
 Funding Approved: \$79,724  
 Funding Period: 12/04 - 11/06

The impact of marine origin *Brucella* on marine mammal and human health.

PI: J. Lawrence Dunn, and Co-PI: Tracy Romano, Lisa Mazarro, **Salvatore Frasca Jr.**, Sylvain De Guise.  
 Funding Agency: NOAA/ Oceans and Human Health  
 Funding Approved: \$570,286  
 Funding Period: 9/04 - 8/07, extended to 8/08

Development of immunohistochemical and *in situ* hybridization methods for the detection of *Mycoplasma gallisepticum* in tissues of the avian lower respiratory tract.

PI: **Salvatore Frasca Jr.**  
 Funding Agency: USDA, through Center of Excellence for Vaccine Research  
 Funding Approved: \$ 25,126–Yr1; \$36,761-Yr2  
 Funding Period: 08/04 – 05/07

Molecular Characterization and Phylogeny of Chlamydia-like Bacterium from Branchial Epithelium of Farmed Salmonids with Emphasis on Arctic char (*Salvelinus alpinus*).

PI: **Salvatore Frasca Jr.**, and Co-PI: Julie Bebak-Williams  
 Funding Agency: The Conservation Fund  
 Funding Approved: \$ 30,843  
 Funding Period: 06/04 – 12/05

The Comparative Pathology of Shell Disease in the American and Caribbean Spiny Lobsters: Characterization of Gross, Light Microscopic and Ultrastructural Pathology

PI: Richard A. French, and Co-PI: **Salvatore Frasca Jr.**, Robert Reeves, Richard J. Cawthorn, and Donald F. Landers Jr.  
 Funding Agency: Connecticut Sea Grant College Program  
 Funding Approved: \$ 9,996

Funding Period: 09/02 – 08/03

Molecular Characterization and Phylogeny of Chlamydia-like Bacteria from Branchial Epithelium of Farmed Salmonids

PI: **Salvatore Frasca Jr.**, and Co-PI: Julie Bebak-Williams, Andrew Draghi.

Funding Agency: USDA, Cooperative State Research, Education and Extension Service.

Funding Approved: \$ 13,490, renewable annually

Funding Period: 10/02 – 09/05

Initiation of Molecular Characterization of a Chlamydia-Like/Rickettsia-Like Organism from Arctic Char.

PI: **Salvatore Frasca Jr.**, and Co-PI: Julie Bebak-Williams

Funding Agency: Connecticut Sea Grant College Program

Funding Approved: \$ 2,486.

Funding Period: 05/02 – 05/03

Molecular Investigation of the Ribosomal Operon of the Chlamydia-Like Agent Infecting Gill of Arctic Char (*Salvelinus alpinus*).

PI: **Salvatore Frasca Jr.**

Funding Agency: University of Connecticut Research Foundation.

Funding Approved: \$ 1,000.

Funding Period: 05/02 – 05/03, extended to 05/04

Development of a Mucosal *Mycoplasma gallisepticum* Vaccine for Poultry.

PIs: Lawrence K. Silbart, **Salvatore Frasca Jr.**, and Steven Geary.

Funding Agency: USDA, Cooperative State Research, Education and Extension Service.

Funding Approved: \$ 26,946.

Funding Period: 10/01 – 09/04

Development of Assays for the evaluation of immune functions of the American Lobster (*Homarus americanus*) as a tool for health assessment.

PI: Sylvain De Guise, Co-PI: Richard A. French and **Salvatore Frasca Jr.**

Funding Agency: NOAA/National Sea Grant College Program.

Funding Approved: \$ 198,271.

Funding Period: 07/01 – 06/04.

Determination of the toxicity and sublethal effect of selected pesticides on the American Lobster (*Homarus americanus*).

PI: Sylvain De Guise, Co-PI: Richard A. French, **Salvatore Frasca Jr.**, and Christopher Perkins.

Funding Agency: NOAA/National Sea Grant College Program.

Funding Approved: \$ 140,000.

Funding Period: 07/01 – 06/04.



Development of polymerase chain reaction- and in situ hybridization-based tests for the specific detection of the paramoeba associated with epizootic lobster mortality by determination of the molecular systematics of the genus *Paramoeba*.

PI: **Salvatore Frasca Jr.**, Co-PI: Richard A. French, Sylvain De Guise, and Thomas Mullen Jr.

Funding Agency: Connecticut Department of Environmental Protection.

Funding Approved: \$ 267,017.

Funding Period: 04/01 – 06/03, extended to 12/03.

Determination of the molecular systematics of pathogenic paramoeba, with emphasis on molecular characterization of the paramoeba associated with epizootic Long Island Sound lobster mortality.

PI: **Salvatore Frasca Jr.**, Co-PI: Richard A. French, Sylvain De Guise, and Thomas Mullen Jr.

Funding Agency: University of Connecticut Research Foundation.

Funding Approved: \$ 15,572.

Funding Period: 01/01 – 12/01.

Determination of the Molecular Systematics of the Chlamydia-like Agent Associated with Epitheliocystis in Farmed Atlantic Salmon.

PI: **Salvatore Frasca Jr.**

Funding Agency: Storrs Agricultural Experiment Station.

Funding Approved: \$ 22,127.00.

