The 8th Conference on Retroviruses and Opportunistic Diseases was held in Chicago, Illinois on February 4-8, 2001. UAB faculty was well represented with Drs. Thomas Berde, Pat Bucy, Feng Gao, Beatrice Hahn, Victoria Johnson, Richard Kaslow, Michael Kilby, Mark Mulligan, Michael Saag, Mario Santiago, George Shaw, Leland Yea and Qin Yu present.

The Conference on Retroviruses and Opportunistic Infections is a research meeting created to provide a forum for basic and clinical science investigators to present, discuss, and critique developments in the field of human retrovirology and related opportunistic complications. As such, the conference does not include sessions focused on clinical updates or patient management guidelines except in the setting in which they may be relevant to the research being presented.

This year's symposia included presentations on Drug Transporters; HIV Vaccine Development; HIV Virion Morphogenesis and Release; Maternal-Fetal Transmission of HIV-1: Implications for Care of HIV-Infected Women and Children; Viral Reservoirs; Update on Epidemiology and Prevention and Advances in Antiretroviral Chemotherapeutics. These talks and the plenary lectures can be heard at www.retroconference.org/2001.

### Featured CFAR Core Facility

**DNA Sequencing and Analysis Core**

**Location:** School of Dentistry Building, Room 803  
**Contact:** Jesus Salazar-Gonzalez, Ph.D.  
Tel: 4-3972; Fax: 4-1580  
**Email:** salazarj@uab.edu

The CFAR Sequence and Analysis Core is comprised of three components:

1. The DNA-Sequencing Facility which operates two ABI sequencers and provides automated sequencing  
   (Drs. Beatrice Hahn 4-0412 & Jesus Salazar 4-3972 as well as Mrs. Maria Salazar 4-1567)
2. The Sequence Analysis and Training Facility which provides sequence analysis programs and instructs investigators in their usage (Dr. Elliot Letkowitz 4-1946)
3. The Affymetrix Sequencing System (Dr. Victoria Johnson 4-4472)

These advanced capabilities serve to accomplish the following:

1. To provide state-of-the-art automated DNA sequencing capabilities to CFAR members and UAB investigators through the availability and maintenance of dedicated Applied Biosystems DNA Sequencers and an Affymetrix GeneChip DNA Sequencing System.
2. To provide technical support and training in cycle (ABI) and GeneChip (Affymetrix) sequencing methodologies.
3. To maintain and update a comprehensive set of nucleic acid and protein sequence analysis programs from the Wisconsin Genomics Computer Group as a resource for the community of UAB scientists.
4. To provide technical support and training in the use of these nucleic acid and protein sequence analysis programs.

The UAB CFAR Sequencing Core has been in operation for the past 12 years and has provided state-of-the-art automated DNA sequencing and computer analysis capabilities for CFAR members and all UAB investigators.

DNA sequencing is supported by Perkin Elmer/ABI Prism 377 and 373A DNA Sequencers, which determine base sequence by analyzing fluorescent dye-labeled nucleotide fragments. Collection of data is obtained at a speed of 200 bases per hour, and up to 600 bases per sample can be read. All bases are detected in a highly sensitive, accurate and reproducible manner in a single reaction in a few hours. High throughput is achieved with a versatile system that discriminates up to 64 lanes per gel with a high success rate. On average, the Core generates 1,000 sequencing reactions or more per month, with an average readable sequence of 500 bp per reaction. Sequencing data are provided to investigators as a hard copy printout and on computer diskette.

The Core is also responsible for providing technical expertise in analysis through the Sequence Analysis and Training Facility which maintains computer hardware and software critical to data analyses. The DNA Sequencing Core service has significantly grown since its inception 12 years ago. In the past three years, the number of users of the Sequencing Core increased from 22 in 1998 to 31 in 1999, and 22 in the year 2000.

