National Cancer Institute

Intramural Divisions
- Division of Cancer Epidemiology and Genetics

Extramural Divisions
- Division of Cancer Treatment and Diagnosis
- Division of Cancer Control and Population Sciences
- Division of Cancer Prevention
- Division of Cancer Biology
- Office of Centers, Training, and Resources
- Center to Reduce Cancer Health Disparities

CCR Is An Integral Part of NCI
Integrate basic, translational, and clinical research to make cancer preventable, curable, or chronically manageable.
To inform and empower the entire cancer research community by making breakthrough discoveries in basic and clinical cancer research and by developing them into novel therapeutic interventions for adults and children afflicted with cancer or infected with HIV.
CCR Seeks to Achieve Its Mission By:

• Performing **rigorous basic scientific research** to discover fundamental mechanisms of biology and cancer

• Translating these advances **rapidly from the laboratory to the clinic**

• Developing **innovative technologies** that enable **more accurate detection, diagnoses, and treatments**

• Pioneering **novel interventions** for **underserved patient populations**

• **Sharing expertise, scientific data and technologies** to broaden the impact of our work and enhance the overall productivity of the cancer research community

• Providing a unique environment to cultivate and **train future physician-scientists and biomedical researchers**
CCR Scientific Presentations to the 148th Meeting of the NCAB

- Dr. Natasha Caplen - Defining the Cancer Genome using RNAi Analysis and Screening
- Dr. Stephan Ambs - Application of Genomic Profiling to Identify Factors that contribute to Cancer Health Disparities
- Dr. Terry Van Dyke - Cancer Models: From Insight to Improved Care
- Dr. Marston Linehan – The Genetic Basis of Kidney Cancer: Opportunity for Targeted Approaches to Therapy
Distinctive Qualities of CCR

- Critical mass of basic and clinical scientists solving complex scientific problems

- Can quickly redeploy resources to address:
  - (a) NCI mission goals-reduce the burden of cancer
  - (b) Urgent public need-response to AIDS epidemic
  - (c) New opportunities-decoding of the human genome

- Access to NIH Clinical Center
### Center for Cancer Research

#### Clinical Branches
- Cellular Oncology
- Cell & Cancer Biology
- Resistance Mechanisms
- Molecular Pharmacology
- Cancer Biology and Genetics
- Cancer Prevention
- Genomic Diversity
- Cell Biology
- Molecular Pharmacology
- Medicinal Chemistry
- Molecular Targets Discovery
- Molecular Cell Biology
- Cell Regulation & Carcinogenesis
- Experimental Carcinogenesis
- Human Carcinogenesis
- Retroviral Replication
- Mammary Biology & Tumorigenesis
- HIV Drug Resistance
- Gene Regulation & Chromosome Biology
- Biochemistry & Molecular Biology

#### Basic Laboratories
- Populations Genetics
- Immune Cell Biology
- Macromolecular Crystallography
- Cancer & Inflammation
- Cell & Developmental Signaling
- Nanobiology
- Basic Research
- Molecular Biology
- Structural Biophysics
- Protein Dynamics & Signaling
- Experimental Immunology
- Comparative Carcinogenesis
- Molecular Immunoregulation
- Cancer & Development Biology
- Mouse Cancer Genetics
- HIV Drug Resistance
- Receptor Biology and Gene Expression
- Cellular Carcinogen & Tumor Prom
- Cellular & Molecular Biology
## Center for Cancer Research: Organization

### Clinical Branches
- Dermatology
- Medical Oncology
- Urologic Oncology
- Experimental Immunology
- Tumor Immunol. & Biology
- HIV & AIDS Malignancy
- Metabolism
- Biostatistics & Data Mgmt

### Basic Laboratories
- Genetics
- Neuro-Oncology
- Pediatric Oncology
- Surgery
- Radiation Oncology
- Radiation Biology
- Pathology
- Molecular Imaging
- Vaccine
CCR Labs and Branches Are Woven Together Around Strategic Priorities

- Understand the Cancer Process from Initiation to Metastasis
- Interrogate the Molecular Genetics of Cancer
- Improve Cancer Prevention, Early Detection, and Diagnostic Approaches
- Develop and Validate Novel Molecularly Targeted Interventions
- Harness the Immune System to Combat Cancer
- Discover and Develop Approaches to Combat HIV/AIDS and AIDS-associated Malignancies
Centers of Excellence serve as Focal Points for Bench to Bedside Translation

- Centers of Excellence serve to support the IRPs dedication to long-term, high-risk, innovative basic, clinical, and epidemiologic research
  - Immunology - Robert Wiltrout, Head
  - Chromosome Biology – Gordon Hager, Head
  - HIV/AIDS and Cancer Virology - Stuart LeGrice, Head
  - Molecular Oncology - Giuseppe Giaccone, Pat Steeg, Head
  - Integrative Biology, Snorri Thorgeirsson, Head

