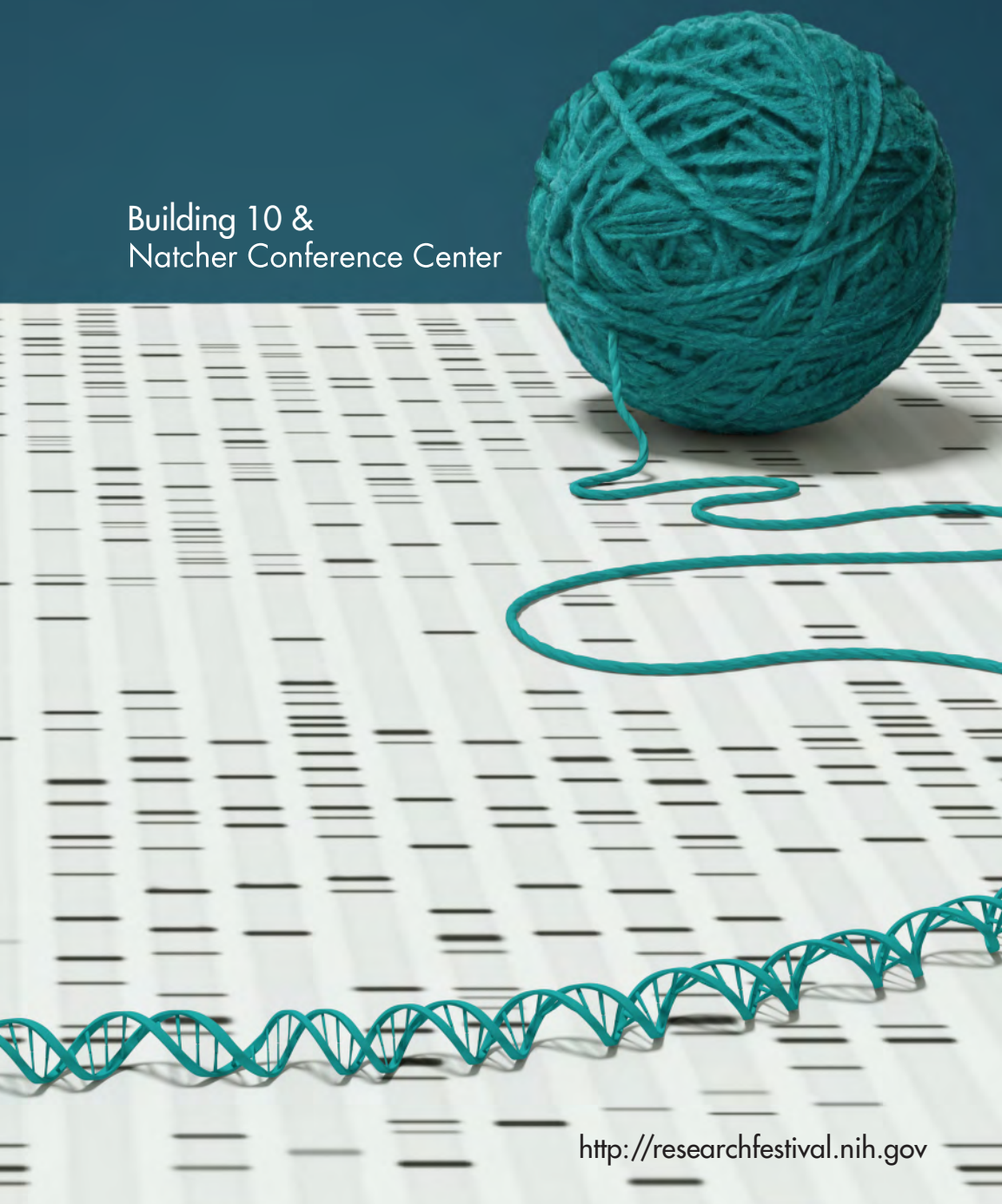
NIH Research Festival

October 5 – 8, 2010

Building 10 &
Natcher Conference Center



http://researchfestival.nih.gov

If you require reasonable accommodations to participate in this activity, please contact researchfest@mail.nih.gov or Christopher Wanjek (OIR/OD) at wanjek@mail.nih.gov, or the Federal Relay Service at 800-877-8339.

List of Abbreviations

CC	NIH Clinical Center
CIT	Center for Information Technology
CSR	Center for Scientific Review
FIC	Fogarty International Center
HHS	U.S. Department of Health and Human Services
NCBI	National Center for Biotechnology Information, National Library of Medicine
NCCAM	National Center for Complementary and Alternative Medicine
NCGC	NIH Chemical Genomics Center
NCI	National Cancer Institute
NCMHD	National Center on Minority Health and Health Disparities
NEI	National Eye Institute
NHGRI	National Human Genome Research Institute
NHLBI	National Heart, Lung, and Blood Institute
NIA	National Institute on Aging
NIAAA	National Institute on Alcohol Abuse and Alcoholism
NIAID	National Institute of Allergy and Infectious Diseases
NIAMS	National Institute of Arthritis and Musculoskeletal and Skin Diseases
NIBIB	National Institute of Biomedical Imaging and Bioengineering
NICHD	National Institute of Child Health and Human Development
NIDA	National Institute on Drug Abuse
NIDCD	National Institute on Deafness and Other Communication Disorders
NIDCR	National Institute of Dental and Craniofacial Research
NIDDK	National Institute of Diabetes and Digestive and Kidney Diseases
NIEHS	National Institute of Environmental Health Sciences
NIGMS	National Institute of General Medical Sciences
NIMH	National Institute of Mental Health
NINDS	National Institute of Neurological Disorders and Stroke
NINR	National Institute of Nursing Research
NLM	National Library of Medicine
OCPL	Office of Communication and Public Liaison
OD	Office of the Director
OITE	Office of Intramural Training and Education
OIR	Office of Intramural Research
ORF	Office of Research Facilities and Development and Operations
ORS	Office of Research Services
ORWH	Office of Research on Women's Health

Tuesday, October 5, 2010: Masur Auditorium, Building 10

9:00 a.m.–9:15 a.m. **Opening Remarks**
Dr. Francis Collins, NIH Director

9:15 a.m.–11:30 a.m. **Opening Plenary Session**
DNA Unwound: The Path from Characterization to Treatment of Rare and Common Genetic-based Disorders

Move To.....Natcher Conference Center, Building 45

12:00 p.m.–2:00 p.m. **Poster Session I**

Biochemistry/Chemistry	Development
Bioinformatics	Pharmacology
Biophysics	Technology
Cancer	

Special Exhibits on Resources for Intramural Research

2:00 p.m.–4:00 p.m. **Concurrent Symposia Session I**

- **Epigenetics, Chromatin, and Gene Regulation**
  Ruth L. Kirschstein Auditorium
- **The Regulatory Arm of the Immune System, a Link Between Autoimmunity and Cancer**
  Conference Room E1/E2
- **Progress in Gene and Cell Therapy in the NIH Intramural Research Program**
  Balcony A
- **Seeing the Invisible: Dissecting the Mechanism of Macromolecules Across the Scales**
  Balcony B
- **DNA Repeat Expansion and Human Disease**
  Balcony C
- **Virus Omics: Genomics, Transcriptomics, and Beyond**
  Conference Room F1/F2
- **Stress, Neuroplasticity, and Addiction**
  Conference Room D

4:15 p.m.–6:00 p.m. **FARE Awards Ceremony and Reception**
Ruth L. Kirschstein Auditorium; Natcher Cafeteria

Wednesday, October 6, 2010: Natcher Conference Center

9:00 a.m.–11:00 a.m. **Concurrent Symposia Session II**

- **Molecular Imaging: Biology, Physics, and Chemistry**
  Ruth L. Kirschstein Auditorium
- **From Metabolic Syndrome to Liver Regeneration and Cancer: Stem Cells**
  Conference Room E1/E2
- **Bittersweet Discoveries: The Glycobiology of Human Disease**
  Balcony A
- **Commensal Bacteria in Health and Disease**
  Balcony B
- **Brain Microcircuits and Behavior**
  Balcony C
- **Drug Repurposing at the NIH**
  Conference Room F1/F2
- **The Ear and Eye: Development and Disease**
  Conference Room D

11:00 a.m.–1:00 p.m. **Poster Session II**

Cell Biology
Clinical Investigation/Cultural/Aging/Disease Prevention
Endocrine
Epidemiology
Epigenetics/Transcription/Chromatin
Genetics/Genomics
Molecular Biology
Oxidative Stress
Proteomics
Research Support Services

Special Exhibits on Resources for Intramural Research

1:00 p.m.–3:00 p.m. **Concurrent Symposia Session III**

- **Non-coding RNA Elements and their Mechanisms of Action in Eukaryotic mRNAs**
  Ruth L. Kirschstein Auditorium
- **Use of Molecular Profiles and Biomarkers in Translational Research**
  Conference Room E1/E2
- **Molecular and Cell Biology of Virus Entry, Egress, and Host Defense**
  Balcony A
- **Getting "Energetic" about Mitochondrial Proteomics**
  Balcony B
- **The Brain and the Construction of Complex Behaviors**
  Balcony C
- **Amyloids and Prions: Biology and Structures**
  Conference Room F1/F2
- **Asthma: From Bench-to-Bedside**
  Conference Room D

3:00 p.m.–5:00 p.m. **Poster Session III**

Imaging
Immunology/Inflammation
Infectious Disease/Host Defense
Neurobiology and Behavior/Sensory Systems
Signaling/Small RNAs/Cytokines
Stem Cells
Structural Biology
Virology/Microbiology

Special Exhibits on Resources for Intramural Research

Thursday, October 7, 2010: Building 10 and Parking Lot 10H

9:30 a.m.–3:30 p.m. **Technical Sales Association Research Festival Exhibit Tent Show**
Parking Lot 10H

NIH Core Poster Session
South Lobby of Building 10 and nearby hallways

Friday, October 8, 2010: Building 10 and Parking Lot 10H

8:30 a.m.–12:30 p.m. **Neurobiology Symposium: A Tribute to Marshall Nirenberg**
Masur Auditorium

9:30 a.m.–2:30 p.m. **Technical Sales Association Research Festival Exhibit Tent Show**
Parking Lot 10H

NIH Core Poster Session
South Lobby of Building 10 and nearby hallways

2:00 p.m.–4:00 p.m. **Memorial Service Honoring the Career of Marshall Nirenberg**
Lipsett Amphitheater

Opening Plenary Session
Building 10, Masur Auditorium

Tuesday, October 5
9:00 AM–11:30 AM

DNA Unwound: The Path from Characterization to Treatment of Rare and Common Genetic-based Disorders
This session is dedicated to the legacy of Marshall Nirenberg.
Co-chairs: Richard Leapman, NIBIB, and Richard Nakamura, NIMH

The legacy of Nobel laureate Marshall Nirenberg is found in the labs of the NIH Intramural Program. The ideology of his pioneering work continues today in areas of research as diverse as the genetics of complex phenotypes and social behavior, the effects of epigenetics on disease development, the discovery of new genetic disorders, and the development of high-throughput technology. These topics will be addressed in the presentations of current NIH intramural scientists and the discussions that follow.

Opening Remarks
Francis Collins, Director of the National Institutes of Health

Welcoming Remarks
Co-chairs

The NIH Undiagnosed Diseases Program: Using Genetics to Discover New Diseases
William Gahl, NHGRI

Translating between Genes, Brain, and Behavior in Williams Syndrome: A Unique Window on Neurogenetic Mechanisms
Karen Berman, NIMH

Genetic Mapping of Complex Traits: The Canine Model
Elaine Ostrander, NHGRI

Unlocking the Genetic Causes of Stuttering: Clues for Treatment
Changsoo Kang, NIDCD
FARE Award Winner

Epigenetic Regulation of T Cell Differentiation
Keji Zhao, NHLBI

Translational Therapeutic Development for Rare and Neglected Diseases
Christopher Austin, NHGRI

BIOCHEM/CHEM: Biochemistry/Chemistry

BIOCHEM/CHEM-1
A Banala,* B Levy, S Khatri, T Michelli, R Leudtke, A Newman (NIDA)
Design and Synthesis of Novel Dopamine D3 Receptor Ligands: Critical Role of the Carboxamide Linker for D3 Selectivity

BIOCHEM/CHEM-2
P Becerra, S Locatelli-Hoops (NEI)
Heparin as Cofactor for PEDF Ligand: Receptor Interactions

BIOCHEM/CHEM-3
N Bojjireddy,* YJ Kim, T Balla (NICHD)
Identification and Characterization of Mammalian EFR3 Proteins as Phosphatidylinositol 4-Kinase Interacting Partners

BIOCHEM/CHEM-4
C Canugovi,* S Maynard, ACV Bayne, P Sykora, NC de Souza-Pinto, DL Croteau, VA Bohr (NIA)
The Mitochondrial Transcription Factor A Functions in Mitochondrial Base Excision Repair

BIOCHEM/CHEM-5
O Duverger,* S Chen, D Lee, T Li, B Chock, M Morasso (NIAMS)
SUMOylation of DLX3 by SUMO1 Promotes its Transcriptional Activity

BIOCHEM/CHEM-6
M Iyer,* J Deschamps, C Dersch, R Rothman, A Jacobson, K Rice (NIDA)
Probes for Narcotic Receptor-mediated Phenomena: Synthesis and Opioid Receptor Affinity of 4-Hydroxyphenylmorphans

BIOCHEM/CHEM-7
K Jacobs, C Ciccione, A Astiz-Martinez, L Vincent, M Lin, T Yardeni, S Kakani, W Gahl, M Huizing (NHGRI)
Evaluation of Oral Feeding of N-acetylmannosamine-related Sugars as Therapeutics for a Knock-in Mouse Model of Hereditary Inclusion Body Myopathy

BIOCHEM/CHEM-8
AK Kimura, HY Kim (NIAAA)
Purification, Reconstitution, and Characterization of Phosphatidylserine Synthase 2 (PSS2): Substrate Preference and Product Inhibition

BIOCHEM/CHEM-9
S Locatelli-Hoops, K Gawrisch, A Yeliseev (NIAAA)
Expression of Recombinant Cannabinoid Receptor CB2 as a Fusion with Halo- and C-terminal Rhodopsin Tags

BIOCHEM/CHEM-10
M Longley, M Humble, F Sharief, W Copeland (NIEHS)
Disease Variants of the Human Mitochondrial DNA Helicase Encoded by C10orf2 Differentially Alter Protein Stability, Nucleotide Hydrolysis, and Helicase Activity

BIOCHEM/CHEM-11
E Makareeva,* S Han, JC Vera, DL Sacket, K Holmbeck, CL Phillips, R Visse, H Nagase, S Leikin (NICHD)
Carcinomas Contain a Matrix Metalloproteinase-resistant Isoform of Type I Collagen Exerting Selective Support to Invasion

*** FARE Award Winner**

BIOCHEM/ CHEM-12 PC McCarthy, R Saksena, DC Peterson, J Vionnet, WF Vann (CBER)
Chemoenzymatic Synthesis of a Sialylated Tetanus Hc Fragment Glycoconjugate

BIOCHEM/ CHEM-13 M Metzger, Y Liang, Z Kostova, S Li, R Das, R Byrd, X Ji, A Weissman (NCI)
Analysis of the Regulation of the Yeast ER-associated Degradation (ERAD) E2, Ubc7p, by the Cue1p Protein

BIOCHEM/ CHEM-14 Y Peng, A Jacobson, K Rice (NIDA)
Probes for Narcotic Receptor-mediated Phenomena: Design and Synthesis of the C8-Substituted 5-(3-Hydroxyphenyl)-N-phenylethylmorphans

BIOCHEM/ CHEM-15 S Purkayastha, R Neumann, T Winters (CC)
The Non-homologous End Joining Pathway is Independent of, and Dominant to, Base Excision Repair during Processing of Complex DNA Double-strand Breaks

BIOCHEM/ CHEM-16 D Saunders, R Adelstein, MA Conti, Y Zhang (NHLBI)
Urine Collection Using the Single Animal Method (SAM)

BIOCHEM/ CHEM-17 G Schieffer, S Jackson, E Lewis, T Egan, A Schultz, A Woods (NIDA)
The Dynamics of Noncovalent Interactions of Quaternary Amines and Membrane Phospholipids as Seen by Ion Mobility Mass Spectrometry

BIOCHEM/ CHEM-18 N Shenoy, G Kramer-Marek, J Capala, GL Griffiths (NHLBI)
Synthesis of 68Ga-Radiolabeled Proteins and Peptides for Positron Emission Tomography

BIOCHEM/ CHEM-19 P Sun,* B Austin, J Tozser, D Waugh (NCI)
Structural Determinants of Tobacco Vein Mottling Virus Protease Substrate Specificity

BIOCHEM/ CHEM-20 V Kumar, S Malhotra (NCI)
Dual Function of Silver N-heterocyclic Carbene Complexes as O-glycosidation Promoters and Potential Anti-proliferative Agents

BIOCHEM/ CHEM-21 SK Thatikonda,* S-Y Zhou, BV Joshi, R Balasubramanian, T Yang, BT Liang, KA Jacobson (NIDDK)
Structure-activity Relationship of (N)-methanocarba Phosphonate Analogues of 5′-AMP as Cardioprotective Agents Acting through a Cardiac P2X Receptor

BIOCHEM/ CHEM-22 E Whitson,* C Thomas, C Henrich, T Sayers, J McMahon, T McKee (NCI)
Searching for Synergistic TRAIL Sensitizers from Three Plants, *Casearia arguta*, *Barleria alluaudii*, and *Diospyros maritima*

BIOCHEM/ CHEM-23 ZM Xiong, J Lee, K Kevala, HY Kim (NIAAA)
Roles of Metabolites from Docosahexaenoic Acid in Hippocampal Neuronal Development and Synaptogenesis

*** FARE Award Winner**

BIOCHEM/ CHEM-24 MJ Young, MJ Longley, F Li, R Kasiviswanathan, L-J Wong, WC Copeland (NIEHS)
Biochemical Analysis of POLG2 Variants Associated with Mitochondrial Disease

BIOINFO: Bioinformatics

BIOINFO-1 E Asaki, K Meyer, Y He, B Young, W Xiao, J Powell (CIT)
mAdb-microArray Database System: Bioinformatics for Managing, Storing, and Analyzing Gene Expression microArray Data

BIOINFO-2 JJ Barb, PJ Munson (CIT)
ExonSVD: A New Model for Exon and Splice Junction Microarrays

BIOINFO-3 X Bian, J Klemm, A Basu, J Hadfield, R Srinivasa, D Kokotov, M Duncan, D Harley, A Ayalew, J Scott, M Tiler, D Swan (NCI)
caArray: An Array Data Management System Supporting Translational Research on the Grid

BIOINFO-4 I Gregoretti, K Brick, F Smagulova, P Khil, G Petukhova, RD Camerini-Otero (NIDDK)
A Genome-wide Map of Double-Strand Break Hotspots in the Mouse Genome

BIOINFO-5 J Caban,* T Yoo (NLM)
An Markov-based Statistical Deformation Model for Morphological Image Analysis

BIOINFO-6 C Cope, D Beloslyudtsev, D Preuss (NLM)
Hosting Large Public Datasets on the Cloud: 1,000 Genomes and Next-Generation Sequencing

BIOINFO-7 S De, E Lehrmann, G Blair, WH Wood, RK Minor, R de Cabo, KG Becker (NIA)
Tissue-specific DNA Methylation Patterns in Aging Mouse

BIOINFO-8 SN Fatakia, S Costanzi, CC Chow (NIDDK)
A Comparative Genomic Study of the Interhelical Cavity G Protein-coupled Receptors—An Insight from Molecular Evolution for Identification of Natural Ligands

BIOINFO-9 V Gopalan, Q Tan, Y Mohamoud, A Stoltzfus, Y Huyen (NIAID)
CDAO and Nexplorer3: An Example of Ontology-driven Application Development

BIOINFO-10 Y Guo, B Cui, S Grewal, H Levin (NICHD)
The Significance of Duplicate Reads in Deep Sequencing of Integration Sites

*** FARE Award Winner**

BIOINFO-11 L Hansen,* L Mariño-Ramírez, N Kim, D Landsman (NLM)
Identification of Biological Features Distinguishing Meiotic Recombination Hot and Cold Spots in Yeast

