

ANIMAL MODELS

The Animal Models Division is a unique feature of the Institute, enabling scientists to work with relatively inexpensive models to study AIDS and new drugs and therapeutic approaches without risk to humans. Developing animal subjects for use in viral research is a science unto itself, and is essential in moving a discovery from laboratory to clinic.

Dr. Bryant and his colleagues have created animal models that assist in the development of therapies for Kaposi's sarcoma, for neurological diseases such as myelopathy and multiple sclerosis, and for prostate and breast cancer. They recently were awarded patents for the first HIV transgenic rat model.

Among this Division's areas of study are:

- Development of improved animal models for AIDS and its associated malignancies, such as Kaposi's sarcoma and B-cell lymphoma
- Necropsies and histological studies
- Development of transgenic and gene knockout lines



Dr. Joe Bryant



Mikhail Gorbachev honors Dr. Gallo with the World Health Award. Other notable career highlights include the prestigious Albert Lasker Award in 1982 and 1986; the Japan Prize for Science and Technology in 1988; Canada's Gairdner Prize in 1986; the Prince of Asturias Award, Spain's highest honor, in 2000; the Paul Ehrlich and Ludwig Darmstaedter Prize, Germany's most distinguished award in biomedical research, in 1999 and; recognition as foreign adjunct professor at Karolinska Institute in Stockholm, Sweden, in 1998.

2001

20 | a JOURNEY of discovery

2001

The John Evans Foundation gives \$500,000 to the IHV to go towards AIDS vaccine development and Community Educator, Joseph Jacques, will close to \$1 million to the Institute. Private gift supports patient education. IHV patient newsletter named in his honor.

2001

Two IHV patents awarded this year; one for treatment and prevention of HIV infection by administration of derivatives of hCG (urinary peptides).

MBC's Edmund Tramont named director of NIH's AIDS Division (NIAID).

2002

IHV opens two clinical trials that incorporate basic science findings credited to Drs. Gallo, Robert Redfield, Charles Davis, Alonso Heredia and the Institute and exemplify the IHV's mission to hasten scientific progress from bench to bedside.



DR. JOSEPH L. BRYANT
Director, Animal Models Division

Joseph L. Bryant, DVM, directs the IHV's Animal Models Division and is director of the Animal Core Facility at the University of Maryland Biotechnology Institute. A board certified Laboratory Animal Veterinarian with a background in Comparative Medicine, Dr. Bryant's current research program is an extension of work begun at the National Institutes of Health, where he played a major role in developing a transgenic and gene knockout program.

His research team at the IHV has created the first transgenic rats whose DNA has been manipulated to incorporate genes of HIV-1. The rat model opens new areas of human HIV/AIDS study for scientists; its potential is enhanced by genomic similarities between rats and humans.

Other research efforts focus on the mechanisms of human diseases caused by viruses and on details of virus

replication to develop better therapies and improved or new diagnostics. The current focus of this work is on the continual development of animal models for AIDS and AIDS-associated malignancies, such as Kaposi's sarcoma and B-cell lymphoma, as well as animal models for breast and prostate cancer.

Bryant previously was an Assistant Professor and Director of Laboratory Animal Resources at North Carolina A&T State University, Assistant Professor and Director of Laboratory Animal Care at Tuskegee Institute School of Veterinary Medicine, and was a public health officer and Chief of the Animal Care Program, National Institute of Dental Research, National Institutes of Health. He also served as a Veterinary Medical Officer in the U.S. Army Reserves.



Gallo and Professor Luc Montagnier, co-discoverers of the virus that causes AIDS, announce their partnership in a global research endeavor designed to speed the development of AIDS vaccines. The Program for International Viral Collaboration will be co-directed by the two pioneering scientists, both universally recognized for their contributions to AIDS research.

2002

IHV researchers Tim Fouts and Anthony DeVico report promising vaccine candidate that, in the laboratory, neutralizes multiple strains of HIV. Article appears in *U.S. Proceedings of the National Academy of Sciences (PNAS)*.

Microscience LTD licenses vaccine delivery technology, known as Bactofection. IHV retains right to technology for HIV vaccines.

2002

Institute becomes part of Adult AIDS Clinical Trials Group (AACTG), funded by the National Institute of Allergy and Infectious Diseases, Division of AIDS, to develop new therapies for HIV.

UMBI licenses HIV rat to Harlan.

Epidemiology and Prevention awarded \$4.4 million by CDC to promote global access to antiviral therapy and prevention of mother-to-child transmission.

2002

The JACQUES Initiative, a national pilot program utilizing direct observation therapy, is launched with funding from the Abell Foundation.

2003

