

CURRICULUM VITAE

NAME: Paul Alvin Klein, Ph.D.
Professor Emeritus
College of Medicine
University of Florida
Gainesville, Florida 32611-0275

EDUCATION: High School Diploma
Union Hill High School
Union City, New Jersey,
Valedictorian, 1959

B.A., Bacteriology,
Henry Rutgers Scholars Program
Rutgers - The State University,
New Brunswick, New Jersey, 1963

Ph.D., (Medical Sciences)/(Medical Microbiology)
Dept. of Immunology and Medical Microbiology, College of Medicine,
University of Florida, Gainesville, Florida, 1967

SPECIALIZATION: Microbiology (infectious diseases, emerging infectious diseases).
Immunology (antibodies, host resistance).
Tumor Biology (oncogenesis, metastasis, tumor immunology).
Comparative Immunology (host defense mechanisms in lower vertebrates)
Environmental Medicine (environmental effects on host resistance to
disease in lower vertebrates).

APPOINTMENTS: Laboratory Assistant - Prof. Werner Braun
Institute of Microbiology, Rutgers University
New Brunswick, New Jersey, 1960 - 1962

Laboratory Assistant - Dr. Joseph Lampen
Director, Institute of Microbiology
Rutgers University, New Brunswick, New Jersey, 1962 - 1963

NIH Trainee, Dept. of Immunology and Medical Microbiology, University
of Florida, Gainesville, Florida, 1963 - 1967

Captain, U.S. Army Medical Service Corps, and Research Immunologist,
Walter Reed Army Medical Center, Fort Detrick, Maryland, 1967 - 1969

Assistant Professor in Pathology
College of Medicine, University of Florida,
Gainesville, Florida, 1969 - 1974

Associate Professor in Pathology
College of Medicine, University of Florida,
Gainesville, Florida, 1975 - 1987

Professor of Pathology, Immunology, and Laboratory Medicine, College
of Medicine, University of Florida, 1988 - DATE

Professor Emeritus of Pathology, Immunology, and Laboratory Medicine,
College of Medicine, University of Florida, 2004-Date

Affiliate Professor of Pathobiology
College of Veterinary Medicine, University of Florida, 1991-DATE

Affiliate Professor of Small Animal Clinical Sciences, College of
Veterinary Medicine, University of Florida, 1991-DATE

Assistant Director for Research and Development
The Biotechnology Program
University of Florida
Gainesville, FL 1992-1998

Scientific Director, Hybridoma Laboratory
Interdisciplinary Center for Biotechnology Research
The Biotechnology Program, University of Florida
Gainesville, FL 1985 - DATE

Scientific Director, Immunological Analysis Laboratory
BEECS Program, Interdisciplinary Center for Biotechnology Research,
University of Florida, Gainesville, FL 1992 - 1997

Associate Director
The William Maples Center for the Forensic Sciences
University of Florida
Gainesville, FL 1997-date

Member, The Archie Carr Center for Sea Turtle Research
University of Florida
Gainesville, FL 1992-date

Associate Member, Whitney Laboratory, University of Florida
Gainesville, FL 1995-date

Senior Member
Shands Cancer Center
University of Florida
Gainesville, FL 2001-

Affiliate Professor, Department of Biology, University of Central Florida

Orlando, FL 2001-

HONORS AND
AWARDS:

Henry Rutgers Scholar, Rutgers- The State
University, New Brunswick, New Jersey, 1963

Graduate Student Research Prize
Florida Chapter of the Sigma Xi
University of Florida, Gainesville, Florida, 1966

University of Florida Phi Sigma Award, 1967

Instructor, NIH National Course in Cell Physiology, Marine Biological
Laboratories, Woods Hole, Massachusetts,
June-August, 1975

Yamigiwa-Yoshida Fellowship, International Union Against Cancer,
Laboratory of Molecular Biology, Cambridge, England, June-July, 1980

University of Florida Professorial Excellence Award, 1998

MEMBERSHIPS:

American Association of Immunologists

American Association for the Advancement of Science

American Tissue Culture Association

Society of the Sigma Xi

American Society for Microbiology

International Society of Developmental and Comparative Immunology

BOOKS: SOLE AUTHOR

1. **Klein, P.A.** Immunological Aspects of Viral Oncolysis, Ph.D. Dissertation, University of Florida, Gainesville, Florida, 1967.

BOOKS: CONTRIBUTOR OF CHAPTER(S)

1. **Klein, P.A.:** Specificity and Role of Antibodies to Tumor-Associated Antigens: One View From The Labyrinth, The Handbook of Cancer Immunology, Garland Press, H. Waters, Ed. 9, 1980, pp. 188-207.

2. Smith, R.T.; Konaka, Y.; Calderwood, M.; Shimizu, S.; Smith, L.; **Klein, P.A.:** Specific immune responses to chemically induced tumors: Relation between tumor-specific antigens recognized by cloned T cell lines and by antibody producing hybridomas to tumor specific

protection *in vivo*. IN: Fundamental Mechanisms in Cancer Immunology, Elsevier-North Holland, New York Chapter 32, 1981, pp. 449-463.

MONOGRAPHS

1. Lindenmann, J.; **Klein, P.A.** Immunological aspects of viral oncolysis, Volume 9, a monograph for the series, "Recent Results in Cancer Research", Springer-Verlag, Berlin-Heidelberg, New York, 1967.

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1. Lindenmann, J.; **Klein, P.A.** Mouse tissue isoantigen detectable by immunoprecipitation. Proc. Soc. Exper. Biol. Med. 117, 1964, pp. 446-449.

2. Lindenmann, J.; **Klein, P.A.** Immunity to transplantable tumors following viral oncolysis. II. Antigenic similarities between three unspecific mouse tumors. J. Immunol. 94, 1965, pp. 461-466.