BIOINFO-12 M Holko, K Ayanbule, C Evangelista, I Kim, P Ledoux, K Marshall, R Muertter, K Phillippy, S Wilhite, P Sherman, A Soboleva, M Tomashevsky, D Troup, A Yefanov, T Barrett (NLM)
Data Analysis Tools for NCBI's GEO Database

BIOINFO-13 N Raghavachari, AD Johnson, CJ O'Donnell, PJ Munson, D Levy (NHLBI)
Comparison of Gene Expression Profiles in Whole Blood, Peripheral Blood Mononuclear Cells, and Lymphoblastoid Cell Lines from the Framingham Heart Study

BIOINFO-14 C Johnson, G Wang, W Lau, K Collie, M Vos, L Krueger (CIT)
An Ensemble Classification System for Research Categorization and Decision Support in Portfolio Analysis

BIOINFO-15 Y Kim,* S Wuchty, T Przytycka (NLM)
Identifying Causal Genes and Dysregulated Pathways in Complex Diseases

BIOINFO-16 WW Lau, K Kho, K Collie, L Krueger, M Vos, CA Johnson (CIT)
An Auxiliary Classifier Providing Evidence to Support Coding of Biomedical Text

BIOINFO-17 W-J Lee, TI Pollin, JR O'Connell, R Agarwala, AA Schäffer (NLM)
PedHunter 2.0 and its Usage to Characterize the Founder Structure of the Old Order Amish of Lancaster County

BIOINFO-18 M Xu, C Weinburg, D Umbach, L Li (NIEHS)
Identifying Binding Sites of Co-regulators in ChIP-seq Data

BIOINFO-19 R Li, R Dale, B Oliver (NIDDK)
Time-Course RNA-Seq and ChIP-Seq Data Reveal Gene Expression Modules Associated with Chromatin Markers in Drosophila

BIOINFO-20 G Margolin, PP Khil, MA Bellani, RD Camerini-Otero (NIDDK)
mRNA Sequencing of Mouse Spermatogenesis Uncovers Novel Meiotic Genes and Isoforms

BIOINFO-21 LR Olano, D Nanavati, AJ Makusky, JA Kowalak, SP Markey (NIMH)
Comparison of Open Source Quantification Tools for Analysis of Large Sets of LC/MS/MS Data

*** FARE Award Winner**

BIOINFO-22 A Basu, J Klemm, M Heiskanen, S Jacob, K Ketchum, J Marple, W Fitzhugh, E Tavela, T Andrews, N Nguyen, M Rehfuss, H Liu, Y Kotliarov, M Flanigan, Q Phung, H Schaefer, J Hadfield, C Nguyen, D Siemaszko, C Piepenbring (NCI)
caIntegrator2: A Web-based Translational Research Tool to Bridge Clinical, Genomic, and Imaging Data

BIOINFO-23 J Skinner, V Gopalan, L Kong, P Kwong, Y Huyen (NIAID)
HDX NAME: A Web Tool for Analysis of Hydrogen Exchange Experiments

BIOINFO-24 V Sridhara, A Marchler-Bauer, SH Bryant, LY Geer (NLM)
A Comparative Proteomics Technique for the Automatic Annotation of Post-translational Modifications on Multiple Genomes with Reduced Error Rate

BIOINFO-25 M Tyagi, RR Thangudu, BA Shoemaker, SH Bryant, T Madej, AR Panchenko (NLM)
Inferring Protein–Protein Interactions Based on Conservation of Interfaces in Structural Homologs

BIOINFO-26 MN Weber, V Gopalan, S Bandaru, K Phillips, J Barnett, M Quinones, D Hurt, J Lumpkin, Y Huyen (NIAID)
HPC Web: Democratizing High Performance Computing at the NIAID

BIOINFO-27 W Xiao, X Liu, R Schmitz, S Jhavar, G Wright, L Young, J Powell, L Staudt (CIT)
Establishing Informatics Tools for RNA-Seq with Next-Generation Sequencing Technology

BIOPHY: Biophysics

BIOPHY-1 A Banerjee,* R Nossal (NICHD)
Mathematical Modeling of Clathrin-mediated Endocytosis

BIOPHY-2 P Brown, P Schuck (NIBIB)
Determining Density of Macromolecules from the Dependence of Sedimentation Rate on Solvent Density

BIOPHY-3 A Jin, S Kotova, K Reiter, P Smith, J Lebowitz, D Hurt, D Narum (NIBIB)
Biological Atomic Force Microscopy and Bioanalysis of Malaria Vaccine Candidates

BIOPHY-4 M Johnson,* G Hummer (NIDDK)
Nonspecific Binding Limits the Number and Interaction Topology of Proteins in a Cell

*** FARE Award Winner**

BIOPHY-5 S Kotova, C Vijayasarathy, EK Dimitriadis, L Ikonomou, H Jaffe, PA Sieving (NIBIB)
Retinoschisin Preferentially Interacts with Phosphatidylserine in the Presence of Calcium Cations

BIOPHY-6 W Lea, D Auld, D Maloney, G Rai, C Austin, J Inglese, A Simeonov (NHGRI)
Evaluation of Fluorescence-based Thermal Shift as a Tool for Small Molecule Characterization

BIOPHY-7 T Ndlebe, I Panyutin, R Neumann (CC)
Effects of Temperature on the Mechanism of Iodine-125 Decay-induced DNA Damage

BIOPHY-8 CM Pfefferkorn, RP McGlinchey, JC Lee (NHLBI)
pH-dependent Amyloid Formation Kinetics and Fibrillar Structures of the Repeat Domain of a Functional Amyloid, Pmel17

BIOPHY-9 S Sarkar,* B Marmer, G Goldberg, K Neuman (NHLBI)
Mechanism of Type I Collagen Degradation Revealed by Single-molecule Tracking of Matrix Metalloprotease MMP1 on Collagen Fiber

BIOPHY-10 B Brooks (NHLBI)
Calcium ATPase Conformational Transition through Self-Guided Langevin Dynamics Simulation

BIOPHY-11 TL Yap, CM Pfefferkorn, JC Lee (NHLBI)
Site-specific Fluorescent Probes of α-Synuclein Fibril Assembly

BIOPHY-12 H Zhao, M Sun, P Schuck (NIBIB)
Studying Rapidly Reversible Protein–Protein Interactions by Sedimentation Velocity Analytical Ultracentrifugation

BIOPHY-13 S Zustiak, R Nossal, D Sackett (NICHD)
Diffusion and Binding of RNase A in Dextran Polymeric Solutions Studied by Fluorescence Correlation Spectroscopy

CANCER: Cancer

CANCER-1 M Aparicio, F Cuttitta, E Zudaire (NCI)
Evaluation of 2D and 3D Culture Systems for Anticancer Drug Discovery

CANCER-2 T Badgett, X Guo, Y Song, C Tolman, S Yeh, P Johansson, J He, J Wei, J Khan (NCI)
Next Generation Sequencing of the Neuroblastoma Transcriptome Identifies Multiple Protein Disrupting Mutations

*** FARE Award Winner**

CANCER-3 YS Bian, ZJ Sun, B Hall, J Du, A Terse, A Molinolo, P Zhang, WJ Chen, KC Flanders, JS Gutkind, L Wakefield, C Van Waes, AB Kulkarni (NIDCD)
Inactivation of TGF-beta Signaling Cooperates with Activation of PTEN/PI3K/Akt Pathway to Promote Spontaneous Head and Neck Squamous Cell Carcinoma

CANCER-4 K Bussard, C Boulanger, G Smith (NCI)
Immortalized, Pre-malignant Epithelial Cell Populations Implanted in the Mouse Mammary Gland Contain Long-lived, Label-retaining Cells that Asymmetrically Divide and Retain Their Template DNA

CANCER-5 C Campbell, Y Zhang, O Ludek, D Farnsworth, J Gildersleeve (NCI)
High-throughput Glycoarray for Monitoring Immune Responses to a Cancer Vaccine

CANCER-6 F Cecchi,* B McNeil, D Pajalunga, D Rabe, D Bottaro (NCI)
Oncogenic Signal Transduction via the Hepatocyte Growth Factor/Met Receptor Kinase Pathway

CANCER-7 J Chen, JS Gutkind, B Zhang (CBER)
Differential Susceptibility of Oral Cancer Cell Lines to Apoptosis Induction via TRAIL Death Receptors

CANCER-8 A Dickherber, C Compton, J Vaught, S Sawyer, N Lockhart, P Tuovinen, K Myers, H Moore, J Rogers, I Fore (NCI)
Planning for caHUB, NCI's Cancer Human Biobank

CANCER-9 C Fang, E Zudaire, F Cuttitta (NCI)
A Three-dimensional Co-culture System for Tailored Cancer Patient Therapy

CANCER-10 T Fujisawa,* H Nakashima, B Joshi, R Puri (CBER)
A Novel Approach of Targeting Human Pancreatic Ductal Adenocarcinoma with a Cytotoxic Drug Gemcitabine and an IL-13 Receptor-directed Immunotoxin

CANCER-11 JP Gillet, S Varma, MM Gottesman (NCI)
Characterization of ABCB5 Transcript Variants Using NextGen Sequencing

CANCER-12 ML Guzman-Hernandez, MK Korzeniowski, T Balla (NICHD)
The Role of Specific Calcium Entry Pathways in Endothelial Cell Migration and Differentiation

CANCER-13 M Hassan, V Chernomordik, R Zielinski, J Capala, A Gandjbakhche (NICHD)
Quantitative Analysis of HER2 Receptors Expression In Vivo by NIR Optical Imaging

*** FARE Award Winner**

CANCER-14 DS Hirsch, Y Shen, M Dokmanovic, WJ Wu (CBER)
pp60c-Src Phosphorylates and Activates Vacuolar Protein Sorting 34 (VPS34) to Mediate Activation of S6 Kinase 1 and Cellular Transformation

CANCER-15 CP Hsiao, A Kaushal, D McNally, D Wang, XM Wang, LN Saligan (NINR)
Relationship between Mitochondrial Dysfunction and Fatigue in Cancer Patients Receiving External Beam Radiation Therapy

CANCER-16 RS Hudson,* Y Ming, D Esposito, RM Stephens, CM Croce, S Ambs (NCI)
Tumor Suppressor Role of microRNA-1 in Prostate Cancer

CANCER-17 LM Panicker, JH Zhang, PK Dagur, WF Simonds (NIDDK)
L95P Missense Mutated Parafibromin Tumor Suppressor Protein is Defective in Nucleolar Localization Causing HPT-JT Syndrome

CANCER-18 M Jain, M He, L Zhang, E Kebebew (NCI)
KIAA0101 Expression is Upregulated and is Associated with Increased Copy Number in Adrenocortical Carcinoma

CANCER-19 B Kuppusamy,* J-M Wang, S Sharan, M Anver, R Leighty, E Sterneck (NCI)
The Tumor Suppressor CCAAT/Enhancer Binding Protein delta (C/EBPδ) Inhibits FBXW7 Expression and Promotes Mammary Tumor Metastasis: An Apparent Paradox

CANCER-20 K Leelahavanichkul,* AA Molinolo, J Basile, JS Gutkind (NIDCR)
Activation of a Novel p38 MAPK Network in Head and Neck Cancer

CANCER-21 M Weng, J Luo (NCI)
Deconstructing Cancer with RNAi

CANCER-22 JC Marshall, J Nakayama, J Collins, D Liewehr, S Steinberg, F Vidal-Vanaclocha, M Barbier, M Murone, P Steeg (NCI)
An LPA1/EDG2 Inhibitor with Properties of a Metastasis Suppressor

CANCER-23 T Masaki, JJ DiGiovanna, Y Wang, SG Khan, T Hornyak, M Raffeld, CR Lee, KH Kraemer (NCI)
Gene Analysis of Pre-malignant Pigmented Lesions in Xeroderma Pigmentosum

CANCER-24 N McNeil, H Padilla-Nash, Q Nguyen, T Ried (NCI)
Genomic Characterization of Spontaneously Transformed Murine Colon Cells as a Model System for Human Colon Cancer

CANCER-25 M Devine, K Meaburn, P Gudla, K Nandy, L True, S Lockett, T Misteli (NCI)
Tissue Specificity of Diagnostic Spatial Genome Positioning Biomarkers

CANCER-26 S Motegi,* M Lu, M Heneghan, C Wu, T Chavakis, MC Udey (NCI)
Pericyte-derived MFG-E8 Regulates Pathologic

*** FARE Award Winner**

CANCER-27 A Moustakas,* F Iwamoto, T Kreisl, J Sul, L Kim, J Butman, P Albert, H Fine (NCI)
Phase II Trial of Enzastaurin (ENZ) with Bevacizumab (BV) in Adults with Recurrent Glioblastoma (GBM)

CANCER-28 V Nagarajan, S Varma, D Hurt, Y Huyen (NIAID)
Prediction of Proteins That Are Functionally Related to RB1 Using Human Microarray Meta-Miner

CANCER-29 R Novak,* D Caudell, D Harper, R Pierce, C Slape, L Wolff, P Aplan (NCI)
Identification of Collaborating Pathways in Leukemic Transformation using the CALM-AF10 Mouse Model of AML

CANCER-30 S Nyante,* K Flanders, M Garcia-Closas, K Jacobs, W Anderson, X Yang, M Duggan, R Pfeiffer, A Ooshim, R Cornelison, G Gierach, L Brinton, J Lissowska, B Peplonska, S Chanock, L Wakefield, M Sherman, J Figueroa (NCI)
TGF-beta Pathway SNP Association with TGF-beta Receptor 2 Expression and Breast Cancer Risk

CANCER-32 L Ou,* K Gehlhaus, J Patel, J Chen, P Goldsmith, B Mock, N Caplen (NCI)
A High-throughput RNAi Sensitization Screen of Rapamycin Identifies Targets for Rational Drug Combination Strategies

CANCER-33 EE Patterson, AK Holloway, J Weng, T Fojo, E Kebebew (NCI)
Genome-wide Micro-RNA Profiling of Adrenocortical Tumors Identifies MIR-483-5P as a Marker of Malignancy

CANCER-34 RJ Person, EJ Tokar, MP Waalkes (NCI)
Effects of Cadmium on Human Peripheral Lung Cells

CANCER-35 DC Rabe, T McKee, GM McKee, JR Vasselli, J McMahon, WM Linehan, DP Bottaro (NCI)
Identification and Characterization of Natural Product-based Inhibitors of Hypoxia Inducible Factor-2 Alpha

CANCER-36 LA Rivera Rosado, J Rodriguez-Canales, B Zhang (CBER)
Expression of D4-GDI, a Key Regulator of Rho GTPases, in Breast Cancer: Its Prognostic Significance and Relationship with Estrogen Receptor-negative Tumors

CANCER-37 T Roy Sarkar,* J Wang, S Sharan, S Pawar, E Sterneck (NCI)
The Src Tyrosine Kinase Downregulates C/EBP Delta (CEBPD) Protein Expression via the SIAH2 E3 Ubiquitin Ligase to Maintain Motility of Breast Tumor Cells

CANCER-38 C Schairer, L Brown, P Mai (NCI)
Inflammatory Breast Cancer: High Risk of Contralateral Breast Cancer Compared to Other Breast Cancers

*** FARE Award Winner**

CANCER-39 H Si, H Lu, XP Yang, J Burnett, S Davis, HW Sun, WM Xiao, L Wei, P Meltzer, C VanWaes, Z Chen (NIDCD)
TNF-alpha Promotes Genome-wide Replacement of TAp73 Chromatin Occupancy by cRel and DeltaNp63

CANCER-40 R Singh, Y Zhang, I Pastan, RJ Kreitman (NCI)
Preclinical Development of Anti-CD25 Recombinant Immunotoxin LMB-2 in Combination with Chemotherapy for the Treatment of Adult T-cell Leukemia

CANCER-41 C Tomlinson, C Bennett, M Hollingshead, A Michalowski, J Green (NCI)
Pre-clinical Mouse Modeling of Human Basal-type Breast Cancer: Identification of Novel Targeted Therapies

CANCER-42 P Tsuji,* B Carlson, M-H Yoo, X-M Xu, S Naranjo-Suarez, D Fomenko, D Hatfield, V Gladyshev, C Davis (NCI)
Selenoprotein 15-knockout Mice are Protected Against Chemically Induced Colon Cancer

CANCER-43 ME Urick,* EJ Chung, W Shield III, N Kurshan, A Sowers, A Thetford, J Mitchell, D Citrin (NCI)
5-Fluorouracil-induced Radiosensitization is Augmented by Selumetinib (AZD6244 [ARRY-142886])

CANCER-44 J Van Schaick, K Akagi, S Burkett, C DiFabio, R Tuskan, J Walrath, K Reilly (NCI)
Identifying Modifier Genes of MPNSTs in the Nf1;p53cis Mouse Model of Neurofibromatosis Type 1

CANCER-45 Y Xiong, J Weng, A Holloway, X Wu, L Su, L Zhang, E Kebebew (NCI)
miR-886-3p is Dysregulated in Familial Non-medullary Thyroid Cancer and Regulates Cellular Proliferation and Cell Cycle Progression

CANCER-46 Y Xu, E Tokar, M Waalkes (NIEHS)
Malignant Epithelia Transformed by Arsenic Drives Nearby Normal Stem Cells Towards a Malignant Phenotype

CANCER-47 BX Yan* (NIA)
MSMB and PRSS8, Upstream Regulators of the Caspase: Possible New Targets for the Reversal of Chemoresistance in Ovarian Cancer Drug Resistance

CANCER-48 M Welsh, Y Yang, D Weinberg, L Wakefield (NCI)
Therapeutic Effects of TGF-beta Antagonism in Murine Metastatic Breast Cancer Models

CANCER-49 Y-W Zhang, M Regairaz, J Seiler, K Agama, J Doroshow, Y Pommier (NCI)
XPF/ERCC1-dependent Response to Transcription-linked Topoisomerase I-induced DNA Damage during PARP Inhibition

*** FARE Award Winner**

CANCER-50 L Zhang, R Rahbari, M He, X Wu, L Su, E Kebebew (NCI)
CDC23 is a Positive Regulator of Cell Cycle and Proliferation in Thyroid Cancer Cells, is Overexpressed in Thyroid Cancer and Differentially Expressed by Gender

CANCER-51 A Vassall, R Mazor, I Pastan (NCI)
Identifying and Removing T Cell Epitopes to Reduce the Immunogenicity of Recombinant Immunotoxins

DEV: Development

DEV-1 SM Ahmad, T Tansey, AM Michelson (NHLBI)
A Forkhead Transcription Factor Mediates Both Symmetric and Asymmetric Cell Division During Drosophila Cardiogenesis

DEV-2 T Beres, L Santiago, A Sethi, Z Wei, L Tabak, L Angerer (NIDDK)
Mucin-type O-glycosylation in Sea Urchin Development: A ppGaNAcT Required for Endomesoderm-derived Tissues

DEV-3 RB Chalamalasetty,* WC Dunty, Jr, KK Biris, A Beisaw, L Feigenbaum, JK Yoon, M Kyba, TP Yamaguchi (NCI)
Comprehensive Genomic Analysis of Wnt/beta-catenin Target Gene Msgn1, During Mammalian Segmentation

DEV-4 S Rao, A Chitnis (NICHD)
A Mechanical Model of pLLp Migration

DEV-5 LA Earl, KG Ten Hagen (NIDCR)
Protein O-glycosylation Affects Wing Morphogenesis in *Drosophila Melanogaster*

DEV-6 Y Guan, SA Anderson, MF Starost, DJ Despres, TA Fritz, LA Tabak (NIDDK)
Normal Heart Development in Mice is Dependent on Mucin-type O-linked Glycosylation

DEV-7 C Haddox, S Knox, M Hoffman (NIDCR)
Parasympathetic Nerves and Organogenesis: Neurturin and VIP Modulate Neuronal-epithelial Crosstalk during Salivary Gland Development

DEV-8 WL Li, H Zang, K Soneji, Y Mukoyama (NHLBI)
Peripheral Nerve-derived Chemokine Controls Nerve–Artery Alignment in the Developing Limb Skin