### Molecular Biology Core (MBC)

**Location:** Bevill Biomedical Research Building, Room 346  
**Tel:** 4-7755; **Fax:** 4-1580  
**Email:** dmcpherson@uab.edu

The CFAR Molecular Biology Core (MBC) has been in operation at UAB for the past 11 years under the direction of Dr. Casey Morrow.
The key personnel responsible for the day-to-day operation of the Core are David and Sylvia McPherson who came to UAB to establish the MBC after seven years at the Monsanto Company’s Life Sciences Research Center in St. Louis. Over the years, the MBC has provided the UAB research community with a wide range of molecular biology services. The majority of these involve the manipulation and/or modification of recombinant DNA, and the expression and purification of recombinant proteins from E. coli.

Core services range from consulting with researchers on various molecular biology techniques to performing the techniques on a contractual basis.

One of the primary missions of the MBC is the transfer of recombinant DNA technology to other labs throughout UAB. In order to achieve this, students, technicians, medical professionals and investigators spend time in the MBC lab to learn various molecular biology techniques.

One of the most challenging aspects of HIV virology is to translate the effects of mutants into the context of the whole virus. For this to occur, proviral genomes need to be constructed which can be used to assess the effects of mutations in individual genes.

The Core has developed the expertise as well as the necessary molecular biology reagents to facilitate construction of proviral genomes in a rapid and efficient fashion. This involves the manipulation of large genomes, their transformation into E. coli, and purification of subsequent DNA under conditions that minimize deletions that are common when working with large plasmids.

The overall general expertise of the Core in cloning has also provided a major benefit to UAB, by handling difficult cloning procedures that have proved impractical in different laboratories.

The MBC has the capacity to provide various recombinant proteins to investigators in the UAB CFAR. An example of this is the production of tetramers by the MBC. These reagents are essential for immunological analyses of T-cells in both mice and humans. They provide a powerful technology for the analysis of T-cell mediated immune responses in vaccinated and infected individuals. The technology relies on the capability for the expression of recombinant MHC proteins in E. coli.

The Core is available to work with investigators at UAB who require these molecules for human and mouse studies.

The MBC maintains a large collection of vectors and E. coli strains that are available to researchers in the CFAR and UAB. It serves as a localized resource in room 346 of the Bevill Building where investigators can have formal or informal consultations on various aspects of molecular biology and protein expression.

Sylvia and David McPherson may be reached at 4-7755.

Phase II HIV Vaccine Trial Now Enrolling

HVTN 203 is an NIH sponsored phase II clinical trial that will examine the safety and immunogenicity of two experimental HIV vaccines, canarypox ALVAC-HIV (vCP1452) and AIDSVAX B/B gp120 protein given alone or in combination. ALVAC-HIV (vCP1452) stimulates production of cytotoxic T cells (CTLs), which can kill HIV-infected cells, whereas AIDSVAX B/B stimulates production of neutralizing antibodies, which can prevent HIV from infecting cells. Thirty-four HIV-negative, low-risk or high-risk volunteers are needed at the UAB clinic. By giving the two vaccines together, the investigators aim to stimulate both areas of the immune system. Volunteers will be compensated. It is not possible to catch HIV or AIDS from the vaccines in this trial. For more information, or to volunteer, please call Phillip at the UAB Vaccine Research Clinic at 975-2843, or visit website www.uab.edu/avrc.

Up Coming Care Team Network Meetings

Alabama HeartSong Retreat, February 19-22, 2001
Sacred Heart Monastery, Cullman, AL

The CFAR is co-sponsoring the Alabama HeartSong Retreat 2001. This annual spiritual retreat is for people living with HIV, caregivers, and those working in the field of HIV. The retreat is organized by The Care Team Network along with collaborative support from other AIDS organizations. If you would like more information on attending or sponsoring a participant, please call Kelly Ross-Davis at 975-9129 or visit www.careteam.org/show.asp?durki=6315.

Dinner Lecture Series

www.uabcfar.uab.edu/lectures/dinner

Wednesday, February 28, 5:30 PM
Dr. Sam Friedman and Dr. Sherry Deren

Wednesday, March 28, 5:30 p.m.
André DeClercq, M.D., MPH

For more information on the Dinner, Faculty, and Special Lecture series, please contact Rob McDonald at 934-2437 or by e-mail at rwm@uab.edu.

What’s New?

If you have a topic of interest for the Quest newsletter, please contact the Editor, Vicki Byrd at 975-7043 or e-mail at vbyrd@uab.edu.