3. **Klein, P.A.**; Lindenmann, J. Further studies on the soluble E-antigen of the mouse. Path. Microbiol. 28, 1965, pp. 698-703.

4. Lindenmann, J.; **Klein, P.A.** Further studies on the resistance of mice to myxoviruses. Arch. Virusforsch. 19, 1966, pp. 1-12.

5. **Klein, P.A.**; Roop, W.E.; Roop, B. Starch gel electrophoretic patterns of murine transferrin. Nature 212, 1966, pp. 1376-1377.

6. **Klein, P.A.** Antibody-mediated immunity to transplantable tumors following reovirus oncolysis. Path. Microbiol. 30, 1967, pp. 222-245.

7. Lindenmann, J.; **Klein, P.A.** Viral oncolysis: Increased immunogenicity of host cell antigen associated with influenza virus. J. Exp. Med. 126, 1967, pp. 93-108.

8. **Klein, P.A.**; Adams, W.R. Location of ferritin-labeled concanavalin-A binding to influenza virus and tumor cell surfaces. J. Virology 10, 1972, pp. 844-854.

9. **Klein, P.A.** Adaptation of influenza virus to growth in cultured murine methylcholanthrene induced tumors. Arch. Virusforsch. 45, 1974, pp. 199-208.

10. Fiske, R.A.; **Klein, P.A.** Effect of immunosuppression on the genetic resistance of A2G mice to neurovirulent influenza virus. Infection and Immunity 11, 1975, pp. 576-587.

11. **Klein, P.A.** Anomalous reactions of mouse alloantisera with cultured tumor cells. I. Demonstration of widespread occurrence using reference typing sera. J. Immunol. 115, 1975, pp. 1254-1260.

12. Nowinski, R.C.; **Klein, P.A.** Anomalous reactions of mouse alloantisera with cultured tumor cells. II. Cytotoxicity is caused by antibodies to leukemia viruses. J. Immunol. 115, 1975, pp. 1261-1268.
13. Kon, N.; Forbes, J.T.; **Klein, P.A.** Ability of delayed-type hypersensitivity reactions to distinguish tumor-associated antigens and histocompatibility antigens in soluble extracts from murine fibrosarcomas. Int. J. Cancer 17, 1976, pp. 613-620.
14. Kon, N.; **Klein, P.A.** Measurement of H-2 and non-H-2 antigens in the mouse with the footpad swelling test. J. Immunol. 117, 1976, pp. 413-415.
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19. Zinkernagel, R.M.; **Klein, P.A.**; Klein, J. Host determined T-cell fine specificity for self H-2 in radiation bone-marrow chimeras of standard C57BL/6 (H-2^b), mutant HZ-1 (H-2^{ba}) and F1 mice. Immunogenetics 7, 1978, pp. 73-77.
20. Scornik, J.C.; **Klein, P.A.** Antibody dependent cell mediated damage of target cells. Transplantation 26, 1978, pp. 356-357.
21. Simrell, C.R.; **Klein, P.A.**: Antibody responses of tumor bearing mice to their own tumors captured and perpetuated as hybridomas. J. Immunol. 123, 1979, pp. 2386-2394.
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23. **Klein, P.A.**: Problems with and approaches to specificity in the serological measurement of histocompatibility and tumorassociated antigens on tumor cell surfaces. Transplantation Proceedings 12, 1980, pp. 16-21.
24. **Klein, P.A.**: Specificity of syngeneic monoclonal antibodies against cell surface antigens on chemically-induced mouse fibrosarcomas. Transplantation Proceedings 13, 1981, pp. 1762-1764.

25. **Klein, P.A.**; Xiang, J.; Kimura, A.K.: Melanoma cells growing in aggregates on a non-adhesive poly (HEMA) substrate exhibit polykaryocytosis but do not develop an increased metastatic capability. Clinical and Experimental Metastasis 2, 1984, pp. 287-295.
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29. **Klein, P.A.** Viral oncolysis in the A2G mouse revisited: Monoclonal antibody-mediated tumor rejection. J. Interferon Res. 7, 1987, pp. 583-589.
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38. **Klein, P.A.** Immunology and biotechnology for the study and control of infectious diseases in wildlife populations. J. Wildlife and Zoo Medicine, 24, 1993, pp. 346-351.
39. Brown, M.B., Schumacher, I.M., **Klein, P.A.**, Harris, K., Correll, and Jacobson, E. *Mycoplasma Agassizii* causes upper respiratory tract disease in the desert tortoise Infection and Immunity. 62, 1994, pp. 4580-4586.
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44. Herbst, L. H., Jacobson, E. R., Moretti, R., Brown, T., Sundberg, J. P., **Klein, P. A.** Experimental transmission of green turtle fibropapillomatosis using cell-free tumor extracts. Diseases of Aquatic Organisms, 22, 1995, pp 1-12.
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47. Herbst L.H., Moretti, R., Brown, T., and **P. A. Klein** Sensitivity of the transmissible green turtle fibropapillomatosis agent to chloroform and ultracentrifugation conditions. Diseases of Aquatic Organisms., 25, 1996, 225-228.
48. Schumacher, I.M., Jacobson, E.R., and **P.A. Klein** Correlation of the presence of antibodies to *Mycoplasma agassizii* with the presence of clinical signs of URTD in desert tortoises from Nevada . J. Wildlife and Zoo Medicine, 33, 1997, 261-266