DEV-9 RS Lin, B Baibakov, L Gauthier, M Jimenez-Movilla, D Jurrien (NIDDK)
Live Imaging of Early Ovary Folliculogenesis—Implications for the Mechanism of the Oocyte Reduction during Primordial Follicle Formation in Newborn Mice

*** FARE Award Winner**

DEV-10 J Okano, U Lichti, G Zhang, S Yuspa, Y Sakai, M Morasso (NIAMS)
Increased Endogenous Cutaneous Retinoic Acid Impairs Fetal Skin Barrier Formation and Hair Follicle Development

DEV-11 T Okano, MW Kelley (NIDCD)
IGF Signaling is Required for Formation of Sensory Epithelium During the Development of the Mouse Cochlea

DEV-12 I Onitsuka, J Nam, J Hatch, Y Uchida, Y Mukoyama (NHLBI)
Coronary Smooth Muscle Cells Guide Sympathetic Axon Growth in Developing Heart

DEV-13 E Tian, K Ten Hagen (NIDCR)
Loss of an O-glycosyltransferase Alters Apical and Luminal Composition and Secretory Apparatus Structure in Drosophila

DEV-14 D Tran, K Ten Hagen (NIDCR)
An O-glycosyltransferase is Required for Proper Gut Development in Drosophila

DEV-15 B Wade, M Stockman, F Lalonde, R Lenroot, M Gilliam, J Giedd (NIMH)
Methodological Study of Cross-Sectional versus Volumetric Measurements of the Corpus Callosum in Individuals with Sex Chromosome Variations

DEV-16 Z Wei, R Angerer, L Angerer (NIDCR)
De Novo Neurogenesis in Endoderm

DEV-17 L Zhang,* K Ten Hagen (NIDCR)
Mucin-type O-glycosylation is Required for Digestive System Formation and Function in Drosophila

DEV-18 X Zhu, A Aboukhalil, BW Busser, SM Ahmad, L Shokri, TR Tansey, A Haimovich, SS Gisselbrecht, ML Bulyk, AM Michelson (NHLBI)
Forkhead-dependent Mesodermal Gene Regulation in Drosophila

PHARM: Pharmacology

PHARM-1 M Allen, S Neumann, M Gershengorn (NIDDK)
Small Molecule Agonist Activates Misfolded TSH Receptors and Corrects Their Trafficking by Pharmacoperone Action

PHARM-2 CA Furman, R Roof, RB Free, DR Sibley (NINDS)
Identification of Novel Allosteric Modulators of the D3 Dopamine Receptor

PHARM-3 C Johnson,* A Patterson, K Krausz, J Idle, F Gonzalez (NCI)
Identification of Novel Human Vitamin E Metabolites Using Metabolomics

*** FARE Award Winner**

PHARM-4 TM Keck, P Zhang, MF Zou, AH Newman (NIDA)
Novel mGluR5 Negative Allosteric Modulators for In Vivo Investigation

PHARM-5 M Kecskes, TS Kumar, L Yoo, ZG Gao, KA Jacobson (NIDDK)
Novel Alexa Fluor-488 Labeled Antagonist of the A(2A) Adenosine Receptor: Application to a Fluorescence Polarization-based Receptor Binding Assay

PHARM-6 K Maddali,* X Zhao, M Metifiot, C Marchand, T Burke, Y Pommier (NCI)
Phthalimide Derivatives that Target Raltegravir-resitant HIV-1 Integrase: A Novel Approach against HIV/AIDS

PHARM-7 M Metifiot, K Maddali, A Naumova, X Zhang, C Marchand, Y Pommier (NCI)
HIV-1 Integrase Resistance to Raltegravir and Implications for Second Generation Inhibitors

PHARM-8 A Poon, M Olnes, J Groopman, N Young, E Sloand (NHLBI)
The Development of Targeted Therapy for Patients With Monosomy 7 Using Jak2 Inhibitors

PHARM-9 VA Ramchandani, ME Cooke, V Vatsalya, JE Issa, M Zametkin, US Zimmermann, S O'Connor, DW Hommer, M Heilig (NIAAA)
Recent Drinking History Predicts Intravenous (IV) Alcohol Self-administration in Social Drinkers

PHARM-10 I Ruiz de Azua,* M Scarselli, E Rosemond, W Jou, O Gavrilova, PJ Ebert, P Levitt, J Wess (NIDDK)
RGS4 is a Potent Negative Regulator of Insulin Release from Pancreatic ß-cells: Potential Therapeutic Implications

PHARM-11 R Song, X-Q Peng, X Li, Z-X Xi, E Gardner (NIDA)
YQA14: A Novel Dopamine D3 Receptor Antagonist that Inhibits Cocaine Self-administration in Rats and Wild-type Mice, but Not in D3-Knockout Mice

PHARM-12 M Sutherland, B Salmeron, H Gu, Y Yang, T Ross, E Stein (NIDA)
Varenicline and Nicotine Reduce Amygdala Reactivity and Amygdala–Insula Functional Connectivity in Acutely Abstinent Smokers

PHARM-13 A Szabo, DK Tosh, Z-G Gao, KA Jacobson (NIDDK)
Systematic Study of Adenosine Receptor Interactions of Multivalent Dendrimeric Antagonists

PHARM-14 N Thirunarayanan, S Neumann, J-K Jiang, BM Raaka, E Eliseeva, CJ Thomas, MC Gershengorn (NIDDK)
A Small Molecule Antagonist for the Human Thyrotropin-releasing Hormone Receptor

*** FARE Award Winner**

PHARM-15 J Tuo, J Pang, X Cao, D Shen, J Zhang, A Scaria, S Wadsworth, P Pechan, W Hauswirth, C Chan (NEI)
AAV-mediated sFLT-1 Gene Therapy Ameliorates Retinal Lesions in Ccl2/Cx3cr1-deficient Mice

TECH: Technology

TECH-1 D-Y Chen, J Hufton, C Raugh, J Paragas, P Jahrling (NIAID)
Evaluation of Magnetic Resonance Imaging (MRI) Loop Coils Specifically Designed for Use in Biosafety Level Four (BSL4) Environment

TECH-2 YL Feng, C Haugen, E Wawrousek (NEI)
Zona Stripping vs. Zona Drilling

TECH-3 L Jiang, C Artieri, Y Zhang, N Mattiuzzo, D Sturgill, R Li, J Malone, ML Salit, B Oliver (NIDDK)
Evaluating Performance for RNA-seq with External Control RNAs

TECH-4 K Chang, J Liu, J Yao, R Summers (CC)
Improved Method for Predicting Polyp Location from CT Colongraphy for Optical Colonoscopy

TECH-5 S Tang, J Zhao, B Du, I Hewlett (CBER)
Development of Nanoparticle-based Assays for Ultrasensitive Detection of Protein Biomarkers and Nucleic Acids

TECH-6 S Walker, U Choi, H Malech (NIAID)
Very Efficient Transplantation of Human Hematopoietic Stem Cells in NOD-SCID Mouse using Intrafemoral Injection Method

TECH-7 Y Zhao (CC)
Vessel Enhancement

Ruth L. Kirschstein Auditorium

Epigenetics, Chromatin, and Gene Regulation

Co-chairs: Raja Jothi, NIEHS, and Elissa Lei, NIDDK

Chromatin structure, which is highly complex and remarkably dynamic, regulates gene expression by controlling access to the underlying DNA. Large multiprotein complexes such as chromatin remodelers and Polycomb group proteins alter chromatin to modulate the activity of the transcriptional machinery. Recent findings have revealed that DNA methylation, histone modifications, and chromatin remodeling have important roles in stem cell differentiation and early embryonic development. This symposium will feature speakers discussing how chromatin structure and epigenetic marks regulate gene expression programs during development and differentiation.

Program

Epigenetics of a Human Immune Response
Paul Wade, NIEHS

Epigenetics of Skeletal Myogenesis
Vittorio Sartorelli, NIAMS

Recruitment of Polycomb Group Proteins in Drosophila
Judith Kassis, NICHD

esBAF Conditions the Pluripotent Genome for LIF/STAT3 Signaling by Opposing Polycomb
Raja Jothi, NIEHS

Tissue-specific Access to Regulatory Elements in Chromatin
Gordon Hager, NCI

Conference Room E1/E2

The Regulatory Arm of the Immune System, a Link Between Autoimmunity and Cancer

Chair: Arya Biragyn, NIA

The regulatory arm of the immune system not only plays an important role in protection from autoimmune diseases, but also is actively utilized by cancer cells to escape from immune surveillance and to promote metastasis. Although regulatory T cells (Tregs) have acquired the status of being the major regulatory cell subset, new findings indicate the existence of an intricate system of regulatory cells that includes myeloid-derived suppressive cells, B cells, NKT, etc. Despite this, very little is known about their function and relationship with other immune cells, and the influx of new data and an artificial separation of the two fields of research hamper our understanding of the biology and nature of these cells. Because findings in either of the fields can be applied to the other one, the main focus of the symposium is to bring together researchers in autoimmune diseases and cancer research, to initiate interaction and exchange of ideas on regulatory cells to facilitate development of immunotherapeutics to combat both groups of diseases.

Program

Visualizing ADCC during Monoclonal Antibody Therapy for Chronic Lymphocytic Leukemia: Antigen Modulation and Exhaustion of Effector Cells
Berengere Vire, NHLBI
FARE Award Winner

Microbial Control of Gut Homeostasis
Yasmine Belkaid, NIAID

Regulation of Tumor Immunity by NKT Cells
Masaki Terabe, NCI

A Unique Mechanism of Self-reactive Regulatory T Cell Expansion
George Punkosdy, NIAID

Tumor-evoked Regulatory B Cells and their Role in Cancer Metastasis
Purevdorj B. Olkhanud, NIA and Arya Biragyn, NIA

The Living Eye Converts T Cells to T-regs, Utilizing the Vision-related Molecule, Retinoic Acid
Reiko Horai, NEI, and Rachel Caspi, NEI

Immune Suppression in the Tumor Microenvironment
Andy Hurwitz, NCI

Concurrent Symposia Session I
Natcher Conference Center

Tuesday, October 5
2:00 PM–4:00 PM

Balcony A

Progress in Gene and Cell Therapy in the NIH Intramural Research Program
Co-chairs: David Bodine, NHGRI, and Stephen Kaler, NICHD

Stimulated by recent advances, interest in gene therapy and gene-based cell therapies for human disease is surging. This symposium will include preclinical and clinical research by NIH intramural investigators engaged in these approaches, including gamma-retroviral, lentiviral, and adeno-associated viral gene delivery for hematopoietic, immunodeficiency, neurometabolic disorders, and salivary gland disorders.

Program

Treating Sjögren's Syndrome by Gene Therapy-mediated Exon Skipping against BAFF
Nienke Roescher, NIDCR
FARE Award Winner

Session Overview: Future Prospects for Human Gene Therapy
David Bodine, NHGRI

Pre-clinical and Clinical Results of Gene Therapy for Inherited Immunodeficiencies
Fabio Candotti, NHGRI

Hematopoietic Stem Cell-based Therapies for the Hemoglobinopathies
John Tisdale, NIDDK

Gene Therapy for Type Ia Glycogen Storage Disease
Janice Chou, NICHD

Gene Therapy for Methylmalonic Acidemia
Charles Venditti, NHGRI

Gene Therapy for ATP7A-related Copper Transport
Stephen Kaler, NICHD

Balcony B

Seeing the Invisible: Dissecting the Mechanism of Macromolecules Across the Scales

Co-chairs: Antonina Roll-Mecak, NINDS and NHLBI; Hari Shroff, NIBIB; and Kenton Swartz, NINDS

Almost all the biomolecules in human cells function as parts of larger molecular machines. They perform many essential functions, including synthesis, transport, building, and dismantling of macromolecules in the cell. Learning how these machines normally operate at the single molecule level as well as in the complex environment of the cell and how mutations or chemicals cause them to malfunction is key to understanding disease. This symposium will highlight recent advances made by scientists in the intramural program towards understanding the mechanistic underpinning of macromolecular complexes that participate
in essential cellular processes.

Program

Energetics of Allosteric Ion Binding to a Ligand-gated Ion Channel
Charu Chaudhry, NICHD
FARE Award Winner

A Proteolytic Motor: Biased Diffusion of Matrix Metalloprotease MMP1 Degrading Collagen
Keir Neuman, NHLBI

The Veiled Dance: Detecting Essential Conformational Changes in Transporter Proteins
Joseph Mindell, NINDS

Looking under the Hood of Cytoskeletal Machines
Antonina Roll-Mecak, NINDS and NHLBI

Three Dimensional Photoactivated Localization Microscopy
Hari Shroff, NIBIB

Protein Sorting in Micron-sized Cells
Kumaran Ramamurthi, NCI

Balcony C

DNA Repeat Expansion and Human Disease

Co-chairs: Daman Kumari, NIDDK, and Karen Usdin, NIDDK

The Repeat Expansion Disorders are a group of human genetic diseases that arise from the intergenerational increase in the number of repeats at a single microsatellite locus. The mechanism responsible for the expansion is unknown but is thought to be quite different from the general microsatellite instability that is seen in cancers caused by mutations in mismatch repair genes. The consequences of expansion depend in part on the sequence of the repeat, the location of the repeat in the affected gene and the normal function of that gene and include repeat-mediated heterochromatinization as well as RNA and protein toxicity. The Fragile X-related disorders, Friedreich ataxia, and Kennedy Disease represent examples of these different mechanisms of disease pathology. This symposium will focus on the causes and consequences of repeat expansion in these disorders as well as prospects for their treatment.

Program

Exercise is Detrimental in a Mouse Model of Huntington's Disease
Michelle Potter, NIA
FARE Award Winner

Repeat Expansion and Its Role in Fragile X-associated Neurodegeneration and Ovarian Dysfunction
Karen Usdin, NIDDK

Fragile X Syndrome: A Disease of Dysregulated Protein Synthesis
Carolyn Beebe Smith, NIMH

Repeat-mediated Gene Silencing in Fragile X Syndrome
Daman Kumari, NIDDK

Expansion of a Trinucleotide Repeat in the First Intron of Frataxin, the Disease Gene for Friedreich Ataxia, and Effects on Expression
Tracey Rouault, NICHD

Therapeutics Development for Friedreich Ataxia and Kennedy Disease
Carlo Rinaldi, NINDS

Conference Room F1/F2

Virus Omics: Genomics, Transcriptomics, and Beyond

Co-chairs: Kim Y. Green, NIAID, and Bernard Moss, NIAID

Stunning advances in technology have led to the rapid accumulation of massive data sets that must be mined for biological relevance. Medical virology is no exception. This session will focus on how "omics" approaches are yielding new insight into the replication, pathogenesis, and evolution of viruses. The technical and analytical challenges associated with this research as well as prospects for taking virology from "bench to bedside" will be highlighted.

Program

Evidence for Sequence-specific Evolution of HIV RNA by Cellular miRNA-based Selection
Laurent Houzet, NIAID
FARE Award Winner

Evolution of Viruses and Cells in Light of Genomics
Eugene Koonin, NCBI

Influence of Evolutionary Dynamics of Influenza A Viruses in Different Hosts
Jeffery Taubenberger, NIAID

Evolutionary Dynamics of Hepatitis C Virus and Clinical Outcome
Patrizia Farci, NIAID

Simultaneous High-resolution Analysis of Poxvirus and Host Cell Transcriptomes by Deep RNA-Sequencing
Zhilong Yang, NIAID

Diversity of Human Rotaviruses Revealed Through Large-scale Sequencing
Sarah McDonald, NIAID

Characterization of HIV-1 Sequence Diversity and Viral Persistence Using Single Molecule Sequencing Technologies
Mary Kearney, NCI

Conference Room D

Stress, Neuroplasticity, and Addiction

Chair: Roy Wise, NIDA

Stress can reinstate drug-seeking in previously addicted rats. Behavioral studies implicate the stress-associated neurohormone corticotrophin-releasing factor (CRF). One site where CRF appears to act is the ventral tegmental area, origin of the mesocorticolimbic dopamine system that is linked to the rewarding effects of most drugs of abuse. The effects of CRF in this area are altered by experience with stress or addictive drugs. Ongoing NIH studies are beginning to identify the elements of the mechanism by which stress gains control over reward circuitry in this brain region.

Program

Marijuana Use and Testicular Germ Cell Tumors
Britton Trabert, NCI
FARE Award Winner

Plasticity of the CRH System: A Mechanism that Links Stress and Motivation to Consume Alcohol
Markus Heilig, NIAA

Cocaine Experience Enables Control of the Dopamine System by Stress
Roy Wise, NIDA

Anatomical Basis of CRF-dopamine Interaction
Marisela Morales, NIDA

Cellular Mechanisms Underlying the Effect of CRF in Dopamine Neurons
Antonello Bonci, NIDA

2011 FARE Program and Award Ceremony
Natcher Conference Center

Tuesday, October 5
4:15 PM–6:00 PM

Ruth L. Kirschstein Auditorium and Natcher Cafeteria

The Fellows Award for Research Excellence (FARE) Program is in its 14th year of providing recognition for the outstanding scientific research performed by intramural fellows with fewer than five years of total research experience at the NIH. Sponsored by the NIH Fellows Committee (FelCom), NIH Institutes and Centers, the Office of Intramural Training and Education, and the Office of Research on Women's Health, this annual competition selects the top 25 percent of abstracts from 56 different study sections to receive a $1,000 travel award. Winners use the travel award to present their research at a scientific meeting during the subsequent fiscal year.

The FARE competition attracted more than 1,000 applicants, representing nearly a third of all eligible graduate students, postdocs, and clinical fellows throughout the institutes and centers of the NIH. All submitted abstracts underwent anonymous peer review and were scored by a panel of judges from each applicant's chosen study section. This year, 259 winners were selected to receive travel awards. FARE competition winners will present posters (marked by a blue ribbon) on their research during the NIH Research Festival. The FARE Subcommittee of FelCom thanks all participants and congratulates the winners of FARE 2011.

We encourage all eligible intramural postdoctoral and clinical fellows to apply to the next FARE competition in Spring 2011. For more information, please visit http://felcom/od.nih.gov.

Ruth L. Kirschstein Auditorium

Molecular Imaging: Biology, Physics, and Chemistry
Chair: Xiaoyuan Chen, NIBIB

This session will cover topics in molecular and cellular biology to identify targets of interest, medical physics to develop high resolution/high sensitivity molecular imaging devices and corresponding software algorithms, and chemistry in a broad sense to design molecular probes that recognize molecular targets in vitro, ex vivo, and in vivo.

Program

P-glycoprotein Function at the Blood–Brain Barrier in Humans Can Be Quantified with the Substrate Radiotracer 11C-N-desmethyl-loperamide
William Kreisl, NIMH
FARE Award Winner

Will Molecular Imaging Outdate the Traditional Detection Methods?
Gang Niu, CC

Cardiovascular Molecular Imaging
David Bluemke, NIBIB, CC

Cellular Magnetic Resonance Imaging: How Will it Translate to the Clinic?
Joseph Frank, CC

Molecular Imaging of Cancer
Peter Choyke, NCI

Chemistry of Molecular Imaging Probe Development
Gary Griffiths, NHLBI

Molecular Imaging Career Perspective
Barbara Croft, NCI

Conference Room E1/E2

From Metabolic Syndrome to Liver Regeneration and Cancer: Stem Cells

Co-chairs: Bin Gao, NIAAA, and Snorri Thorgeirsson, NCI

Obesity is a major contributor to the global burden of chronic disease and disability, and poses a major risk for chronic diseases, including fatty liver disease and liver cancer. The objective of this symposium is to present up-to-date research findings done at NIH on fatty liver disease, liver regeneration, and liver cancer. Miller from NIDDK will present data showing the adaptations in lipid and lipoprotein metabolism with low-fat and low-carbohydrate diets in obese patients with type 2 diabetes. Kunos from NIAAA will present the recent findings from his lab showing the critical role of the peripheral endocannabinoid system in metabolic regulation and the development of fatty liver disease, and discuss the potential therapeutic potential of peripheral endocannabinoid antagonists in treating fatty liver disease and metabolic syndrome. The sirtuin gene family (SIRT) is a recently identified group of genes that play a role in the genetic regulation of longevity and cell repair. Deng from NIDDK will describe his recent data showing an important role of SIRTs in the regulation of glucose metabolism, fatty liver, and liver cancer. In addition, Yang from NHGRI has identified several important signaling pathways that control liver regeneration and size. The liver is the only mammalian organ capable of natural regeneration after loss of tissue. Interestingly, the liver will stop regenerating after reaching its original size. Liver regeneration and size are tightly controlled by the interaction of many signaling pathways induced by a variety of cytokines, growth factors, hormones, etc. Yang will discuss evidence that the hippo signaling pathway plays a key role in controlling liver size, liver stem/progenitor cell regeneration, and liver tumorigenesis. Finally, Marquardt from Thorgeirsson's lab at NCI will present data on the epigenetic modulation of liver cancer stem cells and its clinical implications.