Program/Initiative
- Cancer and Inflammation – Giorgio Trinchieri, Head
Strategies for Programmatic Integration

Translational Infrastructure Is Collaborative

Diagram showing the integration of different components such as Centers of Excellence, Faculties and Working Groups, Emerging Areas, and Training, with layers indicating Basic, Translational, Clinical, and Technology Development.
Research Emphasis Today

- Basic Research (30%)
- Translational and Clinical Research (55%)
- HIV/AIDS Research (15%)
Commercial Successes in Fighting Cancer and HIV

Vaccines and Therapeutics

2-F-AraA - Fludara (April 18, 1991) Berlex
Videx (October 9, 1991) Berlex Lab
Hivid (June 19, 1992) BMS
Paclitaxel (Dec. 29, 1992) BMS
Trimetrexate – Neu Trexin (Dec. 17, 1993)
Zenalax (Dec. 10, 1997) Hoffman La Roche
Kepivance (Dec. 15, 2004) Amgen
Zevalin (Feb. 19, 2002) IDEC Pharma
Gardasil (June 8, 2006) Merck
Prezista (June 23, 2006) Tibotec Pharma

Diagnostics

Serological Detection of Antibodies to HIV-1 (March 1, 1985)
Serologic Detection of Antibodies to HTLV-1 (Nov. 29, 1988)
DNA Probe for Breast Cancer Diagnosis (Dec. 11, 1998)
Multi-replica Blotting Kit for Proteins

Instrumentation/Devices

Laser Capture Microdissection
Jairaj Acharya, MBBS, Ph.D.

Laboratory of Cell and Developmental Signaling

Phospholipid and sphingolipid signaling in Drosophila
Applying high throughput genomics and proteomics to characterize high risk pediatric malignancies, focusing on neuroblastoma.
SV & BSC Recommendations

<table>
<thead>
<tr>
<th>Year</th>
<th>Expansions</th>
<th>Continuations</th>
<th>Retirements</th>
<th>Re-reviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY04</td>
<td>N=56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY05</td>
<td>N=89</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY06</td>
<td>N=76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY07</td>
<td>N=58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY08</td>
<td>N=56</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Expansions: 10, 10, 9, 4, 5
- Continuations: 37, 58, 54, 38, 42
- Retirements: 12
- Re-reviews: 9, 21, 13, 16, 12
FY08 Reallocations of Recovered Funds

- Basic: 45%
- Clinical: 27%
- Translational: 24%
- Meetings, Retreats: 5%

Total: 2.8 Million
Number of CCR PIs: 2000-2009

Projected 12 additional PIs in FY09
Rebuilding the Principal Investigator Community – FY2008

Senior Leadership
- Crystal Mackall, Chief, POB
- J. Carl Oberholtzer, Chief, LP
- Kevin Camphausen, Chief, ROB
- R. Andrew Byrd, Acting Director, Molecular Discovery Program
- Robert Yarchoan, Director for the NCI Office of HIV and AIDS Malignancies
- L. Michelle Bennett, Deputy Director CCR

Newly Hired Tenure Tracks
- Itzhak Avital, SB
- Peter Kalab, LCMB
- Udai Kammula, SB
- Yamini Dalal, LRBGE
- Yinling Hu, LEI
- Jing Huang, LCBG
- Jung-Hyun Park, EIB
- Li Yang, LCBG
- Joseph Ziegelbauer, HAMB
- Ola Landgren, MOB
- Mitchell Ho, LMB
- Brian Lewis, MB
- Chris Buck, LOC
- Deb Citrin, ROB
- King Kwong, SB
Open PI Positions (Nov 2008)

- **Mouse Cancer Genetics Program**: 2 Tenure Track or Tenured Positions
- **Laboratory of Human Carcinogenesis**: Tenure Track
- **Metabolism Branch**: 2 Tenure Track positions
- **Medical Oncology Branch**: Tenure Track in breast cancer
- **Laboratory of Biochemistry and Molecular Biology**: Tenure Track
- **Laboratory of Molecular Biology**: Tenure Track
- **Chronic Inflammation & Cancer**: Tenure Track
- **Neuro Oncology Branch**: Tenure Track
• Stem Cell Program
  - 29 applications received
  - 15 top candidates reviewed by Search Committee
  - 6 top candidates interviewed

• Chemical Biology Laboratory
  Ad has been posted
  Overwhelmingly positive response from 24 well-qualified applicants, interviews are scheduled with 8 top candidates
Center for Cancer Research
Update – Closed Session

Robert H. Wiltrout, Ph.D.
Director

December 9, 2008
NCAB
The NCI intramural clinical program is not a large volume, full-service cancer center.

The NCI intramural clinical program is the largest cancer-focused clinical research center (CRC) in the world, capable of performing patient-intensive clinical research focused on developing new approaches for prevention, diagnosis, and treatment of cancer.

The NCI intramural clinical program is an important component of the nation’s overall cancer program.