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51. Brown, M.B., McLaughlin, G.S., **Klein, P.A.**, Crenshaw, B.C., Schumacher, I.M., Brown, D.R., and Jacobson, E.R. Upper respiratory disease in the gopher tortoise is caused by *Mycoplasma agassizii*. J. Clin. Micro., 37, 1999, 2262-2269.
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58. Curry, S., Brown, D.R., Gaskin, J.M., Jacobson, E.R., Ehrhart, L.M., Blahak, S., Herbst, L.H., and **P.A. Klein**. Persistent infectivity of a green turtle disease-associated herpesvirus after exposure to seawater. J. Wildlife Diseases, 36, 2000, 792-797.
59. Coberley, S.S., Herbst, L.H, Brown, D.R., Ehrhart, L.M., Bagley, D.A., Schaf, S.A., Moretti, R.H., Jacobson, E.R., and **P.A. Klein**. Detection of Antibodies to a Disease-associated Herpesvirus of the Green Turtle, *Chelonia mydas*. J. Clinical Microbiol., 39, 2001, 3572-3577.
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63. Coberley, S.S., Condit, R.C., Herbst, L.H., and **P. A. Klein**. Identification and Expression of Immunogenic Proteins of a Disease-associated Marine Turtle Herpesvirus. J. Virol. 76:10553-10558, 2002.
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66. Herbst,LH, Siconolfi-Baez, L, **PA Klein**, MJ Kerben, IM Schumacher. Induction of vitellogenin by Estradiol-17beta and development of enzyme linked immunosorbant assays to quantify plasma vitellogenin levels in green turtles (*Chelonia mydas*) Comp Biochem Physiol B Biochem Mol Biol, 135:551-63, 2003.
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68. F.C. Origgi, C. H. Romero, D. C. Bloom, **P.A. Klein**, J.M. Gaskin, S. J. Tucker and. E.R. Jacobson. Experimental Transmission of a Herpesvirus in Greek Tortoises (*Testudo graeca*). J. Vet. Path 41: 50-61, 2004
69. D. R. Brown, J. L. Merritt, E. R. Jacobson, **P. A. Klein**, J.G. Tully, and M. B. Brown. *Mycoplasma cheloniae* sp. nov., from Desert Tortoises. International Journal of Systematic and Evolutionary Microbiology 54:1527-9, 2004.
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72. Nollens HH, Gulland FMD, Hernandez JA, Condit RC, **Klein PA**, Walsh MT, Jacobson ER Seroepidemiology of parapoxvirus infections in captive and free-ranging California sea lions

Zalophus californianus. Diseases of Aquatic Organisms 69:153-161 (2006)

73. Nollens HH, Jacobson ER, Gulland FM, Beusse DO, Bossart GD, Hernandez JA, **Klein PA**, Condit RC. Pathology and preliminary characterization of a parapoxvirus isolated from a California sea lion (*Zalophus californianus*). J Wildl Dis. 42(1):23-32 (2006)

74. Madan K. Oli, Meenakshi Venkataramana, **Paul A. Klein**, Lori D. Wendland, and Mary B. Brown. Population dynamics of infectious diseases: A discrete time model Ecological Modeling 198, 183-194 (2006)

75. Lori D. Wendland, Laurie A. Zacher, **Paul A. Klein**, Daniel R. Brown, Dina Demcovitz, Ramon Littell, and Mary B. Brown. Improved Enzyme-Linked Immunosorbent Assay to Reveal *Mycoplasma agassizii* Exposure: a Valuable Tool in the Management of Environmentally Sensitive Tortoise Populations. Clin. Vaccine Immunol. 14: 1190-1195 (2007)

76. Nollens HH, Green LG, Duke D, Walsh MT, Chittick B, Gearhart S, **Klein PA** and Jacobson ER. Development and validation of monoclonal and polyclonal antibodies for the detection of Immunoglobulin G of bottlenose dolphins (*Tursiops truncatus*). Journal of Veterinary Diagnostic Investigations 19: 465-470 (2007)

77. Lawrence H. Herbst, Shefali Lemaire, Ada R. Ene, David J. Heslin, Llewellyn M. Ehrhart, Dean A. Bagley, **Paul A. Klein**, Jack Lenz. ELISA detection of plasma antibodies to baculovirus-expressed glycoprotein H of chelonid FP-associated herpesvirus and its relationship to the prevalence of fibropapillomatosis in sea turtles. Clinical and Vaccine Immunology. 5: 843-851 (2008)

78. Daniel R. Brown, Lori D. Wendland, G. Javier Ortiz, Marianne F. Kramer, Daniel V. Lim, Mary B. Brown, **Paul A. Klein**. Evanescent-wave biosensor for field serodiagnosis of tortoise mycoplasmosis. Vet Immunol Immunopathol. 124: 322-331 (2008)

79. Hendrik H. Nollens, Frances M.D. Gulland, Elliott R. Jacobson, Jorge A. Hernandez, **Paul A. Klein**, Michael T. Walsh, Richard C. Condit. In vitro susceptibility of sea lion poxvirus to cidofovir. Antiviral Research 80: 77-80 (2008)

80. James F.X. Wellehan Jr., Linda G. Green, Diane G. Duke, Shadi Booterabi, Darryl J. Heard, **Paul A. Klein**, Elliott R. Jacobson. Detection of specific antibody responses to vaccination in variable flying foxes (*Pteropus hypomelanus*). Comparative Immunology, Microbiology and Infectious Diseases. 32: 379-394 (2009)

81. Wendland LD, Wooding J, White CL, Demcovitz D, Littell R, Berish JD, Ozgul A, Oli MK, **Klein PA**, Christman MC, Brown MB. Social behavior drives the dynamics of respiratory disease in threatened tortoises. Ecology. May;91(5):1257-62 (2010).

82. Stacy BA, Foley AM, Greiner E, Herbst LH, Bolten A, **Klein PA**, Manire CA, Jacobson ER. Spirorchiidiasis in stranded loggerhead *Caretta caretta* and green turtles *Chelonia mydas* in Florida (USA): host pathology and significance. Dis Aquat Organ. Apr 9;89(3):237-59 (2010).