Program

Identification of Novel Regulators Required for Embryonic Stem Cell Maintenance
Sailu Yellaboina, NIEHS
FARE Award Winner

Adaptations in Lipid and Lipoprotein Metabolism with Low-fat and Low-carbohydrate Diets in Obese Patients with Type 2 Diabetes Mellitus
Bernard Miller, NIDDK

The Peripheral Endocannabinoid System as a Novel Therapeutic Target
George Kunos, NIAAA

SIRT6 Prevents Fatty Liver Formation Through Regulation of Glycolysis, Triglyceride Synthesis, and Fat Metabolism
Chuxia Deng, NIDDK

Hippo Signaling in Liver Size Control and Tumor Formation
Yingzi Yang, NHGRI

Epigenetic Modulation of Liver Cancer Stem Cells and Its Clinical Implications
Jens Marquardt, NCI

Balcony A

Bittersweet Discoveries: The Glycobiology of Human Disease
Co-chairs: Carole Bewley, NIDDK, and Lawrence Tabak, OD
Sponsoring Scientific Interest Group: The Glycobiology Scientific Interest Group

Like polynucleotides and polypeptides, glycans are bio-macromolecules responsible for the bulk of information transfer in biological systems. Approximately half of all cellular proteins are glycosylated. They, along with the proteins that bind to them (lectins), have been demonstrated to play important roles in numerous cellular processes including but not limited to: cell recognition, motility/homing to specific tissues, cell signaling processes, cell differentiation, cell adhesion, microbial pathogenesis, and immunological recognition. The biochemical basis of glycan-protein interactions is complicated by the multivalency and graded affinity of glycan structures with their binding sites on proteins. Laboratories across NIH study the structure and function of both N- and O-linked glycans as well as their interaction with lectins, shedding light on the important role glycan interactions play in development and disease processes. This symposium will highlight a few of these studies and demonstrate how elucidation of glycan-lectin biology holds great promise for development of diagnostic screens, vaccines, and other therapies.

Program

Dissecting Peptide Recognition Profiles against Hepatitis C Virus (HCV) Envelope Glycoproteins Reveals New Neutralizing Antibody Epitope
Alla Kachko, FDA/CBER
FARE Award Winner

Overview of and Introduction to the Field of Glycobiology
Carole Bewley, NIDDK

Sugars, Peptides, and Particles: Can We Mix and Match Them for Novel Strategies to Treat Cancer?
Joseph Barchi, NCI

Chondroitin Sulfates Influence Axonal Growth and Guidance
Herbert Geller, NHLBI

The Role of Protein O-glycosylation in Developmentally Regulated Cell Adhesion and Organogenesis
Kelly Ten Hagen, NIDCR

O-GlcNAc: Epigenetic Reprogramming and Diseases of Aging
John Hanover, NIDDK

Disorders of Sialic Acid Metabolism
Marjan Huizing, NHGRI

Balcony B

Commensal Bacteria in Health and Disease

Co-chairs: Yasmine Belkaid, NIAID, and Brian Kelsall, NIAID
Sponsoring Scientific Interest Group: Mucosal Immunology and Microbiome Interest Group

Humans have coevolved with microbial partners, such as bacteria, viruses, and fungi that constitutively inhabit our lung, skin, or gut. While an individual microbial genome is approximately 1,000 times smaller than that of a human cell, the diversity and number of microbes in certain organs suggests that microbial gene-encoding potential may in fact be greater than an individual human's. Recent studies have changed our perspective of commensal microbes from benign but inert passengers, to active participants in the postnatal development of mucosal and systemic immunity, and in its long-term, steady-state function. For instance, commensals play a major protective role in displacing pathogens and enhancing barrier fortification, favoring development of the immune system and control of metabolic functions; however, in some instances—as in the context of Crohn's diseases—the gut flora itself can become a liability.

This symposium will include intramural investigators from NIAID, NCI, and NHGRI who explore the crosstalk between commensals and their hosts. Data associating commensals with protective or pathogenic outcomes in the context of cancer, inflammatory and infectious diseases will be discussed.

Program

A Novel Francisella tularensis *Surface Protein Required for Intracellular Survival*
Audrey Chong, NIAID
FARE Award Winner

Diversity of Skin Microbiota in Health and Disease
Julie Segre, NHGRI

Role of Microbial Translocation in HIV/SIV Pathogenesis
Jason Brenchley, NIAID

Microbiota and Inflammation-induced Colon Cancer
Giorgio Trinchieri, NCI

Sensing of Commensals by NOD1/2: Implication for Crohn's Disease
Warren Strober, NIAID

Balcony C

Brain Microcircuits and Behavior
Chair: Heather A. Cameron, NIMH

This symposium will highlight links between brain microcircuits and specific behavioral inputs and outputs. Jhou will describe work showing that the rostromedial tegmental nucleus (RMTg), a newly identified structure that is GABAergic, projects heavily to midbrain dopamine neurons, and plays a major role in behavioral and physiological responses to aversive stimuli. Morozov will describe work using channelrhodopsin to show that inhibitory neurons of the external capsule (EC), which provide feed-forward inhibition in the basolateral amygdala (BLA), suppress plasticity in the input from perirhinal but not anterior cingulate cortex. Ashby will describe work defining the synaptic mechanisms involved in the experience-dependent formation of mature, functional neuronal circuits in the developing sensory cortex. Nakazawa will discuss possible mechanisms linking early postnatal-targeted knockdowns of NMDAR receptors in corticolimbic GABAergic interneurons with neuropsychiatric-disorder-like behavior in mice. The interplay between behavior and circuit development during development and the importance of interneurons in behavioral plasticity emerge as common themes across multiple brain regions and behaviors.

Program

Introduction
Heather A. Cameron, NIMH

Cortico-striatal Circuits and NMDAR-mediation of Cognitive Flexibility in Mice
Jonathan Brigman, NIAAA
FARE Award Winner

The Rostromedial Tegmental Nucleus (RMTg), a Newly Identified Structure that Opposes Dopamine Function and is Critical for Aversive Behavior
Thomas Jhou, NIDA

Dissecting Amygdala Circuitry Using Optogenetics
Alexei Morozov, NIMH

Maturation of a Recurrent Excitatory Neocortical Circuit by Experience-dependent Unsilencing of Newly Formed Dendritic Spines
Michael C. Ashby, NINDS

Cortical GABAergic Dysfunctions and Neuropsychiatric Disorders
Kazu Nakazawa, NIMH

Conference Room F1/F2

Drug Repurposing at the NIH

Co-chairs: Craig Thomas, NHGRI, and Minkyung (Min) Song, NCI
Sponsoring Scientific Interest Group: Translational Research Interest Group (TRIG)

Recent advances in molecular analysis technologies and bioinformatics have allowed investigators to discover additional targets and pathways that are associated with diseases. Investigational agents, including those previously evaluated in the clinic but shelved for various reasons, and approved therapeutic interventions could now be used to treat diverse diseases, including rare and neglected diseases, that share common targets and pathways. During this symposium, the NIH investigators will discuss their pioneering, drug-repurposing research that allows the development of new indications, new formulations, or new combinations of available agents. Through the drug repurposing efforts, proof-of-concept studies during translational and clinical research would be substantially advanced. These efforts would undoubtedly result in an increased number of therapeutic choices for individual patients. Organizations at the NIH, including the NIH Center for Translational Therapeutics and the Chemical Biology Consortium, are actively engaging NIH scientists to expand these efforts.

Program

Structure-assisted Design of Novel Inhibitors of Checkpoint Kinase 2: A Drug Target for Cancer Therapy
George Lountos, NCI
FARE Award Winner

Genetic Regulation of NRG1/ErbB4-PI3K Signaling: Novel Therapeutic Options for Schizophrenia
Amanda Law, NIMH

Overcoming Immunotoxin-treatment Barriers with ABT-263 and CP-690,550
David Fitzgerald, NCI

The NCGC Pharmaceutical Collection: A Focused Library of Small Molecule Drugs Enabling Rare Disease Repurposing
Ruili Huang, NHGRI

Raising the Bar in for the Treatment of Depression: Modulation of Glutamatergic Receptors Leads to Antidepressant Response in Hours Instead of Weeks
Carlos Zarate, NIMH

Exendin-4, Type 2 Diabetes, and Neurodegenerative Disorders: Overlapping Mechanisms May Provide Common Treatment
Nigel Greig, NIA

Conference Room D

The Ear and Eye: Development and Disease

Co-chairs: Bechara Kachar, NIDCD, and Doris Wu, NIDCD

Hearing and vision are important sensory modalities, and disorders of the ear and eye can be devastating and gravely compromise the quality of life. Much research is focused on disease models of these sensory organs. Though not always apparent, diseases often result from developmental processes going awry. This symposium aims to showcase research conducted at the NIH on development and disease models of the eye and ear, and to provide a forum for interchange among investigators studying the two sensory systems.

Program

Axial Patterning Dictates the Primary Cell Fates of the Vertebrate Inner Ear
Doris Wu, NIDCD

Self-renewal and Overtime Maintenance of Auditory Sensory Stereocilia
Bechara Kachar, NIDCD

Transcription Factors and Hormones in Retinal Development
Douglas Forrest, NIDDK

Differentiation or Death: A Third Option for Photoreceptors?
Jerome Roger, NEI
FARE Award Winner

Pigment Epithelium-derived Factor: A Pleiotropic Protector of the Retina
Preeti Subramanian, NEI

7-Ketocholesterol: An "Age-related" Risk Factor in Age-related Macular Degeneration
Ignacio Rodriguez, NEI

CELLBIO: Cell Biology

CELLBIO-1 Y Abe, T Sakairi, C Beeson, JB Kopp (NIDDK)
TGF-beta Effect on Bioenergetics and ROS Generation in Mouse Podocytes

CELLBIO-2 MG Angelos,* EC Kohn, AK McCollum (NCI)
A Novel Function of the Co-Chaperone BAG3 in Regulating Cellular Division

CELLBIO-3 K Boateng, M Bellani, D Camerini-Otero (NIDDK)
An Alternative Role for SPO11 During Mouse Spermatogenesis

CELLBIO-4 DT Burnette, S Manley, P Sengupta, R Sougrat, MW Davidson, B Kachar, J Lippincott-Schwartz (NICHD)
Actin Arcs Mediate Leading-edge Advance in Migrating Cells

CELLBIO-5 SG Coelho, Y Miyamura, K Schlenz, J Batzer, C Smuda, W Choi, M Brenner, T Passeron, G Zhang, L Kolbe, R Wolber, VJ Hearing (NCI)
UVA-induced Pigmentation is Misleading: Modest Protective Effects are Induced Only by UVB

CELLBIO-6 BB Das,* T Dexheimer, K Maddali, Y Pommier (NCI)
Novel Role of Tyrosyl DNA Phosphodiesterase (TDP1) in Mitochondrial DNA Repair

CELLBIO-7 A Dey, M Patel, W Huynh, M Debrosse, T Karpova, J McNally, K Ozato (NICHD)
The Chromatin-binding Protein Brd4 Marks Target Genes on Mitotic Chromosomes and Directs Postmitotic Transcription in Daughter Cells

CELLBIO-8 M Dokmanovic, DS Hirsch, Y Shen, WJ Wu (CBER)
The Function of IGFBPs: A Novel Mechanism of Action for Trastuzumab-mediated Growth Inhibition and Indications for Trastuzumab Resistance

CELLBIO-9 M Fujimoto, T Hayashi, R Urfer, S Mita, TP Su (NIDA)
The Selective Sigma-1 Receptor Agonist Cutamesine Facilitates the Secretion of Brain-derived Neurotrophic Factor from Neuroblastoma Cells

CELLBIO-10 A Gallo,* M Tandon, G Illei, I Alevizos (NIDCR)
Regulation of EBV-Bart13 miRNA on Stim1, a Protein Involved in Ca2+ Metabolism, in HSG Cells

CELLBIO-12 R Heise, V Stober, J Hollingsworth, S Garantziotis (NIEHS)
Mechanical Stretch Induces Epithelial-mesenshymal Transition in Alveolar Epithelia via Hyaluronan Activation of Innate Immunity

CELLBIO-13 BI Hutchins,* U Klenke, S Wray (NINDS)
Calcium Signaling Pathways Regulating Cytoskeletal Dynamics During GnRH Neuronal Migration

*** FARE Award Winner**

CELLBIO-14 M Jovic,* Z Szentpetery, T Balla (NICHD)
Unique Roles of Two Lipid Kinases in the Lysosomal Transport of the Gaucher Disease-related Enzyme, Glucocerebrosidase

CELLBIO-15 S Kang,* J Park, M Kim, L Beers, J Avruch, D Kim, S Lee (NIDDK)
The Ras Effector Rassf5/Nore1 Mediates TNF-α-induced Apoptosis

CELLBIO-16 A Kelada, T Lyda, Y Hernandez, D Dwyer (NIAID)
Molecular and Biochemical Characterization of a Unique Secretory Invertase in the Human Pathogen *Leishmania mexicana*

CELLBIO-17 YJ Kim, T Balla (NICHD)
Distinct Roles of Phosphatidylinositol Pools in Organelle Morphogenesis and Signaling

CELLBIO-18 MK Korzeniowski, MI Martin Manjarres, P Varnai, T Balla (NICHD)
A Novel Autoinhibitory Intramolecular Interaction in STIM1 Regulates the Activity of ORAI1 Calcium Channels in the Store-Operated Calcium Entry Pathway

CELLBIO-19 E Leo, C Conti, K Agama, Y Pommier (NCI)
Analysis of DNA Replication in Human Cancer Cells with DNA Combing

CELLBIO-20 K Lukasiewicz, A Arnaoutov, P Backlund, A Yergey, M Dasso (NICHD)
Crm1 May Mediate Ribosomal RNA (rRNA) Transcription by Regulating the Localization of Histone Demethylase KDM3B

CELLBIO-21 A McCollum, R Henning, M Angelos, E Kohn (NCI)
Phosphorylation May Regulate BAG3 Expression in a Cell–Cyle-dependent Manner

CELLBIO-22 D Momot, T Nostrand, Y Ward, K John, M Poirier, O Olivero (NCI)
Role of Nucleotide Excision Repair (NER) in Manifestation of Zidovudine (AZT)-induced Aneuploidy and Centrosomal Dysregulation

CELLBIO-23 Y Nishimura,* K Applegate, G Danuser, C Waterman (NHLBI)
An RNAi Screen of Microtubule-regulatory Proteins Identifies MARK2/Par1 as an Effector of Rac1-mediated Microtubule Growth

CELLBIO-24 D Opishinski, B Katz, R Kurnat, J Michelotti (NIAID)
Use of Fully Automated Cell Culture and Imaging Systems to Increase the Capacity and Consistency of Downstream Virology Assays

CELLBIO-25 R Petrie,* K Yamada (NIDCR)
Intracellular Signaling Reveals that Matrix Rigidity Governs Two Modes of 3D Cell Migration

*** FARE Award Winner**

CELLBIO-27 F Pratto, M Bellani, RD Camerini-Otero (NIDDK)
Mouse Models for the Study of SPO11 Splicing Isoforms

CELLBIO-28 YW Zhang, M Regairaz, J Seiler, K Agama, JH Doroshow, Y Pommier (NCI)
Novel Repair Pathways for Topoisomerase I-induced DNA Damage Involving Poly(ADP-ribose) Polymerase and XPF/ERCC1

CELLBIO-29 BR Renvoise,* RL Parker, D Yang, JC Bakowska, JH Hurley, C Blackstone (NINDS)
ESCRT-III Proteins in the Pathogenesis of the Hereditary Spastic Paraplegia Diseases

CELLBIO-30 K Richter, S Brar, M Ray, P Pisitkun, S Bollan, L Verkoczy, M Diaz (NIEHS)
The Role of SLIP-GC in the Immune Response

CELLBIO-31 V Roukos, T Misteli (NCI)
Visualization of Chromosomal Translocations In Vivo

CELLBIO-32 C Sarkar,* A Saha, Z Zhang, G Chandra, AB Mukherjee (NICHD)
Disruption of Autophagy Contributes to INCL Pathogenesis

CELLBIO-33 I Scott,* B Webster, M Sack (NHLBI)
A Novel, Prokaryote-derived Mitochondrial Acetyltransferase Counteracts the Respiratory Effects of SIRT3

CELLBIO-34 S Solier, Y Pommier (NCI)
Caspase-3-mediated MDC1 Cleavage Interrupts the DNA Damage Response Downstream from Histone H2AX

CELLBIO-35 M Stevens,* K Kim, D Springer, A Noguchi, S Anderson, S Esfahani, M Daniels, H San, M Sack (NHLBI)
Pink1 Preserves Cardiac Function in Response to Pressure-overload-induced Stress through Regulating Mitochondrial Dynamics

CELLBIO-36 V Tripathi,* DB Zimonjic, NC Popescu (NCI)
A Specific Interaction of DLC1 with Alpha-catenin Stabilizes Adherens Junctions and Regulates DLC1 Oncosuppressive Activity through NFkB Signaling

CLIN/CULT/AGING/DISPREV: Clinical Investigation/Cultural/Social Sciences/ Aging/Disease Prevention

CLIN/CULT/AGING/DISPREV-1 S Alperson (NINR)
Symbolic Values of Tai Chi: Voices of Community-based Aging Practitioners

*** FARE Award Winner**

CLIN/CULT/ AGING/ DISPREV-2
S Avvaru,* NA Rawtani, Y Wu, JA Sommers, S Sharma, G Mosedale, PS North, SB Cantor, ID Hickson, RM Brosh Jr (NIA)
Novel Interaction Between FANCJ and BLM Helicases

CLIN/CULT/ AGING/ DISPREV-3
JL Berkowitz, JE Janik, DM Stewart, S Fioravanti, ES Jaffe, J Shih, M Turner, TA Fleisher, N Urqhuart, GH Wharfe, TA Waldmann, JC Morris (NCI)
Phase II Trial of Daclizumab in Patients with Human T-cell Lymphotropic Virus Type-1 (HTLV-1)-associated Adult T-cell Leukemia/Lymphoma (ATL)

CLIN/CULT/ AGING/ DISPREV-4
K Cahill, P Kapoor (NIAID)
Disclosure of Trial Results to Research Participants

CLIN/CULT/ AGING/ DISPREV-5
X Cai, G Pacheco-Rodriguez, Q Fan, M Haughey, L Samsel, S El-Chemaly, H Wu, J McCoy, W Steagall, J Lin, T Darling, J Moss (NHLBI)
Phenotypic Characterization of Disseminated Cells with TSC2 Loss of Heterozygosity in Patients with Lymphangioleiomyomatosis

CLIN/CULT/ AGING/ DISPREV-7
CE Chan,* WM Fu, I Maric, DD Metcalfe, TM Wilson (NIAID)
Expression of KIT Isoforms in Systemic Mastocytosis: Correlation with Disease Severity and KITD816V Mutation

CLIN/CULT/ AGING/ DISPREV-8
M Dail, C Wassif, N Javit, F Porter (NICHD)
27-hydroxy-7-dehydrocholesterol is an Endogenous Teratogen in Smith-Lemli-Opitz Syndrome (SLOS) that Decreases Cholesterol Levels and Increases Phenotypic Severity

CLIN/CULT/ AGING/ DISPREV-9
D Darbari, I Belfer, V Youngblood, K Desai, L Diaw, L Freeman, M Hildeshem, V Nolan, JN Milton, SW Hartley, MH Steinberg, D Goldman, MB Max, G Kato, JG Taylor (NHLBI)
Epidemiology of Vaso-occlusive Pain in Sickle Cell Anemia and Its Association with a Susceptibility Marker in the GCH1 Gene

