

# BASIC HISTOCOMPATIBILITY COURSE IN PERSON

Sponsored by  
The American Foundation for Donation & Transplantation



**April 11-13, 2026**  
**Hyatt Centric French Quarter Hotel**  
**New Orleans, LA**

**PURPOSE:** The curriculum is designed to provide the technician/technologist with a well rounded background in basic transplant immunology and related laboratory skills and provides the transplant fellow with basic immunology.

**OBJECTIVES:** By the end of the course, the successful student will:

1. Meet the needs of the beginning HLA technician/technologist by providing pertinent information about HLA testing, methodologies, and information necessary to meet the ASHI Statement of Competency.

**SYLLABUS:** Each student will receive a comprehensive course syllabus containing:

- Lecture summaries
- Lecture outlines
- References and bibliography

**APPLICANT REQUIREMENTS:** Technologist in Histocompatibility Testing, with a minimum (3) months experience in an HLA Laboratory is eligible OR a B.S. in an appropriate biological science or MT(ASCP) or other appropriate registry.

***This course will have a limited number of registrants; early registration is recommended.***

***Call the AFDT Office at 804-323-9890 OR email Arlene Skinner at [skinner@afdt.org](mailto:skinner@afdt.org) with program questions.***

## **ORGANIZING COMMITTEE**

**Michael Gautreaux, PhD, F(ACHI), Course Chairman**

Director, HLA/Immunogenetics Laboratory  
Wake Forest University Health Sciences  
Winston-Salem, NC

**Walter Herczyk, MT(ASCP), CHS(ACHI)**

Director of Laboratory Services  
Gift of Life Michigan  
Ann Arbor, MI

**Kelley Hitchman, MS, PhD, F(ACHI)**

Director, Histocompatibility & Immunogenetics Laboratory  
UT Health/University Transplant Center  
San Antonio, TX

**Robert Liwski, MD, PhD, FRCPC**

Medical Director, HLA Typing Laboratory  
Dalhousie University, Queen Elizabeth II HSC  
Halifax, Nova Scotia, Canada

**Arianne Mankey, CHS(ACHI)**

HLA Clinical Lab Operations Manager  
Stanford Blood Center  
Histocompatibility & Immunogenetics Laboratory  
Palo Alto, CA

## **IMPORTANT DATES AND CONFERENCE REGISTRATION INFORMATION**

- Contact Arlene Skinner with program questions  
804-323-9890  
skinner@afdt.org
- Registration Fee per participant is \$999
- Application made to ACHI for 19 hours  
of instruction and 2.85 CEC
- Online registration accepted only via Credit Card  
(no checks accepted)

**FEES ARE NON-REFUNDABLE**

# BASIC HISTOCOMPATIBILITY COURSE—CURRICULUM 2026

## **BASIC IMMUNOLOGY**

**(J. Gerlach—1 hr)**

Innate immunity mediators  
Adaptive immunity  
Antibody structure, genetics, function  
T cell receptor structure, genetics, function  
MHC structure, polymorphism, inheritance  
Antigen processing and presentation  
T cell maturation, activation, effector functions  
B cell development, activation  
Antibody response—humoral immunity  
Natural killer cell receptors, function

## **MOLECULAR GENETICS**

**(M. Gautreaux —1 hr)**

DNA Structure  
RNA Structure and Function  
Transcription and Translation  
DNA Replication  
MHC Gene Organization

## **TRANSPLANT IMMUNOLOGY**

**(K. Hitchman —1 hr)**

Innate and adaptive mechanisms of rejection  
KIR  
Graft vs. Host Disease (GVHD)  
ABO  
Sensitization  
Preventative and therapeutic immunomodulation  
(induction, maintenance, desensitization)  
Immune memory/anamnestic responses

## **CHA/CHT EXAMINATION REVIEW SESSION**

**(J. Gerlach - 1 hr)**

## **MOLECULAR HLA TYPING**

**(M. Gautreaux 1 hr)**

Facilities  
DNA extraction  
Forward and Reverse SSOP  
Sequence-specific Primers  
Quantitative PCR/Real Time-PCR  
Sanger Sequencing-Based Typing  
Next Generation Sequencing Typing  
QC & Troubleshooting

## **ALLELES, EPITOPES, HAPLOTYPES & DISEASE ASSNS**

**(J. Gerlach —1 hr)**

History of HLA  
Protein and molecular terminology  
CREGS, epitopes, eplets  
Serology typing and crossreactivity  
Polymorphism  
Linkage Disequilibrium, haplotypes  
Naming of HLA antigens/alleles  
Null alleles, G and P groups, NMDP codes  
Disease Associations  
HLA-associated drug hypersensitivity

## **BASIC BIOINFORMATICS**

**(N. Brown—1 hr)**

## **PRE-ANALYTIC, ANALYTIC AND POST-ANALYTIC SYSTEMS**

**(TBD - 1.5 hrs)**

## **BASIC HISTOCOMPATIBILITY COURSE—CURRICULUM 2026, Cont.**

### **SOLID ORGAN TRANSPLANTATION (M. Gautreaux—1 hr)**

History of transplantation  
Kidney transplant overview  
Other abdominal transplantation  
Thoracic transplantation  
Vascularized composite allografts  
Organ allocation/UNOS/OPTN  
Rejection  
Xenotransplantation

### **HEMATOPOIETIC STEM CELL TRANSPLANTATION (R. Liwski—1 hr)**

Autologous HSCT  
Syngeneic HSCT  
Allogeneic HSCT  
HSC Sources  
Donor Selection

### **REGULATORY COMPLIANCE (A. Mankey—.75 hr)**

Laboratory Quality Control  
Laboratory Quality Assessment  
Quality Improvement Plans  
Laboratory Regulations/Compliance  
Laboratory Safety

### **TYPING AND GENOTYPING CHALLENGES, CASES & TROUBLESHOOTING (1 hr)**

### **ANTIBODY TESTING AND CROSSMATCHING CHALLENGES, CASES & TROUBLESHOOTING (1 hr)**

### **FLOW CYTOMETRY & LUMINEX ANTIBODY TESTING (K. Hitchman—1 hr)**

Principles of Flow Cytometry  
Anti-HLA antibodies and transplantation  
Evolution of antibody testing methods  
Common current antibody testing methods  
Sample considerations (serum selection, sample quality,  
timing, interference)  
Analytics and interpretation  
Pre-transplant vs. Post-transplant (DSA) considerations  
Troubleshooting

### **CROSSMATCHING FOR SOLID ORGAN TRANSPLANTATION (R. Liwski—1 hr)**

Complement-Dependent Cytotoxicity  
Flow Cytometric Crossmatching  
Virtual Crossmatch  
Renal vs. Non-Renal Crossmatching

### **BASIC IMMUNOGENETICS (M. Gautreaux—1 hr)**

### **LABORATORY SAFETY AND RISK MANAGEMENT (O'Shields—.75 hr)**

### **LABORATORY ACCREDITATION (A. Mankey—1 hr)**

### **QAPI (O'Shields—1 hr)**