83. Stacy B, Frankovich T, Greiner E, Alleman A, Herbst L, **Klein PA**, Bolten A, McIntosh A, Jacobson E. Detection of Spirorchiid Trematodes in Gastropod Tissues by Polymerase Chain Reaction: Preliminary Identification of an Intermediate Host of *Learedius learedi*. J Parasitol. Apr 5:1. [Epub ahead of print] (2010)

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85. Jacobson ER, Brown MB, Wendland LD, Brown DR, **Klein PA**, Christopher MM, Berry KH Mycoplasmosis and upper respiratory tract disease of tortoises: A review and update. The Veterinary Journal, 201, (3), 257–264 (2014)

NON-REFEREED PUBLICATIONS

1. **Klein, P.A.** What is a hybridoma? Florida Venturing 2, 1989, 8.

2. **P.A. Klein**, L. Herbst, E. Jacobson, A.B.Bolten, B. R. Collins, and E. Greiner Development of immunodiagnostic tools for studying the etiology and epidemiology of green turtle fibropapillomatosis. National Marine Fisheries Service, NOAA, Honolulu, Hawaii, Administrative report H-93-13C, July, 1993

3. Herbst, L.H. and **Klein, P.A.** Analysis of tumorigenicity and differential gene expression in fibroblast lines derived from normal skin and fibropapillomas of the green turtle (*Chelonia mydas*) National Marine Fisheries Service, NOAA, Honolulu, Hawaii, Administrative report H-96-04C, June, 1996

4. TV Documentary: Ehrhart, L., Moretti, R. and . “Paradise in Peril”. National Geographic Explorer. March 5, 2000, CNBC.

ABSTRACTS and PRESENTATIONS

1. **Klein, P.A.** Immunization against the Ehrlich ascites carcinoma with a water soluble antigen. Fed. Proc. 24, 1965, p. 697.

2. **Klein, P.A.** Some cellular aspects of the antibody response to neurotropic influenza virus in mice. J. Reticuloendothelial Soc. 11, 1972, p. 413.

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6. Fiske, R.A.; **Klein, P.A.** Effect of immunosuppression on genetic resistance to murine influenzal encephalitis. Fed. Proc. 33, 1974, p. 619.
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101. Daniel R. Brown, Isabella M. Schumacher, Grace S. McLaughlin, Lori D. Wendland, Mary B. Brown, **Paul A. Klein**, and Elliott R. Jacobson. Tortoise Mycoplasmas and UTRD. Workshop on Desert Tortoise Health and Disease. Soda Springs, California, November 14-17, 2002

102. **Paul A. Klein**, Daniel Brown, Elliott Jacobson, Lori Wendland, and Mary Brown. Microbial Pathogens, Immunology and Species Conservation. Workshop on Desert Tortoise Health and Disease. Soda Springs, California, November 14-17, 2002

103. Mushinsky, H.M., E.M. McCoy, M.B. Brown, **P.A. Klein**, M. Oli, L.D. Wendland, D.R. Brown, and J. Diemer-Berish. UTRD and the environmentally-threatened gopher tortoise. 24th Annual Meeting of the Gopher Tortoise Council, Thomasville, GA, October 18-20, 2002

104. Brown, M.B. Schumacher, I., McLaughlin, G., Wendland, L., Brown, **Klein, P.A.**, and Jacobson, E.. Tortoise Mycoplasmas and UTRD. 28th Annual Meeting and Symposium of the Desert Tortoise Council, Las Vegas, NV, February 21-23, 2003

105. Brown, M.B., **Klein, P.A.**, and Wendland, L.. Concepts and Importance of Disinfection. 28th Annual Meeting and Symposium of the Desert Tortoise Council, Las Vegas, NV, February 21-23, 2003

106. Brown, M.B. **Klein, P.A.**, Oli, M., McCoy, E., Mushinsky, H. Wendland, L. Brown, D. and Berish, J.. NSF Project on "UTRD and the Environmentally-Threatened Gopher Tortoise". . 28th Annual Meeting and Symposium of the Desert Tortoise Council, Las Vegas, NV, February 21-23, 2003

107. Jacobson, E., Green, L.G. **Klein, P.A.** and Tabaka, C.. Development of an Enzyme-Linked Immunosorbent Assay for Measurement of Antibody Responses to Pathogens in the Indochinese Box Turtle *Cuora galbinifrons*. The Tenth Annual Conference of the Association of Reptilian and Amphibian Veterinarians. Minneapolis, Minnesota, October 4-9, 2003

108. Brown, D. Kramer, M.F., Zacher, L.A., Green, A. and **Klein, P.A.** Chelonian Serodiagnostics: Development of a Field Portable Assay For Detection of Exposure of Tortoises to *Mycoplasma agassizii*. 29th Annual Meeting and Symposium of the Desert Tortoise Council, Las Vegas, NV, February 20-23, 2004

109. Brown, M, Wendland, L., **Klein, P.A.** and Berish, J. Anthropogenic Impacts on Mycoplasmosis in a Florida Gopher Tortoise Population and Increased Morbidity and Mortality Events. . 29th Annual Meeting and Symposium of the Desert Tortoise Council, Las Vegas, NV, February 20-23, 2004

REVIEWS

1. **Klein, P.A.**; Smith, R.T. The role of oncogenic viruses in neoplasia. Annual Reviews of Medicine 28, 1977, pp. 311-327.

TEACHING, ADVISING AND INSTRUCTIONAL EXPERIENCE: Teaching of students at all levels through classroom lectures, seminars, workshops, laboratory-based research training and advisement in the College of Medicine, the Health Center and the University of Florida.