CLIN/CULT/ AGING/ DISPREV-10
H Decot, F Zhang, DR Weinberger, JA Apud (NIMH)
The Effect of Placebo and Reintroduction of Antipsychotics in Patients with Schizophrenia Based on COMT Val108/158Met Polymorphism

CLIN/CULT/ AGING/ DISPREV-11
A Del Valle-Pinero, A Martino, D Wang, W Henderson (NINR)
Inflammatory Biomarker Chemokine C-C Motif Ligand 16 (CL16) is Overexpressed in Irritable Bowel Syndrome (IBS) Patients

CLIN/CULT/ AGING/ DISPREV-12
J Fall-Dickson, S Mitchell, S Marden, E Ramsay, J-P Guadagnini, T Wu, L St. John, S Pavletic (NINR)
Oral Symptom Intensity, Health-related Quality of Life, and Correlative Salivary Cytokines in Adult Survivors of Hematopoietic Stem Cell Transplantation with Oral Chronic Graft–versus–Host Disease

*** FARE Award Winner**

CLIN/CULT/ AGING/ DISPREV-13
S Fedeles, S Lee, X Tian, M Mitobe, C Crews, S Somlo (NIDDK)
Proteasome Inhibition Leads to Reduced Cyst Growth in a Polycystin-1-dependent Model of Isolated Autosomal Dominant Polycystic Liver Disease (ADPLD) Due to Mutations in Prkcsh or Sec63

CLIN/CULT/ AGING/ DISPREV-14
LE Henderson, BJ Song (NIAAA)
Differential Protein Oxidation in the Brains and Livers of Young and Aged PPAR-alpha Knockout and Wild-type Mice

CLIN/CULT/ AGING/ DISPREV-15
J Graber, D Smith, M Keller, R Srivastava, K Johnson, R Shlionskaya, A Das, J Greenfield, R Chostek, S Hirschfeld (NICHD)
Advancing Child Health Research through Data Harmonization and Integration Efforts

CLIN/CULT/ AGING/ DISPREV-16
PR Hunt, TG Son, MA Wilson, QS Yu, N Greig, MP Mattson, S Camandola, CA Wolkow (NIA)
Anti-aging Naphthoquinones that Act through Stress Hormesis Mechanisms

CLIN/CULT/ AGING/ DISPREV-17
S Jawad, B Liu, RB Nussenblatt, HN Sen (NEI)
Double Negative T Cells in Behcet's Disease and Sarcoidosis

CLIN/CULT/ AGING/ DISPREV-18
Y Ji, J Vogler, D Griffin, WM Jackson, LJ Nesti (NIAMS)
Molecular Targets Associated with Heterotopic Ossification following Traumatic Orthopaedic Injury

CLIN/CULT/ AGING/ DISPREV-19
ML Jobes,* UE Ghitza, DH Epstein, KA Phillips, KL Preston (NIDA)
Clonidine Blocks Stress-induced Craving in Cocaine Users

CLIN/CULT/ AGING/ DISPREV-20
AB Kelly, SD Jewell, LM McShane, HM Moore, JB Vaught, BRISQ Committee (NCI)
Biospecimen Reporting for Improved Study Quality (BRISQ)

CLIN/CULT/ AGING/ DISPREV-21
LH Lazarus, G Balboni, S Salvadori, ED Marczak (NIEHS)
Unique Dual-acting Opioid Antagonist Protodrug Ameliorates Obesity-related Factors Simultaneously Attenuates Osteoporosis

CLIN/CULT/ AGING/ DISPREV-22
C Leach,* C Klabunde, C Alfano, J Rowland, J Lee Smith (NCI)
Overuse of Screening Mammography by Primary Care Physicians: Factors Associated with Recommendations for Older Women with Terminal Comorbidity

*** FARE Award Winner**

CLIN/CULT/ AGING/ DISPREV-23
SK Manna,* AD Patterson, Q Yang, KW Krausz, H Li, JR Idle, AJ Fornace Jr, FJ Gonzalez (NCI)
Identification of Noninvasive Biomarkers for Alcohol-induced Liver Disease Using Urinary Metabolomics

CLIN/CULT/ AGING/ DISPREV-24
L McKibben (CBER)
What is the Tipping Point for Licensure of Probiotics as Live, Biotherapeutic Products?

CLIN/CULT/ AGING/ DISPREV-25
P Chulada, N Mehta, S Garantziotis, D Zeldin (NIEHS)
The Environmental Polymorphism Registry: A Novel Recruitment Tool for Translational Research at NIEHS

CLIN/CULT/ AGING/ DISPREV-26
A Morehead-Gee, L Pfalzer, N Stout, E Levy, C McGarvey, B Springer, P Soballe, L Gerber (CC)
Racial Disparities in Physical and Functional Domains in Women with Early Breast Cancer

CLIN/CULT/ AGING/ DISPREV-27
DB Portnoy,* D Roter, LH Erby (NCI)
The Role of Numeracy on Client Knowledge in BRCA Genetic Counseling

CLIN/CULT/ AGING/ DISPREV-28
LN Saligan, CP Hsiao, A Kaushal, D Citrin, D McNally, J Barb, P Munson, XM Wang (NINR)
Investigating Molecular–Genetic Correlates of Cancer-related Fatigue

CLIN/CULT/ AGING/ DISPREV-29
L Silverman, A Sutin, G Wallen, S Mitchell (CC)
Personality Assessment in Patient-reported Outcomes Research in Oncology: Implications for Study Design and Interpretation

CLIN/CULT/ AGING/ DISPREV-30
C St. Hilaire, SG Ziegler, T Markello, A Brusco, C Groden, F Gill, H Carlson-Donohoe, RJ Lederman, MY Chen, D Yang, MP Siegenthaler, C Arduino, C Mancini, B Freudenthal, HC Stanescu, AA Zdebik, R Nussbaum, R Kleta, WA Gahl, M Boehm (NHLBI)
Novel Mutations in NT5E/CD73 Cause Arterial Calcifications in Adults

CLIN/CULT/ AGING/ DISPREV-31
L St. John, E Schroeder, S Gordon, M Saria, J Fall-Dickson (NINR)
Tumor Necrosis Factor Alpha (TNFalpha) and Interleukin 6 (IL-6) Expression in Oral Fluids and Oral Mucosa in Patients with Oral Chronic Graft–versus–Host Disease

CLIN/CULT/ AGING/ DISPREV-32
M Ricks, UJ Ukegbu, BM Onumah, AV Tambay, BV Miller, AE Sumner (NIDDK)
Beta-cell Failure Accounts for the High Rate of Glucose Intolerance in Black Africans Living in the United States

*** FARE Award Winner**

CLIN/CULT/ AGING/ DISPREV-33 S Vasu, L Hsu, W Bandettini, M Chen, P Kellman, S Shanbhag, O Booker, A Arai (NHLBI)
Is Regadenoson a Better Myocardial Vasodilator than Dipyridamole?—Insights from Quantitative MRI Perfusion Studies

CLIN/CULT/ AGING/ DISPREV-34 Z Xie, K Druey (NIAID)
Cytokine Abnormalities in Systemic Capillary Leak Syndrome

CLIN/CULT/ AGING/ DISPREV-36 Y Zhang,* MA Conti, P Zerfas, S Kawamoto, C Liu, J Kopp, CC Chan, RS Adelstein (NHLBI)
Mouse Models of Human MYH9-related Diseases

CLIN/CULT/ AGING/ DISPREV-37 R Zielinski,* K Monika, I Lyakhov, B Sabouri, J Capala (NCI)
Affitoxin—A Novel Approach to HER2-targeted Therapy

ENDOC: Endocrinology

ENDOC-1 A Doumatey, G Chen, J Zhou, H Huang, A Adeyemo, C Rotimi (NHGRI)
Circulating Resistin is Associated with Biomarkers of Inflammation in Populations of African Ancestry

ENDOC-2 T Cai, H Hirai, G Zhang, M Zhang, N Takahashi, H Kasai, L Satin, R Leapman, A Notkins (NIDCR)
Decreased Number of Dense Core Vesicles is Responsible for the Decreased Secretion of Insulin in IA-2 and IA-2beta Null Mice

ENDOC-3 D Chandramohan, K Hall (NIDDK)
A Web-based Simulation Model for Predicting Human Body Weight Change

ENDOC-4 H Dang,* HS Kang, K Okamoto, YS Kim, XP Yang, G Liao, AM Jetten (NIEHS)
Reduced Susceptibility of Mice Deficient in the Nuclear Orphan Receptor TAK1/TR4 to Hepatic Steatosis, and Adipose Inflammation

ENDOC-5 J Jo, J Guio, T Liu, S Mullen, KD Hall, SW Cushman, V Periwal (NIDDK)
Hypertrophy-driven Adipocyte Death Overwhelms Recruitment Under Prolonged Weight Gain

ENDOC-6 U Klenke,* S Wray (NINDS)
Adiponectin Decreases GnRH-1 Neuronal Activity During Early Development

ENDOC-7 EA Lannan,* JA Cidlowski (NIEHS)
Identification of a Novel Synergistic Gene Regulation Between Glucocorticoid and Cytokine Signaling

*** FARE Award Winner**

ENDOC-8 S Lucas, A Doumatey, J Zhou, A Adeyemo, C Rotimi (NHGRI)
Nuclear Factor kappa B, I kappa B kinase Beta, and Inflammatory Cytokines in Obesity Among African-Americans

ENDOC-9 J Yang, B Eliasson, U Smith, SW Cushman, A Sherman (NIDDK)
Inverse Correlation of Adipose Cell Size with Insulin Sensitivity in Lean, Healthy Individuals

ENDOC-10 M Stitzel,* P Sethupathy, D Pearson, P Chines, L Song, M Erdos, R Welch, L Scott, NISC Sequencing Team, M Boenke, G Crawford, F Collins (NHGRI)
Chromatin Analysis in Human Pancreatic Islets Identifies Regulatory Elements in Type 2 Diabetes Susceptibility Loci

ENDOC-11 H Yadav,* O Gavrilova, S Lonning, SG Rane (NIDDK)
TGF-BETA/Smad3 Signaling Regulates Hepatic Energy Metabolism

ENDOC-12 E Zmuda-Trzebiatowska, Y Wook, V Manganiello (NHLBI)
Potential Roles of PDE3B Knockout in Acquisition of Brown Fat Characteristic by White Adipose Tissue in Mice

EPID: Epidemiology

EPID-1 J Baller, J He, M Burstein, K Merikangas (NIMH)
Ethnic Differences in Service Utilization in the U.S. National Comorbidity Survey–Adolescent Supplement (NCS–A)

EPID-2 K Bowers,* G Liu, P Wang, T Ye, Z Tian, E Liu, Z Yu, X Yang, M Klebanoff, E Yeung, G Hu, C Zhang (NICHD)
Postnatal Weight Gain and High Blood Pressure Among Chinese Children

EPID-3 M Burstein, J He, K Merikangas (NIMH)
Social Phobia: Just Shyness?

EPID-4 T Carter, F Pangilinan, J Troendle, A Molloy, J VanderMeer, A Mitchell, P Kirke, M Conley, B Shane, J Scott, L Brody, J Mills (NICHD)
Evaluation of 64 Candidate Single Nucleotide Polymorphisms as Risk Factors for Neural Tube Defects

EPID-5 C Chang, J Major, WL Hsu, A Lou, CJ Chen, A Goldstein, A Hildesheim (NCI)
Predictors of anti-EBV EBNA1 IgA Positivity Among Unaffected Relatives in an NPC Multiplex Family Study

EPID-6 B Charles, D Shriner, A Doumatey, G Chen, J Zhou, H Haung, A Herbert, N Gerry, M Christman, A Adeyemo, C Rotimi (NHGRI)
SLC2A9 Gene Influences Uric Acid Level in a Genome-wide Association Study of African-Americans

*** FARE Award Winner**

EPID-7 CR Daniel,* K Schwartz, JS Colt, LM Dong, JJ Ruterbusch, M Purdue, AJ Cross, N Rothman, F Davis, BI Graubard, WH Chow, R Sinha (NCI)
Meat-cooking Carcinogens and Risk of Renal Cell Carcinoma

EPID-8 S De Matteis, D Consonni, AC Pesatori, JH Lubin, S Wacholder, M Tucker, NE Caporaso, PA Bertazzi, MT Landi (NCI)
Lung Cancer Among Construction Workers in a Population-based Case-control Study

EPID-9 LM Dong, A Baccarelli, XO Shu, YT Gao, BT Ji, G Yang, HL Li, N Rothman, W Zheng, WH Chow (NCI)
Mitochondrial DNA Copy Number and Risk of Gastric Cancer: A Report from the Shanghai Women's Health Study

EPID-10 WY Huang, K Danforth, R Hayes, A Hsing, C Rabkin, S Chanock, S Berndt (NCI)
Pooled Analysis of MSR1 Variants and Prostate Cancer Risk

EPID-11 M Gulley, Y Zhao, PA Bertazzi, FM Marincola, M Rotunno, W Tang, AW Bergen, D Roy, AC Pesatori, I Linnoila, D Dittmer, AM Goldstein, NE Caporaso, LM McShane, E Wang, MT Landi (NCI)
Epstein-Barr Virus (EBV) miRs but no EBV in Lung Cancer: Smoke Without Fire?

EPID-12 AM Mondul, SJ Weinstein, S Mannisto, K Snyder, RL Horst, D Albanes (NCI)
Serum Vitamin D and Risk of Bladder Cancer

EPID-13 S Mumford, E Schisterman, A Siega-Riz, A Gaskins, J Wactawski-Wende, T VanderWeele (NICHD)
Effect of Dietary Fiber Intake on Lipoprotein Cholesterol Levels Independent of Estradiol in Healthy Premenopausal Women

EPID-14 G Neta, P Rajaraman, D Preston, M Doody, B Alexander, P Bhatti, S Simon, R Weinstock, D Kwon, M Freedman, M Linet, A Sigurdson (NCI)
Occupational Exposure to Ionizing Radiation and Thyroid Cancer Risk in U.S. Radiologic Technologists, 1984-2006

EPID-15 A Pollack, E Schisterman, L Goldman, A Navas-Acien, F Witter, A Ye, J Wactawski-Wende, P Albert (NICHD)
Heavy Metals and Reproductive Hormones in Premenopausal Women

EPID-16 L Rider, L Wu, G Mamyrova, D Sherry, F Perez, L Imundo, C Bingham, L Zemel, C Lindsley, R Rivas-Chacon, P White, R Rennebohm, M Henrickson, I Targoff, F Miller (NIEHS)
Environmental Factors Preceding Illness Onset Differ in Phenotypes of the Juvenile Idiopathic Inflammatory Myopathies

*** FARE Award Winner**

EPID-17 M Rotunno, Y Zhao, AW Bergen, J Koshiol, L Burdette, M Rubagotti, RI Linnoila, FM Marincola, PA Bertazzi, AC Pesatori, NE Caporaso, L McShane, E Wang, MT Landi (NCI)
Inherited Polymorphisms in the RNA-mediated Interference Machinery and microRNA Expression in Lung Cancer

EPID-19 D Wheeler, K Yu, A Pronk, R Vermeulen, I Burstyn, S Shortreed, P Stewart, D Silverman, J Colt, M Karagas, D Baris, M Schwenn, A Johnson, R Waddell, C Verrill, S Cherala, M Friesen (NCI)
Uncovering the Latent Decision Rules in Expert Occupational Exposure Assessments

EPID-20 E Yeung, L Qi, J Chen, F Hu, C Zhang (NICHD)
Novel Abdominal Adiposity Genes and the Risk of Type 2 Diabetes: Findings from Two Prospective Cohorts

EPI/TRANS/CHROM: Epigenetics/Transcription/Chromatin

EPI/ TRANS/ CHROM-1 D Ballachanda, H Lu, A Gegonne, Z Sercan, H Zhang, R Clifford, M Lee, D Singer (NCI)
TFIID Component TAF7 Modulates Major Histocompatibility Complex Gene Transcription by Negatively Regulating CIITA, a Non-TFIID Co-activator

EPI/ TRANS/ CHROM-2 L Baranello, D Wojtowicz, T Przytycka, K Cui, K Zhao, Y Pommier, F Kouzine, D Levens (NCI)
In Vivo Genome Mapping of DNA Topoisomerases Cleavage Sites in Human Cell Lines

EPI/ TRANS/ CHROM-3 Z Barbash, J Weissman, D Singer (NCI)
MHC Class I Core Promoter Element Mutations Do Not Ablate Transcription In Vivo, but Do Regulate Tissue-specific Promoter Activity

EPI/ TRANS/ CHROM-4 M Bui, Y Dalal (NCI)
Dissecting and Elucidating the Epigenetics and Function of the CenH3 N- and C-terminus

EPI/ TRANS/ CHROM-5 R Burgess, T Misteli (NCI)
The Effects of Chromatin Structure on Activation of the DNA Damage Response

EPI/ TRANS/ CHROM-6 P Donlin-Asp, Y Dalal (NCI)
Studying the Cell Cycle Dynamics of the Centromeric Histone H3 Varient CENPA

EPI/ TRANS/ CHROM-7
FC Eberle,* J Rodriguez-Canales, L Wei, JC Hanson, JK Killian, H-W Sun, LG Adams, SM Hewitt, WH Wilson, S Pittaluga, PS Meltzer, LM Staudt, MR Emmert-Buck, ES Jaffe (NCI)
Large-scale DNA Methylation Analysis Can Distinguish Between Gray Zone Lymphoma, Classical Hodgkin's Lymphoma, and Primary Mediastinal Large B-cell Lymphoma

EPI/ TRANS/ CHROM-8
Y Feuermann, BM Zhu, D Yamaji, P Klover, G Riedlinger, S Pechhold, HW Sun, JJ O'Shea, L Wei, L Hennighausen (NIDDK)
Identification of Cytokine-induced STAT5-dependent microRNA Loci in Mouse Mammary Stem Cells

EPI/ TRANS/ CHROM-9
T Garrett, S Jayanthi, M McCoy, B Ladenheim, T Martin, G Beauvais, I Krasnova, A Hodges, ND Volkow, J Cadet (NIDA)
Differential Midbrain Expression of Immediate Early Genes in Response to Chronic Methamphetamine Administration to Rats

EPI/ TRANS/ CHROM-10
C Gebert, K Pfeifer (NICHD)
Histone Modifications Associated with the Mouse H19ICR May Differ in Female and Male Primordial Germ Cells

EPI/ TRANS/ CHROM-11
A Gegonne, J Zhu, A Yoshimoto, J Hanson, J Zhang, G Wu, Z Yang, C Cultraro, D Meerzaman, T Guinter, A Singer, J Rodriguez, L Tessarollo, S Mackem, K Buetow, D Singer (NCI)
TAF7 is Essential for Early Embryonic Mouse Development

EPI/ TRANS/ CHROM-12
L Huang,* H Fu, CM Lin, MI Aladjem (NCI)
MeCP1, SWI/SNF, and hnRNP C1/C2-mediated Interaction between Beta-globin Locus Control Region and Rep-P Causes Histone Modification Pattern Changes in DNA Methylation-sensitive Gene Silencing

EPI/ TRANS/ CHROM-13
Q Jin, L Wang, L Yu, S Hong, Z Zhang, LH Kasper, C Wang, PK Brindle, SYR Dent, K Ge (NIDDK)
Distinct Roles of GCN5/PCAF and CBP/p300 in Nuclear Receptor Target Gene Activation

EPI/ TRANS/ CHROM-14
TA Johnson, S John, GJ Cost, L Zhang, F Urnov, GL Hager (NCI)
Using Zinc Finger Proteins to Target and Compete with Glucocorticoid Receptor Binding

EPI/ TRANS/ CHROM-15
S Karami, J Toro, L Hurwitz, M Nickerson, S Han, L Schmidt, P Lenz, M Linehan, M Marino, S Chanock, P Boffetta, W-H Chow, F Waldman, P Brennan, N Rothman, L Moore (NCI)
VHL Germline Variation and Epigentically Defined Tumor Heterogeneity in ccRCC