Funding Period: 10/00 – 05/02.

Molecular characterization of the Agent of Epitheliocystis in Farmed Atlantic Salmon (*Salmo salar*) Using Polymerase Chain Reaction, DNA Sequence Analysis, and In situ Hybridization.

PI: **Salvatore Frasca Jr.**

Funding Agency: University of Connecticut Research Foundation.

Funding Approved: \$12,744.

Funding Period: 06/00 – 05/02, extended to 05/04.

Long Island Sound Lobster Morbidity and Mortality: Characterization of an Associated *Paramoeba* species.

PI: Richard A. French, Co-PI: **Salvatore Frasca Jr.**, Sylvain De Guise.

Funding Agency: New York Sea Grant College Program.

Funding Approved: \$ 9,590.00.

Funding Period: 04/00 - 12/00

Investigation of Spontaneous Diseases in two species of sharks, the spiny (*Squalus acanthias*) and the spotted (*Mustelus canis*) dogfish.

PI: Joanna D. Borucinska and **Salvatore Frasca Jr.**

Funding Agency: Connecticut Sea Grant College Program.

Funding Approved: \$ 5000.00.

Funding Period: 03/00 – 02/01

Investigations of the Cause(s) and Extent of Long Island Sound Lobster Morbidity and Mortality.

PI: Richard A. French, Co-PI: **Salvatore Frasca Jr.**, Sylvain De Guise.

Funding Agency: Connecticut Sea Grant College Program and New York Department of Environmental Conservation.

Funding Approved: \$ 10,000.00.

Funding Period: 10/99 – Open.

Development and Application of a chemiluminescent quantitative multiplex PCR for *Perkinsus marinus* (Dermo), *Haplosporidium nelsoni* (MSX), and *Haplosporidium costale* (SSO) in the eastern oyster (*Crassostrea virginica*).

PI: Richard A. French, Co-PI: Mazhar Khan, Sylvain De Guise, **Salvatore Frasca Jr.**, John Volk, John Karolus, Inke Sunila, Hillard Bloom.

Funding Agency: National Sea Grant College Program.

Funding Approved: \$ 188,025.00.

Funding Period: 09/99 – 08/01.

Development of a Mucosal *Mycoplasma gallisepticum* Vaccine for Poultry.

PI: Lawrence Silbart, Steven Geary, Co-PI: **Salvatore Frasca Jr.**, Michael Darre

Funding Agency: Storrs Agricultural Experiment Station.

Funding Approved: \$ 26,946.00.

Funding Period: 01/99 – 12/01.

A Cooperative Plan for An Aquatic Animal Health Teaching Program.

PI: **Salvatore Frasca Jr.**, Co-PI: Sylvain De Guise, Richard A. French.

Funding Agency: Connecticut Sea Grant College Program.

Funding Approved: \$ 3,000.00.

Funding Period: 01/99 – 12/99, extended to 6/00

A Cooperative Plan for An Aquatic Animal Health Teaching Program.

PI: **Salvatore Frasca Jr.**, Co-PI: Sylvain De Guise, Richard A. French.

Funding Agency: University of Connecticut, Institute for Teaching and Learning.

Funding Approved: \$ 4,500.00.

Funding Period: 01/99 – 12/99

## AD HOC REVIEWER FOR THE FOLLOWING JOURNALS

*Journal of Fish Diseases*

*Journal of Invertebrate Pathology*

*Journal of Veterinary Diagnostic Investigation*

*Journal of Zoo and Wildlife Medicine*

*Veterinary Pathology*

*Pathogens*

**AWARDS, HONORS, AND MEMBERSHIP IN HONORARY SOCIETIES:**

2019	Twenty-five Years of Faculty Service Recognition to <i>Aquavet</i>
2018	2018-2019 Teacher of the Year Award, UF First-Year Veterinary Class
<b>2017</b>	<b>Granted Tenure upon hire by the University of Florida</b>
2016	Letter of commendation from the Provost for excellence in teaching
2015	Letter of commendation from the Provost for excellence in teaching
2014	Letter of commendation from the Provost for excellence in teaching
2014	Twenty Years Outstanding Contributions to the Aquavet Program
<b>2013</b>	<b>Promotion to Full Professor by the University of Connecticut</b>
2007	Fifteen Years Outstanding Service Award, Aquavet I Faculty
<b>2004</b>	<b>Promotion to Associate Professor and Granted Tenure</b>
2003	Junior Faculty Award, College of Agriculture and Natural Resources, Gamma Sigma Delta, The Honor Society of Agriculture
2002	Ten Years Outstanding Service Award, Aquavet I Faculty
1998	Phi Kappa Phi, The National Academic Honor Society
1997	Gamma Sigma Delta, The Honor Society of Agriculture
1995-93	Outstanding Scholar Award, University of Connecticut
1988	Phi Zeta Veterinary Honor Society
1988-85	Dean's List, University of Pennsylvania
1983	Ross Lee Baker Scholarship
1983-81	Dean's List, Cornell University
1981	Alpha Lambda Delta Honor Society
1980	Valedictorian, Loomis Family Prize for Scholarship
1979	Harvard Book Prize
1978	Yale Science and Humanities Symposium

**REFERENCES:**

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