- College of Medicine- Phase A: Immunology
- College of Medicine-Phase B: Pathology:Lectures
- GMS 6001, GMS 6905 IDP Graduate Program, COM: lectures/discussion
- BMS 6314 Principles of Immunology: lectures
- BMS 6630 Tumor Biology: Course Director/lectures
- PHA 5171 Pharmaceutical Biotechnology: lectures
- BCH 7077 Methods of Molecular Biology: lectures
- VME 5131 Veterinary Molecular Biology: lectures
- ICBR Workshop for COM Graduate Students (pre-IDP curriculum): lectures
- ICBR Workshop, “Antibodies: Tools in Molecular Sciences”: Organization/lectures
- ICBR Workshops on Recombinant DNA Technology and Protein Chemistry”:lectures
- ICBR UF Faculty Retraining Workshops: lectures
- ICBR Community College Faculty Training Workshops: lectures
- ICBR High School Teacher Training Workshops: lectures
- BEECS Workshops for Florida A&M University faculty and students: Organization/lectures
- BEECS/University of Florida-USFWS Contaminants Branch Workshop: lecture
- Miscellaneous lectures: IFAS, Horticultural Sciences: lectures
- Mentor, UF High School Student Science Training Program (CPET)
- Mentor/Advisor, Graduate Students
- Mentor/Advisor, Visiting students and faculty
- Advisory Board, College of Medicine M.S./M.B.A. Program in Biotechnology
- IDP Admissions Program, COM
- IDP Recruiting Committee, COM
- Co-chair, Education Committee, UF Cancer Center
- Graduate Committee, Program in Interdisciplinary Ecology, CNRE

STUDENTS TRAINED or IN TRAINING (since 1990): (includes graduate students, post-doctoral students, visiting students and faculty, undergraduates, and high school students.

Haejung An, Food Science and Human Nutrition, IFAS, (**Mentor and member of graduate committee, [Chair: C.I. Wei]**), Ph.D., Title of Dissertation: Immunochemical identification of marine species using the rock shrimp (*Sicyonia brevirostris*) as a model. 1990

Juin Lin Liu , D.V.M., Pathology and Laboratory Medicine, COM, (**Mentor and member of graduate committee,[Chair: C. Moscovici]**), Ph.D., Title of Dissertation: Study of transformation associated markers within the erythroid lineage, 1990

Paul A. Klein, Ph.D.

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Isabella (Fuerst) Schumacher, D.V.M., Small Animal Clinical Sciences, C.V.M., (**Mentor**): Post-doctoral research associate, Immunology of upper respiratory tract disease in the desert tortoise, 1990-91 (currently, University of Tennessee CVM)

Maureen Burkart, Chemistry, LAS, (**Mentor and member of graduate committee, [Chair: D. Richardson]**). Title of dissertation: Investigation of metalloantibody catalyzed ester hydrolysis. Ph.D., 1995 (currently at Dekalb College,, Dunwoody, GA.)

Erin O'Donohue, Horticultural Sciences, IFAS, (**Mentor and member of graduate committee, [Chair: D. Huber]**), Title of Dissertation: Immuno-gold localization of polygalacturonase and Cx-cellulase in ripening avocado fruit. Ph.D., 1994 (currently home with the New Zealand Department of Agriculture)

Nancy Lung, D.V.M., Small Animal Clinical Sciences, CVM, (**Mentor and Committee Chair**): M.S., Title of thesis: Passive transfer of immunity and the development of antibody responses in the Blue and Gold Macaw (*Ara ararauna*), 1994 (currently, Head Veterinarian, Fort Worth Zoo, Fort Worth, Texas)

Larry H. Herbst, D.V.M., Pathobiology, CVM., (**Mentor and Committee Chair**): Ph.D.. Title of dissertation: The Etiology and Pathogenesis of Green Turtle Fibropapillomatosis, 1995 (currently, Associate Professor of Pathology, Albert Einstein College of Medicine)

Grace McLaughlin, Wildlife and Ecology, IFAS, (**Mentor and member of graduate committee, [Co-Chairs: D. Forrester, M. Brown]**), Ph.D.(currently, Wildlife Biologist, USFWS) Title of dissertation: The etiology, pathology, and diagnosis of upper respiratory tract disease in the Florida gopher tortoise, 1997

Daniel Brown, Ph.D., Pathology, COM, (**Mentor**), Post-doctoral research associate, Immunological analysis of mycoplasma antigens/ Molecular detection of herpesvirus in marine turtle fibropapillomas. 1996-97 (Currently Assistant Professor, Dept. of Pathobiology, College of Veterinary medicine, University of Florida)

Marci Kerben, Zoology, Senior research year undergraduate (for credit), (**Mentor**). Marci finished her research in 1997. Research area: Vitellogenin levels in green turtles (*Chelonia mydas*). A manuscript is in preparation.

Meredith Clinton, Southampton LIU, NY, special undergraduate exchange student, (**Mentor**), BEECS Program: Sea turtle genetics and fibropapilloma disease, 1996.

Laura Esguerra, High School student, Student Science Training Program, (**Mentor**), Summer, 1998, Monoclonal antibody applications in wildlife conservation.

Joel Lackovich, M.S./M.B.A. Program in Biotechnology/Medical Sciences, College of Medicine, (**Mentor and Committee Chair**): M.S., Title of thesis: Association of a chelonid herpesvirus with fibropapillomas of the green turtle, *Chelonia mydas* and the loggerhead turtle, *Caretta caretta*, (December, 1998) [Currently with Life Sciences, Md]

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Robbie O'Connor, Pathobiology, CVM, (**Member of graduate committee, [Chair: D.Allred]**), Ph.D. degree granted 1999. Area of dissertation research: Antigenic variation in *Babesia bovis*

Erik Dohm, D.V.M., Pathobiology, CVM (**Member of graduate committee**), Area of research: Mycoplasma pathobiology, graduated with M.S., December, 1999.