*** FARE Award Winner**

EPI/ TRANS/ CHROM-16
A Kotekar, D Singer (NCI)
Bidirectional Transcription of the Upstream Regulatory Region May Serve a Regulatory Role in MHC Class I Transcription

EPI/ TRANS/ CHROM-17
JC Lui,* J Baron (NICHD)
Changes in Histone Methylation During Postnatal Growth Deceleration

EPI/ TRANS/ CHROM-18
T Miranda, T Voss, G Hager (NCI)
Identification of Chromatin Modifiers Necessary for Glucocorticoid Receptor Recruitment at Response Elements by a High-throughput Fluorescence-based Screen

EPI/ TRANS/ CHROM-19
SA Morris,* RL Schiltz, S John, S Baek, MH Sung, GL Hager (NCI)
The Role of Chromatin Remodeling in the Activity of the Glucocorticoid Receptor

EPI/ TRANS/ CHROM-20
D Quenet, Y Dalal (NCI)
Dynamic of CENP-A Incorporation to Centromere in Human Cells

EPI/ TRANS/ CHROM-21
N Sarai, M Patel, N Ayithan, T Tamura, K Ozato (NICHD)
Induced Deposition of the Histone Variant H3.3 in Interferon and IFN-stimulated Genes

EPI/ TRANS/ CHROM-22
F Theberge,* S Fanous, B Hope, Q-R Liu, Y Shaham (NIDA)
Effect of Heroin Self-administration and Subsequent Withdrawal on BDNF, TrkB, and MeCP2 Signaling in the Rat Central Amygdala

EPI/ TRANS/ CHROM-23
LF Wang, QH Jin, JE Lee, K Ge (NIDDK)
H3K27 Methyltransferase Ezh2 Represses Wnt Genes to Facilitate Adipogenesis

EPI/ TRANS/ CHROM-24
D Yamaji, BM Zhu, R Na, Y Feuermann, K Hashimoto, S Pechhold, W Chen, GW Robinson, L Hennighausen (NIDDK)
Loss of Transcription Factor STAT5 Compromises Chromatin Modification in Stem Cells and Impairs the Development of Alveolar Progenitor Cells in the Mammary Gland

GEN/GENOM: Genetics/Genomics

GEN/ GENOM-1
Y Zhang, S De, K Becker (NIA)
Analysis of Common Complex Human Disease with Mouse Genetic Phenotype Gene Sets

*** FARE Award Winner**

GEN/ GENOM-2
J Bemis, B Platt, J Lau, E Gorodetsky, D Goldman, P Allen, D Pine, M Ernst (NIMH)
Environmental Modulation of Genetic Risk for Pediatric Anxiety

GEN/ GENOM-3
K Biswas,* R Das, S Stauffer, SL North, LC Brody, BP Alter, AR Byrd, SK Sharan (NCI)
A Comprehensive Study to Functionally Classify the BRCA2 Missense Mutations Found in Fanconi Anemia Patients

GEN/ GENOM-4
H Carlson-Donohoe, T Markello, C Tifft, G Golas, D Adams, K Fuentes Fajardo, WA Gahl (NHGRI)
Homozygosity in 1q44 Presenting with Microcephaly and Corpus Callosum Abnormalities

GEN/ GENOM-5
G Chen, D Shriner, J Zhou, A Doumatey, H Huang, NP Gerry, A Herbert, MF Christman, Y Chen, GM Douston, MU Faruque, CN Rotimi, A Adeyemo (NHGRI)
Development of Admixture Mapping Panels for African Americans from Commercial High-density SNP Arrays

GEN/ GENOM-6
KH Choi, BW Higgs, JR Wendland, J Song, FJ McMahon, MJ Webster (NIMH)
Transcriptome and Genome-wide Association Data Implicate PCLO Gene in Bipolar Disorder

GEN/ GENOM-7
G Koo, S Conley, C Wassif, F Porter (NICHD)
Discordant Phenotype and Sterol Biochemistry in Smith-Lemli-Opitz Syndrome

GEN/ GENOM-8
J Curry, AR Cullinane, R Hess, C Carmona-Rivera, D Adams, WA Gahl, M Huizing (NHGRI)
Molecular Analysis of Patients with Unclassified Disorders of Lysosome-related Organelles

GEN/ GENOM-9
M Bourdi, LR Pohl (NHLBI)
Not All C57BL/6 Mice Are Created Equal: A Tail of Genetically Engineered Mice, Their Background, and the Proper Control

GEN/ GENOM-10
R Fu, A Incao, CW Wassif, WJ Pavan, FD Porter (NICHD)
N-Acetyl Cysteine (NAC) Reverses Early-stage Hepatic Phenotype of an Antisense Oligonucleotide Mouse Model of Niemann Pick Disease, Type C

*** FARE Award Winner**

GEN/ GENOM-11
K Fuentes Fajardo, TC Markello, DA Adams, M Sincan, H Carlson-Donohoe, C Tifft, TM Pierson, C Toro, S Ziegler, JK Teer, PF Cherukuri, NF Hansen, SS Ajay, H Ozel Abaan, E Margulies, P Cruz, J Mullikin, WA Gahl (NHGRI)
NISC Comparative Sequencing Program2 Next Gen Sequencing in the NIH Undiagnosed Disease Program

GEN/ GENOM-12
JM Guidry Auvil, MA Smith, P Gesuwan, CF Schaefer, TG Lively, DS Gerhard (NCI)
The NCI Therapeutically Applicable Research to Generate Effective Treatments (TARGET) Initiative: Using Large-scale Genomics to Identify Novel Therapeutic Targets for Childhood Cancers

GEN/ GENOM-13
AM Gustafson, W Xiao, W Westbroek, SW Klontz, YN Blech-Hermoni, MR Cookson, E Sidransky (NHGRI)
Alpha-synuclein Expression and Localization in Cultured Neurons from Glucocerebrosidase-deficient Mouse Models

GEN/ GENOM-14
NH Katagiri, VL Simhadri, D Kopelman, A Friedman, N Edwards, A Javaid, C Okunji, AA Komar, Z Sauna, C Kimchi-Sarfaty (CBER)
Elucidating the Mechanism of a Synonymous Mutation in Coagulation Factor IX Found in Hemophilia B Patients

GEN/ GENOM-15
S Khan, X Zhou, K Oh, J Boyle, T Ueda, D Tamura, C Nadem, A Mattia, J DiGiovanna, K Kraemer (NCI)
XPD DNA Repair Helicase Gene Defects in Trichothiodystrophy Patients With and Without Sun Sensitivity

GEN/ GENOM-16
P Khil, F Smagulova, K Brick, I Gregoretti, S Sharmeen, R-D Camerini-Otero, G Petukhova (NIDDK)
Specific Detection of Single-stranded DNA in the Presences of Double-stranded DNA in ChIP-Seq Data Improves Recognition of Meiotic Hotspots of Recombination

GEN/ GENOM-17
Y Kim, C Justice, H Sung, J Cai, AJM Sorant, D Behneman, M Krishnan, AF Wilson (NHGRI)
Tests of Association for Family Data: Tiled Regression with Generalized Estimation Equations

GEN/ GENOM-18
I Kohaar, A Mumy, P Porter-Gill, L Prokunina-Olsson (NCI)
A Bladder and Gastric Cancer Risk Variant of PSCA Is Associated with Increased mRNA Expression and Allelic Expression Imbalance in Bladder Tissue

GEN/ GENOM-19
A Kumar, A Beilina, A Dillman, R Gibbs, M Cookson (NIA)
Expression Trait Loci (eQTLs) Study in Human Purkinje Cells

*** FARE Award Winner**

GEN/ GENOM-20
A Lokanga, K Usdin (NIDDK)
The Effect of Msh2 on CGG·CCG Repeat Expansion in a Fragile X Premutation Mouse Model

GEN/ GENOM-21
J Nichols,* W Gladwell, S Kleeberger (NIEHS)
Identification of Candidate Susceptbility Genes in a Murine Model of Bronchopulmonary Dysplasia

GEN/ GENOM-22
J-H Park,* S Wacholder, MH Gail, U Peters, KB Jacobs, SJ Chanock, N Chatterjee (NCI)
Estimation of Effect Size Distribution from Genome-wide Association Studies and Implications for Future Discoveries

GEN/ GENOM-23
AP Pomerantsev, SH Leppla (NIAID)
Genome Engineering in *Bacillus anthracis* Using Cre Recombinase

GEN/ GENOM-24
TD Prickett,* NS Agrawal, X Wei, KE Yates, JC Lin, J Wunderlich, JC Cronin, P Cruz, NISC, SA Rosenberg, Y Samuels (NHGRI)
Analysis of the Tyrosine Kinome in Melanoma Reveals Recurrent Mutations in *ERBB4*

GEN/ GENOM-25
E Ramos, G Chen, A Doumatey, D Shriner, NP Gerry, A Herbert, H Huang, J Zhou, MF Christman, A Adeyemo, C Rotimi (NHGRI)
Replication of GWAS Loci for Fasting Plasma Glucose in African-Americans

GEN/ GENOM-26
M Raymond, V David, K Narfstrom, K Deckman, S O'Brien (NCI)
The Domestic Cat: An Important Translational Model of Human Hereditary Disease

GEN/ GENOM-27
MH Raza, S Riazuddin, D Drayna (NIDCD)
Identification of an Autosomal Recessive Stuttering Locus on Chromosome 3q13

GEN/ GENOM-28
A Schmitz, L Dierker, N Risch, K Merikangas (NIMH)
Familial Patterns of Smoking Behaviors: Contributions of Family Studies to Understanding the Genetics of Complex Disorders

GEN/ GENOM-29
J Schoenebeck, A Byers, J Fondon, P Quignon, A Boyko, L Lin, C Bustamante, R Wayne, E Ostrander (NIGMS)
A Genome-wide Scan for Quantitative Trait Loci of Canine Skull Shape

GEN/ GENOM-30
DR Simeonov, WA Gahl, D Adams (NHGRI)
Screening Naturally Occurring Albinism Mutations for Potential Therapeutic Targets

*** FARE Award Winner**

GEN/ GENOM-31
P Perelman, W Johnson, C Roos, H Seuanez, J Horvath, M Moriera, B Kessing, J Pontius, M Roelke, Y Rumpler, M Schneider, A Silva, S O'Brien, J Pecon-Slattery (NCI)
A Molecular Phylogeny of Living Primates

GEN/ GENOM-32
J Song, N Smaoui, JF Hejtmancik, IM MacDonald, R Ayyagari, SP Daiger, M Brooks, A Swaroop, X Wang (NEI)
High-throughput Retina Array for Screening 93 Genes Involved in Inherited Retinal Dystrophies

GEN/ GENOM-34
XH Tan, S Anzick, SG Khan, T Ueda, G Stone, JJ DiGiovanna, D Tamura, D Wattendorf, C Brewer, C Zalewski, R Walker, JA Butman, A Griffith, P Meltzer, P Bergstresser, KH Kraemer (NEI)
Balanced 9p22q Translocation in a Patient with Melanoma, Deafness, and DNA Repair Deficiency Disrupts p14arf and Downregulates TBX1

MOLBIO: Molecular Biology

MOLBIO-1
JS Byun,* T Fufa, C Wakano, K Ozato, K Gardner (NCI)
The Elongation Factor ELL Directs Hierarchical Linkages between RNA Polymerase II and P-TEFb Recruitment at Steps Prior to the Commitment to Elongation

MOLBIO-2
S Ebmeier, K Ramamurthi (NCI)
A Tiny Peptide Orchestrates Morphogenesis of the Coat and Cortex During Sporulation in *Bacillus subtilis*

MOLBIO-3
N Edwards, A Blaisdell, A Perry, R Fathke, C Allen, A Shapiro, R Hunt, C Okunji, L Kosti, Y Mandel-Gutfreund, A Komar, Z Sauna, C Kimchi-Sarfaty (CBER)
Listening to Silence: Silent Mutations Have a Significant Affect on the Proteome—A Case Study of ADAMTS13

MOLBIO-4
P Eswara Moorthy, J Pogliano, KS Ramamurthi (NCI)
Fidelity of Cell Division Site Selection in *Bacillus subtilis*

MOLBIO-5
H May-Simera, H Felperin (NIDCD)
The Interaction of Bardet Biedl Syndrome Proteins and Cadherin 23 and the Resulting Effect on Sensory Development

MOLBIO-6
A Fera, J Farrington, J Zimmerberg, T Reese (NINDS)
Analysis of Individual Macromolecules by Negative Stain Tomography

MOLBIO-7
JG Lee,* Y Ye (NIDDK)
Identification of Deubiquitinating Enzyme for Lysine29-linked Polyubiquitin Chain

*** FARE Award Winner**

MOLBIO-8 L Macke, K Sitaraman, D Chatterjee, K Gawrisch, A Yeliseev (NIAAA)
Toward Cell-free Expression of Functional Peripheral Cannabinoid Receptor CB2

MOLBIO-9 M Miot,* JR Hoskins, S Wickner (NCI)
Mechanism of Action of Yeast Hsp104 and *E. coli* ClpB, Molecular Chaperones that Rescue Proteins from an Aggregated State

MOLBIO-10 A Rehman, A Hinnebusch (NICHD)
Genetic Identification of Rps2 Residues Critical for Scanning and AUG Selection during Translation Initiation in *Saccharomyces cerevisiae*

MOLBIO-11 G Pandey, C Leysath, A Friedman, S Leppla, Z Sauna (CBER)
Aptamers can Detect Subtle Conformational Changes in Proteins

MOLBIO-12 J Villar,* C Tsai-Morris, M Dufau (NICHD)
Androgen Action Essential in Godanotropin-regulated Testicular RNA Helicase (GRTH/DDX25) Gene Transcription

MOLBIO-13 J Wang,* T Roy Sarkar, M Zhou, S Sharan, D Ritt, T Veenstra, D Morrison, A Huang, E Sterneck (NCI)
C/EBPd-mediated Nuclear Import of FANCD2 by IPO4 Augments Cellular Response to DNA Damage

MOLBIO-14 LS Waters, G Storz (NICHD)
Characterization of a Novel Manganese-regulated Small Protein in *Escherichia coli*

MOLBIO-15 D Watt, E Johansson, T Kunkel (NIEHS)
Replication of Ribonucleotide-containing DNA Templates by Yeast DNA Polymerases

MOLBIO-16 M-N Yap,* HD Bernstein (NIDDK)
The Translational Regulatory Activity of a Nascent Presecretory Protein Requires a Unique Mode of Membrane Targeting

MOLBIO-17 G ZeRuth,* A Jetten (NIEHS)
Regulation of Gli-similar 3 Transactivation Function and Stability by Suppressor of Fused

MOLBIO-18 H Zhang, X Li, Q Liu, H Yang, H Xi, E Gardner, Z-X Xi (NIDA)
Expression and Cellular Distributions of Cannabinoid CB2 Receptors in Mouse Brain

*** FARE Award Winner**

OXIDSTRESS: Oxidative Stress

OXIDSTRESS-1 M Abdelmegeed, SH Yoo, L Henderson, F Gonzalez, BJ Song (NIAAA)
Peroxisome Proliferator-activated Receptor-α Protects Mice from High Fat-induced, Non-alcoholic Fatty Liver

OXIDSTRESS-2 G Beauvais, S Jayanthi, B Ladenheim, JL Cadet (NIDA)
Administration of the Dopamine D1 Receptor Antagonist, SCH23390, Suppresses Methamphetamine-induced Activation of Endoplasmic Reticulum (ER)- and Mitochondria-mediated Cell Death Pathways

OXIDSTRESS-3 PW Buehler, OI Butt, F D'Agnillo (CBER)
Sodium Nitrite Attenuates Extracellular Hemoglobin-mediated Blood Pressure Elevation but Triggers Blood-Brain Barrier Dysfunction

OXIDSTRESS-4 OI Butt, PW Buehler, F D'Agnillo (CBER)
Cerebral Tight Junction Alterations and Oxidative Stress in Guinea Pigs Transfused with Polymerized Cell-free Hemoglobin

OXIDSTRESS-5 S Jayanthi, MT McCoy, G Beauvais, B Ladenheim, W Woods III, KG Becker, JL Cadet (NIDA)
Methamphetamine Causes Dopamine (DA) D1 Receptor-dependent Unfolded Protein Response in the Rat Striatum

OXIDSTRESS-6 Z Jiang, K Nakazawa (NIMH)
Role of Oxidative Stress in Psycopathogenesis of Schizophrenia-like Phenotypes following Depletion of NMDAR in Early Postnatal Corticolimbic Interneurons

OXIDSTRESS-7 H Lucas, J Lee (NHLBI)
Elucidating the Coordination Properties of Copper-bound Alpha-synuclein

OXIDSTRESS-8 HJ Sung,* W Ma, P Wang, J Hynes, TC O'Riordan, CA Combs, JP McCoy, F Bunz, J Kang, PM Hwang (NHLBI)
Mitochondrial Respiration Protects Against Oxygen-associated DNA Damage

*** FARE Award Winner**

PROTEOM: Proteomics

PROTEOM-1 J Cole, D Nanavati, C Chen, B Martin, A Makusky, A Dosemeci, S Markey (NIMH)
Biosynthetic Concatenated-labeled Peptides Show Equivalence to Whole-labeled Proteins as Internal Standards for Isotope Dilution Mass Spectrometry

PROTEOM-2 K Tran (NIMH)
Microdissection of Subcellular Organelles for Mass Spectrometry-based Proteomics

PROTEOM-3 M-H Han, Z Li, S Markey (NIMH)
Identification of Caspase-3 Substrates in LTD Induction by N-terminal Labeling and Mass Spectrometry

PROTEOM-4 H-Y Kim (NIAAA)
A Novel Approach to the Identification of Protein-Protein Interaction Using On-beads Cross-linking, Co-Immunoprecipitation, and Mass Spectrometry

PROTEOM-5 X Ye, B Luke, D Johann, T Andresson, T Veenstra, J Blonder (NCI)
A Computational Method for Improved Quantitation Accuracy of Differentially 18O/16O-labeled Peptides Exhibiting Variable Rate of 18O Incorporation

PROTEOM-6 O Obolensky, W Wu, R-F Shen, Y-K Yu (NLM)
Density Functional Theory: Based Predictions of Ion Intensity Relationships in Mass Spectra of Oligoalanines

PROTEOM-7 V Sidhu,* B Huang, H-Y Kim (NIAAA)
Quantitative Analysis of the Brain Synaptic Plasma Membrane Proteins from the DHA-deficient and Adequate Mice using 16O/18O Labeling

PROTEOM-8 MB Strader, N Costantino, CA Elkins, C Yun Chen, I Patel, AJ Makusky, JS Choy, DL Court, SP Markey, JA Kowalak (NIMH)
Beta-methylthiolation on *E. coli* Ribosomal Protein S12 Affects Transcription of Genes in FNR Regulon

PROTEOM-9 S Yuditskaya, A Tumblin, G Hoehn, A Tailor, G Wang, SK Drake, S Ying, AK Mack, L Mendelsohn, X Xu, AT Remaley, R-F Shen, PJ Munson, AF Suffredini, GJ Kato (NHLBI)
Proteomically Identified Biomarkers of Pulmonary Hypertension and Acute Pain Episodes in Sickle Cell Disease

PROTEOM-10 Y Zhou, T Yi, S Park, W Chadwick, R Shen, W Wu, B Martin, S Maudsley (NIA)
Enhanced Proteolytic Digestion from Electric-field-oriented Enzyme Immobilization for Membrane Protein and Proteomics

*** FARE Award Winner**

RSCHSUPP: Research Support Services

RSCHSUPP-1 I Alexander, N Oberlander, O Rojas, K Cooper, B Rosa, R Byrum (NIAID)
Recognition and Alleviation of Distress in Laboratory Animals and How This Relates to Using Animals in Research

RSCHSUPP-2 J Barnett, N Weber, J Lumpkin, Y Huyen (NIAID)
Evaluation of Microsoft OneNote Integrated with an Electronic Records and Documents Management System: A Potential Electronic Laboratory Notebook?

RSCHSUPP-3 V Smith, M Winters, M Morgan, K Baxley (OD)
Laboratory Spills: Mechanisms to Prevent or Minimize Spills

RSCHSUPP-4 M Bhagwat (OD)
Identifying and Supporting NIH Researchers' Bioinformatics Needs

RSCHSUPP-5 D Chaitt, T Miller, J Pierson, J Lassa, J Tavel (NIAID)
Evaluation of the NIAID Protocol Development Program

RSCHSUPP-6 B Crise, J Gilly, L Feinegbaum, J Collins (NCI)
Research Support Programs at the National Cancer Institute at Frederick

RSCHSUPP-7 H Eden, P Brown, E Dimitriadis, A Gorbach, H Kalish, N Morgan, G Zhang (NIBIB)
Biomedical Engineering and Physical Science Shared Resource

RSCHSUPP-8 L Garrett, J Cheng, G Elliott, K Hazzard, K Hasneen, C Rivas, E Escobar (NHGRI)
NHGRI Embryonic Stem Cell and Transgenic Mouse Core

RSCHSUPP-9 M Stitt-Fischer, D Harbourt, J Glass (OD)
Getting to Know Your Autoclave: Developing A Targeted Training Tool

RSCHSUPP-10 R Harrington, WT Hsieh, L Feigenbaum (NCI)
Speed Congenics Services at the National Cancer Institute at Frederick

RSCHSUPP-11 M Henderson, T Sheehy, M Cosentino, K Pitt (NCI)
Introducing Automation to Improve Throughput in DNA Extraction and Sample Aliquoting for Human Biofluids

RSCHSUPP-12 B Klaunberg, D Morris, D Despres, V Diaz, D Donahue, M Lizak, J Munasinghe (NINDS)
NIH Mouse Imaging Facility: An Intramural-shared Animal Imaging Resource

RSCHSUPP-13 K Amos, L Knecht (NLM)
Observations about the Retraction of Biomedical Literature: An Analysis of Publications Cited in MEDLINE

RSCHSUPP-14 L Sternberg, T Beachley, D Butcher, W Custer, G DiSalvo, L Dutko, S Florea, D Green, Y Golubeva, B Gouker, X Hao, L Johnston, J Krolus, J Matta, T Morgan, M Orr, G Rivera, R Smith, P Snowden, A Warner (NCI)
SAIC-Frederick Histotechnology Shared Services Core Laboratory

RSCHSUPP-15 N Oberlander, K Cooper, I Alexander, R Byrum (NIAID)
Does Nonhuman Primate Enrichment Really Matter?

RSCHSUPP-16 R O'Neill, P de Jong, K Lloyd (NCRR)
Knockout Mouse Repository and Phenotyping

RSCHSUPP-17 E Rau, K Okumura, T Jarrett (OD)
Greenhouse Gas Accounting and Reduction at the National Institutes of Health: Challenges and Opportunities

RSCHSUPP-18 PC Sieving, B Anton, J Tang (OD)
The Impact of Free Access on Citations to the Vision Literature

RSCHSUPP-19 J Welsh (OD)
Comparing Research Productivity Using the h-index

RSCHSUPP-20 R Lingenfelter, M Wright (OD)
Getting to Know Your Biosafety Cabinet

RSCHSUPP-21 G Zhang, V Speransky (NIBIB)
Trans-NIH Electron Microscopy Shared Facility

Ruth L. Kirschstein Auditorium

Non-coding RNA Elements and their Mechanisms of Action in Eukaryotic mRNAs

Co-chairs: Richard Maraia, NICHD, and Yun-xing Wang, NCI
Sponsoring Scientific Interest Group: The NIH RNA Club

Non-coding elements of mRNAs are involved in cellular processes as a means to manage various aspects of gene expression including splicing, translation efficiency, and turnover, some of which are also used by viruses to gain control of the mRNA. The mRNA 3′ untranslated region (3′ UTR) is a focus of this symposium. Regulation occurs through intricate networks that involve interactions between structural cis-elements in the 3′ UTR and trans-acting RNA-binding proteins and/or non-coding RNAs such as miRNAs, all of which act predominantly to control mRNA levels. It is also becoming appreciated that other non-coding motifs control splicing and alternative splicing, which will be another focus of this symposium. The purpose is to provide a succinct view of IRP activities in these areas and promote interactions among researchers.

Program

Novel Roles for Human microRNAs in Modulating Cholesterol Synthesis
Praveen Sethupathy, NHGRI
FARE Award Winner

Functions of microRNAs Expressed by Kaposi's Sarcoma-associated Herpesvirus
Joseph Zigelbauer, NCI

microRNAs Coming of Age in Aging
Myriam Gorospe, NIA

MAP Kinase Regulation of mRNA Stability
Shuibang Wang, CC

Detection and Ascertainment of Genomic Sequence Variants that Cause Exon Skipping
Laura Elnitski, NHGRI

Tumor Virus Regulation of Cellular microRNA Expression and Function
Zhi-Ming (Tom) Zheng, NCI

Conference Room E1/E2

Use of Molecular Profiles and Biomarkers in Translational Research

Co-chairs: David S. Goldstein, NINDS, and Minkyung (Min) Song, NCI
Sponsoring Scientific Interest Group: Translational Research Interest Group

Advances in "omics" technologies, bioinformatics, and epidemiology have allowed biomedical research investigators to identify clinically relevant molecular profiles and biomarkers. In this symposium, speakers will discuss the use of molecular signatures and biomarkers in understanding mechanisms of diseases and their tissue-specific subtypes; identifying common pathways to diseases; diagnosing diseases and clinical symptoms; predicting responses of patients to targeted therapies; tracking natural history; and exploring molecular mechanisms underlying effects of therapies. Molecular profiles and biomarkers are key tools for bridging basic, preclinical, and clinical research.

Program

NOTCH2 in Breast Cancer: Association of SNP rs11249433 with Gene Expression in ER-positive Breast Tumors Without TP53 Mutations
Yi-Ping Fu, NCI
FARE Award Winner

Biomarkers and Mechanisms of Loss of Catecholaminergic Neurons in Parkinson's Disease and Related Disorders
David S. Goldstein, NINDS

Clinical Application of Transcriptome Profiling of Adrenal Neoplasm
Electron Kebebew, NCI

Proteomic Signatures of Epidermal Growth Factor Receptor and Survival Signal Pathways Correspond to Gefitinib Sensitivity in Head and Neck Cancer
Zhong Chen, NIDCD

Proteomic and Gene Expression Arrays Suggest Common Altered Pathways in Multiple Autoimmune Diseases
Terrance O'Hanlon, NIEHS

NF-kappaB Signaling in Cancer: Deregulation and Targeting
Christina Annunziata, NCI

An Excess of Circulating Anti-angiogenic Factors: Final Common Pathway to the Hypertensive Syndrome of Preeclampsia
Richard Levine, NICHD

Balcony A

Molecular and Cell Biology of Virus Entry, Egress, and Host Defense
Co-chairs: Fadila Bouamr, NIAID, and Vineet KewalRamani, NCI
Sponsoring Scientific Interest Group: Virology Interest Group

Drawing investigators from three intramural campuses, this symposium highlights progress made in understanding virus interactions with the host. Masters of genetic economy, animal viruses utilize cellular pathways to invade their hosts and spread infection. In doing so, viruses also circumvent adaptive and innate host immune responses. This symposium discusses advances in basic and translational virology research conducted at NIH. Virus interactions with cells resolved at the molecular level, the success and failure of immune response in combating viral infection, and the co-opting of viruses to combat human disease will be topics explored. The viral journey through the cell, evading intrinsic restriction mechanisms while utilizing cellular machinery to propagate new virions for additional cycles of replication, is revealed through cell biology and genetic studies. Join us in the examination of some of our most successful and deadly passengers.

Program

Immunological Mechanisms Underlying Rare Spontaneous Clearance of Chronic Hepatitis C Virus Infection
Sukanya Raghuraman, NIDDK
FARE Award Winner

Clinical Gene Delivery using Viral Vectors: Considerations of a User
Bruce Baum, NIDCR

Balancing Protection and Enhanced Pathogenesis: Exploring the Molecular Basis of Antibody-mediated Protection Against Flaviviruses
Ted Pierson, NIAID

Intercepting HIV's Nuclear Payload
Vineet KewalRamani, NCI

TRIMing Virus Infection: A Novel Interferon-stimulated Gene that Restricts Flavivirus Replication
Sonja Best, NIAID

Catching HIV in the Act of Entry
Sriram Subramanian, NCI

A New Role for HIV-1 Nucleocapsid: ESCRTing Virus Out
Fadila Bouamr, NIAID

Balcony B

Getting "Energetic" about Mitochondrial Proteomics

Co-chairs: Mark Stevens, NHLBI, and Steven Zullo, CSR
Sponsoring Scientific Interest Group: The Mitochondria Interest Group

The mitochondria are multi-faceted organelles involved in cellular processes such as energetics, survival, and signal transduction. These processes may be altered in various environmental conditions and disease states. Although mitochondria have their own genome, much of the mitochondrial proteome is encoded by nuclear DNA and then imported to the organelles. It is being observed that mitochondrial proteomes vary under cell context in both the type of proteins present and post-translational modifications. Because each organ has various energetic and homeostatic requirements, this implies mitochondria have adapted to needs of specialized cells. Studies into mitochondrial proteomes are bringing novel insights into how mitochondria function and under what circumstances they become dysfunctional. These sessions will highlight proteomics in mitochondrial research with relevance to toxicology and disease.

Program

Elevated mtDNA Mutations Can Lead to Structural and Metabolic Disturbances in the CNS
Jaime Ross, NIDA
FARE Award Winner

Phosphoproteomic Changes in the Heart
Robert Balaban, NHLBI

Employing Proteomics to Identify and Characterize Sirtuin Mitochondrial Acetylated Protein Targets
Michael Sack, NHLBI

Palmitoylproteomic Profiling of the Macrophage Identifies a Role for Palmitoylation in Mitochondrial Targeting of Phospholipid Scramblase 3
Michael Fessler, NIEHS

Alcohol and Drug-induced Mitochondrial Dysfunction, Fat Accumulation, and Liver Damage
B.J. Song, NIAAA

Disease Variants of the Human Mitochondrial DNA Helicase Encoded by C10orf2 Differentially Alter Protein Stability, Nucleotide Hydrolysis, and Helicase Activity
Matthew Longley, NIEHS

Proteomic Characterization of the Mitochondrial Signalosome
Youn Wook Chung, NHLBI

Balcony C

The Brain and the Construction of Complex Behaviors
Chair: Betsy Murray, NIMH

The symposium speakers will address neural mechanisms underlying different levels of emotional, social and choice behavior in both human and nonhuman primates. Hikosaka will discuss neuronal mechanisms of switching from automatic to controlled behavior, particularly in relation to the connection from the frontal cortex to the basal ganglia. Murray will discuss neural circuits underlying reward-based decision-making, with an emphasis on amygdala-frontal interactions and specializations within orbital frontal cortex. Suomi will present evidence regarding gene-environment interactions in development, and the role that social interaction and attachment relationships play in modulating risk for adverse developmental outcomes. Leibenluft will discuss studies of severe irritability in youth receiving psychiatric care; both functional imaging and behavioral analysis point to dysregulation of attention-emotion interactions, among other mechanisms, as contributing to this phenomenon.

Program

Primary Cortical Processing during Memory Reactivation: How the Human Brain Modifies Existing Motor Memories
Nitzan Censor, NINDS
FARE Award Winner

Decision-making by Cortico-basal Ganglia Networks
Okihide Hikosaka, NEI

What's it Worth? Neural Circuits Underlying Reward-based Decision-Making
Betsy Murray, NIMH

Gene-Environment Interplay in Rhesus Monkey Behavioral and Biological Development
Stephen Suomi, NICHD

The Neural Circuitry of Irritability in Youth
Ellen Leibenluft, NIMH

Conference Room F1/F2

Amyloids and Prions: Biology and Structures

Co-chairs: Robert Tycko, NIDDK, and Reed Wickner, NIDDK

Amyloid fibrils are protein filaments with a cross-beta structure, meaning that they contain beta-sheets with beta-strands perpendicular to their long axis. The importance of amyloids in Alzheimer's disease, Parkinson's disease, Type 2 diabetes, amyotrophic lateral sclerosis, and other diseases of later life makes understanding their structure and biology of increasing importance in our aging population. Most prions (infectious proteins) are amyloids, usually (but not always) causing disease. The yeast prions have been used to understand the basis of prion generation and propagation, and the many interactions of cellular components with amyloid filaments. Speakers in this session will discuss amyloids of human diseases and yeast diseases, as well as an amyloid with a normal function. Amyloid structures, new prions, chaperone effects on prions, and effects of prions on cells will be described.

Program

Relational Statistical Deformation Models to Capture Hidden Morphological Properties
Jesus Caban, NLM
FARE Award Winner

Prions and the Transmissibility of Protein Misfolding
Byron Caughey, NIAID

Prions and Protein Chaperones
Daniel C. Masison, NIDDK

Mechanisms by which Amyloidogenic Peptides Perturb Neuronal Ion and Energy Homeostasis
Mark Matson, NIA

Molecular-level Structural Diversity in Amyloid Fibrils
Robert Tycko, NIDDK

A New Yeast Prion of a Metacaspase Homolog: Mechanism of Prion Toxicity
Reed Wickner, NIDDK

Residue-specific Fluorescent Probes of alpha-Synuclein Interactions with Lipids, Metals, and Itself
Jennifer Lee, NHLBI

Conference Room D

Asthma: From Bench-to-Bedside

Co-chairs: Stewart Levine, NHLBI, and Darryl C. Zeldin, NIEHS

Asthma is a disease of enormous public health importance that involves a complex interplay between environmental factors and the host immune system. This symposium will focus on cutting-edge, basic and translational research within the intramural programs at several institutes and centers. Levine will discuss the identification of an apolipoprotein E-LDL receptor pathway as an endogenous negative regulator of asthma and the potential for targeting this pathway with apolipoprotein E mimetic peptides. Fessler will discuss emerging insights on how dyslipidemia and pulmonary cholesterol homeostasis regulate airway inflammation, and how these processes may impact asthma. Wynn will discuss the role of Th2 cytokines, in particular, the role of IL-13 and its receptors, in the development of asthma in rodent models. Garantziotis will discuss the role of hyaluronan binding and signaling in the development of airway hyper-responsiveness and the potential role of hyaluronan-binding antagonists in the treatment of airway disease and airway hyper-responsiveness. Mezey will discuss the effect of intravenously administered bone marrow-derived stromal cells on allergic responses in mice following ragweed allergen challenge.

Program

Th2 Responses to Inhaled Antigens Are Selectively Induced by Lung Resident CD103+ Dendritic Cells
Hideki Nakano, NIEHS
FARE Award Winner

An Apolipoprotein E-LDL Receptor Pathway Negatively Regulates House Dust Mite-induced Asthma: A New Therapeutic Strategy for Asthma
Stewart Levine, NHLBI

Th2 Cytokine Pathways and the Pathogenesis of Allergic Asthma
Tom Wynn, NIAID

Hyaluranan and Asthma: A New Therapeutic Target?
Stavros Garantziotis, NIEHS

Bone Marrow Stromal Cells Suppress Allergic Responses in a Mouse Model of Ragweed-induced Asthma
Eva Mezey, NIDCR

Novel Effects of Dyslipidemia in Airway Inflammation and Asthma Pathogenesis
Michael Fessler, NIEHS

IMAG: Imaging

IMAG-1 J Aman, J Yao, R Summers (CC)
Content-based Image Retrieval on CT Colonography Using Rotation and Scale Invariant Feature and Bag-of-Words Model

IMAG-2 F Bhattacharyya, H Wu, GL Griffiths (NHLBI)
Synthesis of Meta-[18F]Fluorobenzylbromide from Phenyl(meta-Formylphenyl) Iodonium Salt Precursors

IMAG-3 M Budde,* J Frank (CC)
Neurite Beading is Sufficient to Decrease the Apparent Diffusion Coefficient following Ischemic Stroke

IMAG-4 JE Burns, RM Summers, J Yao (CC)
Computer-aided Detection of Subtle Bone Lesions

IMAG-5 J Butman, N Gai (CC)
Correction for T1 Determined Using Rapid Look-Locker Balanced SSFP and a Simple Two Parameter Model Fit

IMAG-6 X Chen, R Summers, J Yao (CC)
FEM-based 3D Tumor Growth Prediction for Kidney Tumor

IMAG-7 G Chen, Z Saad, R Cox (NIMH)
FMRI Group Analysis with Both Individual Effect and Within-subject Variability

IMAG-8 B Colsch, SN Jackson, AS Woods (NIDA)
Imaging of Gangliosides in Rat Brain Tissue by Mass Spectrometry, Illustrating Their Distribution in Hippocampal Cell Layers

IMAG-9 A Delvolve, B Colsch, S Jackson, A Woods (NIDA)
Imaging and Structural Analysis of Phospholipids and Sphingolipids in Rat Brain Tissue Sections

IMAG-10 J Dyall, R Johnson, D Mollura, D-Y Chen, L Huzella, D Ragland, J Blaney, J Paragas, PB Jahrling (NIAID)
Molecular Imaging Reveals Route-dependent Differences in the Pattern of Inflammation in Monkeypox Virus-infected Cynomolgus Macaques

IMAG-11 RH El Khouli, D Thomasson, K Macura, S Mezban, W Liu, M Jacobs, R Edden, P Barker, D Bluemke (CC)
Detection of Breast Micro-calcifications with MRI at 3T

IMAG-12 N Gai, E Turkbey, D Bluemke (CC)
Mapping Myocardial Fiber Tracts in the Human Heart with Diffusion Tensor Imaging

*** FARE Award Winner**

IMAG-13 I Haile, D Thomasson, D Soltysik, P Dicamillo, N Biassou (CC)
PRESTO fMRI: Reduced Susceptibility Relative to Gradient Echo EPI at 3T Magnet

IMAG-14 K Hasegawa, P Kalab (NCI)
Improved FRET Sensors for Quantitative Imaging of the RanGTP Gradient in Live Cells

IMAG-15 J Kainerstorfer,* J Riley, M Ehler, F Amyot, M Hassan, S Demos, V Chernomordik, C Hitzenberger, A Gandjbakhche (NICHD)
Real-time Assessment of Blood Volume and Blood Oxygenation in the Skin Using Multi-spectral Imaging

IMAG-17 SH Lee*, DJ Kravitz, CI Baker (NIMH)
The Precision of the "Mind's Eye": Visual Mental Imagery and Perception

IMAG-18 RF Leoni, DB de Araujo, AC Silva (NINDS)
Negative Cerebral Blood Flow and BOLD Responses to Somatosensory Stimulation in Spontaneously Hypertensive Rats

IMAG-19 M Levy, D Rubin (CBER)
Image Annotation Tool for Cancer Lesion Tracking and Automated Response Assessment

IMAG-20 MG Linguraru, JA Pura, RM Summers (CC)
Multi-organ Abdominal Segmentation from Multi-phase CT

IMAG-21 S Liu, M Ugander, H Huang, A Oki, C Sibley, M Nacif, N Gai, P Kellman, A Arai, D Bluemke (CC)
Validation of Modified Look-Locker Inversion Recovery for Myocardium T1 Mapping on 3T

IMAG-22 W Liu, J Meyer, G Kato, E Elster, A Gorbach (NIBIB)
Functional Infrared Imaging: A Supplemental Tool for Strain Gauge Plethysmography

IMAG-23 R Imran, R Maass-Moreno, C Chen (CC)
Tracking Radiation Dose for PET/CT Examinations

IMAG-24 J Meyer, W Liu, C Scully, A Gorbach (NIBIB)
Monitoring Forearm Blood Flow Using Infrared, Laser Speckle, and TiVi Imaging Simultaneously

IMAG-25 M Mitsunaga,* N Kosaka, RC Kines, JN Roberts, DR Lowy, JT Schiller, Y Ishihara, A Hasegawa, PL Choyke, H Kobayashi (NCI)
In Vivo Imaging of Experimental Human Papillomavirus Infection in Mice with Multi-color Fluorescence Mini-endoscopy

*** FARE Award Winner**

IMAG-26 P Mongkolwat, D Rubin, V Kleper, V Dave, D Channin (NCI)
The caBIG(TM) Annotation and Image Markup (AIM) Template Creator for AIM Version 3.0

IMAG-27 D Morris, J Sumner (NINDS)
Balanced SSFP MR Microscopy for Imaging Endogenously Labeled Neuroprogenitor Stem Cells with Linear Combination Steady-state Free Precession (LCSSFP) for Artifact Reduction

IMAG-28 MS Nacif, EB Turkbey, N Gai, RA Noureldin, S Liu, C Sibley, DA Bluemke (CC)
Myocardial Tissue Composition with MRI: Look Locker Versus MOLLI Sequences for T1 Mapping

IMAG-29 K Narayan,* GE Murphy, D Shi, S Subramaniam (NCI)
3D Imaging of Mammalian Cells Using Ion Abrasion Scanning Electron Microscopy

IMAG-30 A Nayak, L Walker, C Pierpaoli (NICHD)
Optimization of EPI Distortion Correction in a Pediatric DTI Multi-center Study

IMAG-31 R Noureldin, C Sibly, N Gai, E Turkbey, S Liu, D Bluemke (CC)
Non-Invasive Prediction of Histologic Myocardial Fibrosis Using Cardiac MR T1 Mapping and Its Relation to Diastolic Function

IMAG-32 N Pandya, C Ting, C Lee, M McAuliffe (CIT)
A Novel Combination of Algorithms to Register Drosophila Optic Lobe Neurons to an Atlas

IMAG-33 J Post, B Colsh, S Jackson, A Delvolve, G Bull, B Cox, A Woods (NIDA)
Imaging Mass Spectrometry of Lipid Profile Changes in Controlled Cortical Impact Rat Brain Injuries

IMAG-34 RW Cox, ZS Saad (NIMH)
Surfing the Connectome Interactive Resting State Correlation Analyses in AFNI and SUMA

IMAG-35 P Sati, D Thomasson, J Butman, DS Reich, N Biassou (NINDS)
Improved Acquisition Time for Susceptibility Weighted Imaging at 3T

IMAG-36 C Scully, W Liu, J Meyer, A Dementyev, F Levi, A Gorbach (NIBIB)
Skin Temperature as a Potential Marker of Ultradian and Circadian Rhythmicity

IMAG-37 J Senseney, W Gandler, I Evangelou, D Reich, M McAuliffe (CIT)
DCE-MRI Processing Framework

*** FARE Award Winner**

IMAG-38 K Shmueli, J Duyn (NINDS)
Does Chemical Exchange Contribute to Frequency Contrast in Magnetic Resonance Images of the Brain?