Leslie Lehman, Small Animal Clinical Sciences, CVM (**Mentor and Co-chair of committee**), Started January, 2002. Research Area: Sea Turtle Health Assessment: Identification of Blood Cell Markers in Marine Turtles., **Withdrew from UF, 10/2002.**

Sadie Coberley, IDP Program, College of Medicine, (**Mentor and Committee Chair**), Ph.D., started program, Summer, 1997. Research area: Epidemiology of Marine Turtle Fibropapillomatosis. **Graduated (Ph.D.) August, 2002. Post-doctoral Fellow, U.S. Army Institute of Infectious Diseases, t. Detrick, Frederick, MD.**

Joyce Merritt, Pathobiology, CVM, (**Mentor and Committee Co-Chair**) Ph.D.program: Research area: Development and evaluation of “dipstick” serological diagnostic tests for mycoplasma and herpesvirus infections of tortoises. Started Program, July, 2000 **Withdrew from UF, 8/2002**

Francesco Origi, D.V.M, Small Animal Clinical Sciences, CVM, (**Mentor and co-chair of supervisory committee, [Chair: E. Jacobson]**). Francesco was a Fulbright scholar from Italy. Degree:Area of research: Pathogenesis and diagnosis of herpesvirus infections of gopher tortoises. Completed Ph.D. program, 8/2001.

Lauren Ritchey, D.V.M., Pathobiology, CVM, (**Mentor with Trenton Schoeb and member of graduate committee**), Ph.D. Program, Started research, 1998. Area of research: Effect of endocrine disruptors on host resistance in the Florida alligator. **Graduated August, 2001. Assistant Professor, University of Georgia, Athens.**

Lori Wendland, D.V.M., Pathobiology, CVM, (**Mentor with Mary Brown and member of graduate committee**), Started Ph.D.program 1999, Area of research: Epidemiology and molecular biology of Upper respiratory tract disease in the Florida gopher tortoise.

Faruk Pehlivanoglu, D.V.M., M.S., Pathobiology, CVM, (**Member of graduate committee**), Started Ph.D. Program, 1999. Area of research: Mycoplasmosis in goats **Withdrew from UF, 2001**

Lisa Domico, Pathobiology, CVM, (**Mentor with Bruce Homer and member of graduate committee**), Started Masters program 1999, Area of research: Metallotheinein and shell disease in the desert tortoise. **Graduated, M.S., August, 2001. Currently Ph.D. Graduate student, Rutgers University, New Brunswick, NJ.**

Filiberto Reyes-Villanueva, Entomology, IFAS, (**Member of graduate committee**). Started program, 1998. Area of research: Mosquito borne viral diseases **Graduated, Ph.D., August, 2002. Currently: Instructor, Department of Zoology and Invertebrates, University of Nuevoleon, San Barza, Mexico**

Tamece Knowles, Pathobiology, CVM (**Member of graduate committee**). Started M.S. program 9/00. Chairman: Rick Alleman. Area of research Diagnostic use of rMAP2 genes for diagnosing ehrlichial infections. M.S. 2003.

Rachel Hirschmann, Biology, University of Central Florida, (**Mentor and member of graduate committee**). Started M.S. Program 7/00. Chairman: Lew Ehrhart. Area of research: Vertical transmission of herpesviruses in nesting green and loggerhead turtles. **M.S. degree May, 2003.**

Hendrik Nollens, DVM, Small Animal Clinical Sciences, CVM, (**Mentor and member of graduate committee**). Completed Ph.D., December 2005. (Marine Mammal Fellowship) Area of interest: Poxvirus infections in North American pinnipeds and marine mammal immunology

Brad Lock, D.V.M., Research Mentor. Development of immunological diagnostics for boas. Brad complete his studies in June, 2002. **Currently, Staff Veterinarian, Animal Kingdom, Walt Disney Company, Orlando, Florida.**

Brian Stacy, D.V.M., Small Animal Clinical Sciences, CVM, , (**Mentor and member of graduate committee**). Started Program. 2005. UF Alumni Fellow. Area of interest: Life cycle of parasitic infections of sea turtles.

Hybridoma laboratory training: Numerous individuals (undergraduates, graduate students, post-doctoral fellows, faculty) from many departments at the UF and other institutions have spent various intervals of time in training in the Hybridoma Core Laboratory to learn monoclonal antibody technology.

Marcella Cancino, B.S., International Institute of Tropical Agriculture, Cali, Columbia, South America, 1993

Joytika Kapur, Ph.D., Punjab Agricultural University, India, Fellow, Agency for International Development, 1992

Debdatta Ray, D.V.M., Indian Veterinary Research Institute, Agency for International Development, 1992

Gyan Chand Bansal, D.V.M, Indian Veterinary Research Institute, Agency for International Development, 1992

CONTRACTS AND GRANTS (Previous):

1. Principal Investigator, Grant CA 13384 - National Institutes of Health: "Immunogenicity of Membrane and Tumor Antigens" June, 1972 - March, 1979, Total Grant Support For Project: \$185,055
2. Principal Investigator, Grant IM-234 - American Cancer Society, New York: "Antibody Responses of Tumor Bearers to Their Tumor-Associated Antigens" January 1, 1980 - December 31, 1981, Total Grant Support For Project: \$111,381

3. Principal Investigator, Grant RD-83 - American Cancer Society, New York: "Monoclonal Antibodies to Tumor-Associated Antigens" January 1, 1980 - December 31, 1980, Total Grant Support For Project: \$15,000
4. Principal Investigator, Grant CA 26882 - National Institutes of Health: "Antibody Responses of Tumor Bearers to Their Tumors" December 1, 1979 - August 31, 1983, Total Grant Support For Project: \$135,304
5. Co-Principal Investigator, Grant CA 40351 - National Institutes of Health: "Properties of Emerging Metastatic Tumor Cell Variants", A. Kimura, P.I., July 1, 1985 - June 30, 1988, Total Grant Support For Project: \$265,660.
6. Administrator, Training Coordinator and Research Faculty, Grant CA T32 09126 National Institutes of Health: "Training in the Cell Biology and Immunobiology of Cancer", R.T. Smith, P.I., July 1, 1980 - June 30, 1990, Total Grant Support for Project: Approximately \$900,000.
7. Project P.I., Hybridoma Laboratory For the University of Florida, NSF DIR 880505011, "Biological Facilities Center for the University of Florida" P.I.'s C. Hannah and T. O'Brien, Direct Costs: \$75,030, Duration: 12/1/88 - 11/30/90
8. Principal Investigator, "Cell Culture/Monoclonal Antibody Core Laboratory", NIH PO1 DK39079, 5 year budget, \$263,727, 8/1/87 - 7/31/92.
9. Co-principal Investigator (P.I., D.E. Richardson), "Monoclonal Antibodies as Metalloenzymes", NIH R01 GM 42637-01A2, Direct Costs \$269,310, 1/1/91-12/31/93.
10. Co-principal Investigator (P.I., Elliott Jacobson) Agency: "Transmission and Pathogenesis Studies with an Upper Respiratory Tract Disease in the Desert Tortoise", Nature Conservancy B812680, Direct Costs: \$258,432, 3/1/91-2/28/94.
11. Principal Investigator, "Tortoise Health Profiles: California District", Department of the Interior (BLM) #92092314, Direct Costs: \$25,000, 3/1/92-2/28/94.
12. Co-principal investigator, "Serological Survey of Desert Tortoises, *Gopherus agassizii*, at the National Training Center, Fort Irwin, California, for Exposure to *Mycoplasma Agassizii*, the Causitive Agent of Upper Respiratory Tract Disease", Department of Defense (U.S. Army, Ft. Irwin), Direct Costs: \$25,000, 6/1/93 - 1/31/95.
13. Principal Investigator, "Transfer of Maternal Anti-*Mycoplasma Agassizii* Antibodies through the Egg to Offspring in the Desert Tortoise (*Gopherus agassizii*), Department of Defense (U.S. Army, Ft. Irwin), Direct Costs: \$27,436, 9/1/93-8/31/95.
14. Co-principal investigator (P.I.: L. Guillette), "Development of Biochemical Measures of Contaminant-induced Stress", Environmental Protection Agency, Direct Costs: \$226,734, 6/1/93 - 5/31/95.

15. Co-Principal Investigator, "Environmental Biotechnology Research and Training Program with Florida A&M University Agency: Department of Energy, Direct Costs: \$1,250,000, 8/1/94-7/31/96
16. Principal Investigator, "Immunological Competence in the Green Turtle and its Relationship to the Development of Fibropapilloma Disease", U.S. Fish and Wildlife /Nat'l Marine Fisheries Service RWO#96, \$140,000, 6/1/92 - 5/31/97
17. Principal Investigator Department of Interior/ National Biological Service RWO#161, Pathogenic, Molecular and Immunological Properties of a Herpesvirus Associated with Green Turtle Fibropapillomatosis. Phase I. Virus Isolation and \$60,182, 7/1/96 - 6/30/98
18. Co-Principal Investigator, Walt Disney World Company (DSR UPN 93081611), The Etiology, Pathology, and Diagnosis of Upper Respiratory Tract Disease in the Florida Gopher Tortoise, \$750,000, 9/1/93-9/30/98
19. P.I., Hubbs Seaworld Research Institute, Development of Monoclonal Antibodies to Leukocyte Differentiation Antigens of the Florida Manatee, *Trichechus manatus* \$14,850, 6/1/96-12/31/98.
20. P.I. Department of Interior/ U.S. Geologic Survey (HQAG2216) Isolation of a Herpesvirus Associated with Sea Turtle Fibropapillomas in Embryonated Avian and Turtle Eggs. \$52,378, 10/1/98 - 9/30/99
21. Co-P.I.. Department of Defense. Development of a qualitative field diagnostic test for specific anti-mycoplasma antibodies in the blood of tortoises. \$60,060. 10/1/98-9/30/99
22. Core-Co-P.I.. Agency: National Institute of Environmental Health Sciences (P42-ES 07375-04) Health Effects of Chlorinated Hydrocarbons (Program Project P.I., Margaret James), Outreach and Graduate Education Core, \$3,700,000, Outreach and Graduate Education Core Budget, \$360,000, 5/1/95-4/30/00.
23. P.I., Department of Interior/ National Biological Service. Pathogenic, Molecular and Immunological Properties of a virus associated with Sea Turtle Fibropapillomatosis. Phase II. Viral Pathogenesis and Development of Diagnostic Assays. \$140,000. 7/1/97 - 6/30/00
24. P.I. Department of Interior/ National Biological Service (RWO 194) Further Strategies for Evaluating the Etiological Role of a Tumor- associated Herpesvirus in Marine Turtle Fibropapillomatosis, \$70,000, 9/15/99 - 9/14/01
25. Co.-P.I.. Environmental Protection Agency. Endocrine disruptors and host resistance in Lake Apopka Alligators, Trenton Schoeb, P.I., \$598,252; 1/1/98-12/31/00
26. Co.-P.I.. Department of Defense, Development of a serodiagnostic test to determine exposure of tortoises to herpesviruses, Elliott Jacobson, P.I., \$30,000, 6/1/99-5/31/00
27. Co.-P.I..Department of Defense, Evaluation of Desert Tortoises in and around Fort Irwin for exposure to a tortoise herpesvirus, Elliott Jacobson, P.I., \$42,500, 3/1/00-2/28/01

CONTRACTS AND GRANTS (Current):

Agency: National Science Foundation
Grant: URTD and environmentally threatened gopher tortoises
Co-P.I.: Paul A. Klein (Mary Brown, P.I.)
% Time: 5%
Direct Costs: \$1,717,389
Duration: 6/01/02-5/31/08

UNIVERSITY AND PROFESSIONAL SERVICE

Member, University of Florida, College of Medicine Admissions
Committee, 1969 - 1972

Graduate Studies Program Coordinator, Department of Pathology, 1969 - 1974

Organizer and Instructor, short course in "Current Immunological Concepts for the Practicing Physician" for the Division of Continuing Education, University of Florida, Jacksonville, Florida, 1972

Organizer, "Frontiers in Cancer Research Seminar Series", College of Medicine. Sponsored by special grants to **P.A. Klein** from the American Cancer Society, 1973 - 1975

Seminar Program Coordinator, Department of Pathology, 1974 - 1986

Administrator and Training Coordinator, NCI Training Grant, "Cell Biology and Immunology of Cancer", Department of Pathology, College of Medicine, 1975-1988

Member, Junior Honors Medical Student Program, 1976 - 1985

Member, American Cancer Society Institutional Research Committee 1977 - 1988

Member, Department of Pathology Graduate Committee, 1978 - 1983

Chairman, University of Florida Faculty Tuition Exchange Committee, 1978 - 1986

Organizer and Instructor, short course in "Basic Concepts of Tumor Biology and Immunology" for the Florida Urology Foundation and Division of Continuing Education, University of Florida, March 1-3, 1979

Administrator and Training Coordinator, NCI Training Grant, "Cell Biology and Immunology of Cancer", Department of Pathology, College of Medicine, Gainesville, Florida, 1975 - 1988

Safety Officer, Department of Pathology, 1979 - 1988

Member, Grant Review Committee, Division of Sponsored Research, 1982 - 1985

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Member, Institutional Biotechnology Advisory Committee, 1985 - 1988

College of Medicine Representative, University Senate, University of Florida, 1987-1989

Research Faculty, Florida Foundation for Future Scientists, University of Florida,
1986 - DATE

Member, Faculty Council Ethical Standards in Research Committee, College of Medicine, 1982
- 90

Member, ICBR Steering Committee for program in "Biotechnologies for the Ecological,
Evolutionary, and Conservation Sciences (BEECS)", 1990-1992

Scientific Director, Immunological Analysis Core Laboratory, Biotechnologies for the
Ecological, Evolutionary, and Conservation Sciences, The Biotechnology Program, University of
Florida, 1992-1997

Member, Faculty Task Force/ Steering Committee, UF College of Natural Resources and
Environment, University of Florida, Gainesville, FL 1992-94

Assistant Director, Development and Operations, The Sid Martin Biotechnology Development
Institute, University of Florida Progress Center, Alachua, Florida 1994-1996

Assistant Director, The Biotechnology Program, University of Florida, 1992-1998

Member, Advisory Board, College of Medicine: M.S./M.B.A. Program in Biotechnology
University of Florida, Gainesville, FL 1996-1998

Member, Statewide Committee to Advance Florida Marine Biotechnology and Education,
Florida Sea Grant Program, University of Florida, Gainesville, FL 1997-date

Member, Graduate Committee, College of Natural Resources and Environment
University of Florida, Gainesville, FL 1992-DATE

Associate Director, The William R. Maples Center for the Forensic Sciences, University of
Florida, Gainesville, FL 1997-date

Member, Steering Committee, Center for Marine Animal Health, Whitney Laboratory, St.
Augustine, FL. 1997-date.

INVITED LECTURES AND PRESENTATIONS

Captive Breeding Specialists Group, SSC, Oakland, CA, 9/92

Sanibel Island Conservation Trust, Sanibel Island, FL, 10/92

Walt Disney World Corporation, Orlando, FL., 12/92

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Dolphin Mortality Conference, EPA, Gulf Breeze, FL, 12/92

International Green Turtle Fibropapilloma Conference, Gainesville, FL 3/93

USFWS Southeast Contaminants Branch Workshop, Gainesville, FL, 3/93

1993 Turtle Rehabilitation Workshop, Marathon, FL, 5/93

International Conference on Conservation, Resoration, and Management of Tortoises and Turtles. SUNY, Purchase, NY, 7/93

WWF North American Wildlife Biologists Conference, Wingspread, Racine, WI, December, 1993.

Institute of Experimental Immunology, University of Zurich, November 20-23, 1994

The Whitney Laboratory, University of Florida, Public Lecture Series, June 12, 1997.

“A Decade of Research on Green Turtle Fibropapillomatosis at the University of Florida”. Workshop on Sea Turtle Fibropapillomatosis. National Marine Fisheries Service, Southwest Science Center, Honolulu, Hawaii. December 1-5, 1997

Invited Session Chair: “Research on Upper respiratory Tract Disease and Parasites in Gopher and Desert Tortoises”. 23rd Annual Symposium of the Desert Tortoise Council, April 3-5, 1998, Tucson, AZ.

Invited Speaker, Special Session on Sea Turtle Fibropapilloma. Third International Symposium on Aquatic Animal Health. Baltimore, MD, August 30-September 3, 1998.

Invited Session Chair, “ Health issues in the Conservation of the Desert Tortoise”: 25th Symposium of the Desert Tortoise Council, Las Vegas, Nevada, April 21st-23rd, 2000.

Invited Speaker, Keynote Address, Phi Zeta Honor Society Research Symposium, College of Veterinary Medicine, June 19th, 2000, “Origins, Fashions, and Experiences in Comparative Biomedical Research”

Invited Speaker: Workshop on Desert Tortoise Health and Disease. Soda Springs, California, November 14-17, 2002, “Microbial Pathogens, Immunology and Species Conservation”.