IMAG-39 AA Sousa, AA Azari, MA Aronova, G Zhang, RD Leapman (NIBIB)
Unconventional Modes for Nanoscale Imaging of Biological Structures by Electron Microscopy

IMAG-40 S Subaran, F Indig, K Becker (NIA)
The Confocal Imaging Facility (CIF) of the National Institute on Aging

IMAG-41 D Thomasson, I Haile, P DiCamillo, N Biassou (CC)
Keyhole PRESTO fMRI: Improved Temporal Resolution with Reduced Susceptibility Distortions

IMAG-42 EB Turkbey, PA Cleary, JC Backlund, JM Lachin, DM Nathan, RJ van der Geest, JA Lima, DA Bluemke (CC)
Relationship of Myocardial Scar with Cardiovascular Disease Risk Factors in the Diabetes Control and Complications Trial (DCCT)/Epidemiology of Diabetes Interventions and Complications (EDIC) Study

IMAG-43 I Turkbey, V Shah, Y Pang, M Bernardo, S Xu, J Kruecker, J Locklin, M Merino, J Shih, B Wood, P Pinto, P Choyke (NCI)
Is Apparent Diffusion Coefficient at 3T Associated with Prostate Cancer Grade in MRI Visible Tumors?

IMAG-44 L Walker, A Nayak, P Basser, C Pierpaoli (NICHD)
Diffusion Tensor MRI Processing for the NIH MRI Study of Normal Brain Development

IMAG-45 S Wang, N Petrick, R van Uitert, S Periaswamy, R Summers (CC)
Graph Matching Based on Mean Field Theory

IMAG-46 PM Wang, WJ Martin II (NIEHS)
Morphometric Analysis of Bleomycin-induced Alveolar Epithelium Type 2 Cell Injury and Cell Shape Changes during Repair in Murine Lungs

IMAG-47 H Wu, F Basuli, B Teng, Z Shi, G Griffiths (NHLBI)
Synthesis of [18F] 2-(5-(dimethylamino)naphthalene-1-sulfonamido)-2-(fluoromethyl) Butanoic Acid (ApoSense [18F]NST732) via Nucleophilic Ring-opening of an Aziridine Intermediate

IMAG-48 D Sussman, R Summers, J Yao (CC)
Fully Automated Adipose Tissue Measurement on Abdominal CT

IMAG-49 P Yarmolenko,* A Negussie, A Partanen, A Ranjan, M Dreher, D Haemmerich, M Dewhirst, B Wood (CC)
Image-guided Drug Delivery with Temperature-sensitive Liposomes

IMMUNO/INFLAM: Immunology/Inflammation

IMMUNO/INFLAM-1
Y Bai, A Kirshenbaum, ER Fischer, EC Chan, O Simakova, I Maric, DD Metcalfe, TM Wilson (NIAID)
Effects of a KIT Extracellular Activating Mutation on Mast Cell Homeostasis

IMMUNO/INFLAM-2
JA Bonzo,* FJ Gonzalez (NCI)
PPAR-gamma Mediates the Proliferative Response in Intestinal Epithelium after Irradiation Exposure

IMMUNO/INFLAM-3
S Crampton, J Deane, O Otubusin, K Hasty, S Bolland (NIAID)
Transgenic Expression of MDA5 Enhances Interferon Responses, CD8 Activation, and Viral Clearance

IMMUNO/INFLAM-4
J Daly, D Watt, K Bebenek, T Kunkel, M Diaz (NIEHS)
Role of DNA Polymerase Zeta in Immunoglobulin Mutation

IMMUNO/INFLAM-5
A Davey, S Pierce (NIAID)
Early Events in the Antigen-induced Initiation of Signaling in Human Naïve and Isotype-switched B Cells

IMMUNO/INFLAM-6
Y Ding,* ZG Gao, KA Jacobson, AF Suffredini (CC)
Dexamethasone Upregulates P2Y2 Receptor to Enhance ATP-induced Inflammatory Responses in Endothelial Cells

IMMUNO/INFLAM-8
AM Hansen, R Horai, R Villasmil, K Mayer, P Silver, RR Caspi (NEI)
An Innate, non-NK T Cell with Memory-like Phenotype Produces Large Amounts of IL-17 Independently of IL-6 and IL-21

IMMUNO/INFLAM-9
C Jiang, ML Zhao, M Diaz (NIEHS)
Adoptive Transfer of anti-dsDNA IgM Protected against Lupus Nephritis in MRL/lpr Mice

IMMUNO/INFLAM-10
RL Kortum,* CL Sommers, CP Alexander, NN Nath, A Grinberg, L Feigenbaum, PE Love, LE Samelson (NCI)
Conditional Deletion Reveals a Role for Sos1 in Pre-TCR Signaling and Thymocyte Development

IMMUNO/INFLAM-11
G Liang, Z Xie, K Druey (NIAID)
Requirement of CCL17-CCR4 for Basophil-mediated T Helper Type 2 Response to Protease Allergen

IMMUNO/INFLAM-12
K Lu,* Y Kanno, J Cannons, R Handon, A Elkahloun, S Anderson, H Sun, L Wei, J O'Shea, P Schwartzberg (NHGRI)
Functional and Epigenetic Analyses of In Vitro-derived, IL-21-producing Follicular T Helper-like Cells

*** FARE Award Winner**

IMMUNO/ INFLAM-13
H Nakashima, SR Husain, RK Puri (CBER)
Increased Efficacy of Combination of IL-13 Receptor-targeted Cytotoxin and DNA Vaccine in Murine Breast Cancer Model

IMMUNO/ INFLAM-14
S Palumbo,* C Toscano, L Parente, A Silva, R Weigert, F Bosetti (NIA)
Genetic Deletion or Pharmacological Inhibition of Cyclooxygenase-2 in Mice Reduces Demyelination and Improves Motor Function

IMMUNO/ INFLAM-15
M Pelletier,* AC Bulua, DL Kastner, RM Siegel (NIAMS)
Evaluation of the Effects of Disease-causing Mutations in Type I TNF Receptor (TNFR1) on Neutrophil Responses

IMMUNO/ INFLAM-16
A Poholek, M Clatworthy, R Germain (NIAID)
In Vivo Analysis of the Timing, Duration, and Requirements for T Follicular Helper (TFH) Cell Development and Maintenance in the T-dependent Immune Response

IMMUNO/ INFLAM-17
P Rigaux, Z Qiu, HF Rosenberg (NIAID)
Inflammatory Responses of Macrophages to Acute Pneumovirus Infection

IMMUNO/ INFLAM-18
V Stober, A Kornepati, E Siryaporn, Y Lim, K Kimata, S Garantziotis (NIEHS)
Inter-α-trypsin Inhibitor Ameliorates Endotoxin-induced Endothelial Injury

IMMUNO/ INFLAM-19
B Upadhyaya,* Y Yin, C Prussin (NIAID)
IL-5 Expression Defines a Phenotypically Distinct Subpopulation of Highly Differentiated Th2 Cells

IMMUNO/ INFLAM-21
B Vistica, L Nugent, M Aziz, C Tan, S Grossman, I Gery (NEI)
Natural Antioxidants Suppress Ocular Inflammation

IMMUNO/ INFLAM-22
WZ Wan,* JK Lim, MS Lionakis, JM Farber, PM Murphy (NIAID)
Chemokine Receptor Ccr6 Promotes Atherogenesis Through Macrophage Accumulation in ApoE-deficient Mice

IMMUNO/ INFLAM-23
A Wojcik, K Vernik, I Berkower, K Prutzman (CBER)
Stabilization of gp120 in the Open Conformation by a Charge Network of Salt Bridges

IMMUNO/ INFLAM-24
L Wright, Y Kitamura, W Chen, A Olivera, J Rivera (NIAMS)
Contactin 4 Contributes to Mast Cell Hyper-responsiveness in Bone Marrow-derived Mast Cells Chronically Exposed to Sphingosine-1-phosphate

IMMUNO/ INFLAM-25
Q Xu,* B Bielekova (NINDS)
The Antigenic Specificities of Cerebrospinal Fluid (CSF) Antibodies (Ab) in Patients with Multiple Sclerosis (MS)

*** FARE Award Winner**

IMMUNO/ INFLAM-26 X Yao, K Fredrikson, ZX Yu, N Raghavachari, K Keeran, G Zwicke, JA Amar, AT Remaley, SJ Leveine (NHLBI)
An Apolipoprotein E Mimetic Peptide Inhibits Airway Hyperreactivity in a House Dust Mite-induced Asthma

IMMUNO/ INFLAM-27 Y Yin, C Prussin (NIAID)
Eosinophilic Gastrointestinal Disorders are Characterized by Highly Differentiated IL-5+, GATA3+ Th2 Cells

INFECTDIS/HOSTDEF: Infectious Disease/Host Defense

INFECTDIS/ HOSTDEF-1 S Al Khodor, I Fraser (NIAID)
Characterization of *B. cenocepacia*-macrophages Interaction

INFECTDIS/ HOSTDEF-2 HI Bax, E Kristosturyan, S Browne, L Ding, SM Holland, EP Sampaio (NIAID)
The Role of Inteferon Alpha in Patients with Defective Interferon Gamma Signalling

INFECTDIS/ HOSTDEF-3 I Elakhal Naouar, R Dey, H Nakhasi, R Duncan (CBER)
Functional Characterization of Leishmania Donovani Amastigote-specific Argininosuccinate Synthase

INFECTDIS/ HOSTDEF-4 E Grice,* E Snitkin, L Yockey, D Bermudez, K Liechty, J Segre (NHGRI)
Longitudinal Shift in Diabetic Wound Microbiota Correlates with Prolonged Skin Defense Response

INFECTDIS/ HOSTDEF-5 K Kumar, M Nold, JD Haynes, P Srinivasan, JK Moch, K Reiter, D Narum (NIAID)
Proteomic Profiling of *Plasmodium falciparum* Long-lived Invasive Merozoites

INFECTDIS/ HOSTDEF-6 N Li, Z Benet, I Fraser (NIAID)
Establishment of a High-content Reporter Assay for siRNA Screening in Mouse Macrophages

INFECTDIS/ HOSTDEF-7 E Madrid, TE Nash, S Mahanty (NIAID)
In Vitro Effects on the Release or Secretion of Parasite-derived Molecules from Taenia Crassiceps Cysts May Serve as a Sensitive Technique for Screening of Anthelmintic Drugs

INFECTDIS/ HOSTDEF-8 S Raghuraman,* H Park, M Shuh, E Winkelstein, LH Tobler, DC Jarlais, MP Busch, B Edlin, B Rehermann (NIDDK)
Reversion of T Cell Exhaustion and Emergence of Neutralizing Antibodies Result in Spontaneous Resolution of Chronic Hepatitis C Virus Infection

*** FARE Award Winner**

INFECTDIS/ HOSTDEF-9 ES Snitkin, S Conlan, NISC Comparative Sequence Program, C Montero, A Zelazny, L Mijares, P Murray, J Segre (NHGRI)
Genomic Analysis of Multi-drug Resistant *Acinetobacter baumannii*

INFECTDIS/ HOSTDEF-10 E Thomas, Q Li, TJ Liang (NIDDK)
Characterization of Gene Induction and Antiviral Effects on HCVcc Infection following Ribavirin, Interferon, and Poly I/C Stimulation

INFECTDIS/ HOSTDEF-11 NS Veerapu, S Raghuraman, TJ Liang, T Heller, B Rehermann (NIDDK)
Trace Amounts of Residual Hepatitis C Virus Can Persist in Patients in the Early Years After Treatment-induced Clinical Recovery and Transmit Infection to Blood Recipients

INFECTDIS/ HOSTDEF-12 T Yoshida,* M Shingai, MA Martin, K Strebel (NIAID)
Host Adaptation of HIV-1 VPU

NEURO/BEHAV/SENSYS: Neurobiology and Behavior/Sensory Systems

NEURO/ BEHAV/ SENSYS-1 I Avila,* E Brazhnik, N Novikov, R Ruda, D Bergstrom, J Walters (NIA)
Beta Frequency Synchronization in Basal Ganglia Output During Movement in a Hemiparkinsonian Rat

NEURO/ BEHAV/ SENSYS-2 CT Chiu, G Liu, DM Chuang (NIMH)
The Molecular Effects of Mood-stabilizing Drugs Lithium and Valproate in Transgenic Mouse Models of Huntington's Disease

NEURO/ BEHAV/ SENSYS-3 YT Cho, AE Guyer, Y Bar-Haim, EE Nelson, B Benson, MG Hardin, SJ Fromm, NA Fox, DS Pine, M Ernst (NIMH)
Monetary Anticipation Among Anxious and Vulnerable Adolescents

NEURO/ BEHAV/ SENSYS-4 J Choi, M Cookson, G Lopez, E Goldin, O Goker-Alpan, B Stubblefield, E Sidransky (NHGRI)
Evaluation of Alpha-synuclein Aggregation in Brain Samples from Patients Carrying GBA Mutations

NEURO/ BEHAV/ SENSYS-5 L Coutellier, A Logemann, T Usdin (NIMH)
TIP39 Signaling Modulates the Effects of Arousal on Memory Performance Through Regulation of the Noradrenergic System

NEURO/ BEHAV/ SENSYS-6 L DeBrouse, B Hurd, L Saksida, T Bussey, M Camp, A Holmes (NIAAA)
Effects of Chronic Intermittent Ethanol Exposure on Cortico-striatal-mediated Discrimination and Reversal Learning

NEURO/ BEHAV/ SENSYS-7 E Dimitrov, T Usdin (NIMH)
Evidence that Tuberoinfundibular Peptide of 39 Residues Modulates Nociception through Endocannabinoid Signaling

*** FARE Award Winner**

NEURO/ BEHAV/ SENSYS-8
A Ellenstein, L Sigman, A Karabanov, S Song, M Hallett (NINDS)
Exploring Motor Learning through the Mirror Neuron System

NEURO/ BEHAV/ SENSYS-9
S Gao, Q Gu, D Sandstrom, R Scott, HA Nash (NIMH)
Two Ion Channels that Strongly Influence Anesthetic Sensitivity of Drosophila: Gene Networks and Neural Networks

NEURO/ BEHAV/ SENSYS-10
D Guo, D Alone, HA Nash (NIMH)
Genes Responsible for the Impact of Copy Number Variation on Anesthesia Sensitivity in *Drosophila melanogaster*

NEURO/ BEHAV/ SENSYS-11
H Hao,* D Kim, K Johnson, C Zang, K Cui, J Gregoski, F Yang, K Zhao, A Swaroop (NEI)
Epigenetic Signature-aided Global Target Analysis of Photoreceptor-specific Transcription Factor NRL and Implications for Retinal Degenerative Diseases

NEURO/ BEHAV/ SENSYS-12
Y Hirano, A Koretsky, A Silva (NINDS)
Layer-specific Detection of Inhibitory fMRI Response in Somatosensory Cortex through Cortico-cortical Interaction in Rats

NEURO/ BEHAV/ SENSYS-13
W Ito, D Sukato, A Morozov (NIMH)
Simple In Vivo Light Stimulator for Behavioral Experiments Involving Optogenetics

NEURO/ BEHAV/ SENSYS-14
P Ariyannur, J Moffett, B Kirmani, A Namboodiri, D Jacobowitz (NIMH)
Differential Expression of Acetyl CoA Synthetases: Metabolic Implications of Ketogenic Diet

NEURO/ BEHAV/ SENSYS-16
M Kellom, M Basselin, M Chen, SI Rapoport, JS Rao (NIA)
Increased Neuroinflammatory and Arachidonic Acid Cascade Markers with Synaptic Marker Loss in High-dose but Not in Low-dose LPS-infused Rats

NEURO/ BEHAV/ SENSYS-17
J Kisser, E Metter, L Ferrucci, S Resnick, D Kapogiannis (NIA)
Frontal Corpus Callosum Thinning with Alcohol Consumption

NEURO/ BEHAV/ SENSYS-18
S Kolata, ER Skylar, K Nakazawa (NIMH)
Postnatal GAD67 Ablation in a Subset of Corticolimbic Interneurons Results in Behavioral Phenotypes Characteristic of Major Neuropsychiatric Disorders

NEURO/ BEHAV/ SENSYS-19
M Lehmann, J Levin, R Brachman, M Herkenham (NIMH)
Environmental Enrichment Confers Stress Resiliency to Social Defeat through an Infralimbic Cortex-dependent Neuroanatomical Pathway

*** FARE Award Winner**

NEURO/ BEHAV/ SENSYS-20
X Li, H Wang, T Ng, M Morales (NIDA)
A Subpopulation of Dopaminergic Neurons Restricted to the Medial Aspects of the Midbrain Dopamine (DA) System Has a Glutamatergic Phenotype

NEURO/ BEHAV/ SENSYS-21
M Li, Y Wang, R Khairova, F Yang, P Yuan, C Castillo Wheeler, C Zarate, HK Manji, J Du (NIMH)
Tumor Necrosis Factor-alpha Enhanced AMPA-containing Synaptogenesis in the Central Nervous System

NEURO/ BEHAV/ SENSYS-22
D Liu, M Pitta, J Lee, H Jiang, M Mughal, M Mattson (NIA)
Nicotinamide Improves Neuronal Bioenergetics and Ameliorates Brain Pathology and Cognitive Decline in a 3xTgAD Mouse Model of Alzheimer's Disease

NEURO/ BEHAV/ SENSYS-23
N Peabody, B White (NIMH)
Identification of Command Neurons for Wing Expansion Behavior of Drosophila

NEURO/ BEHAV/ SENSYS-24
W Ma, S Brenowitz (NIDCD)
Single Neuron Recordings from Unanesthetized Mouse Dorsal Cochlear Nucleus

NEURO/ BEHAV/ SENSYS-25
K Martin, L Lederle, A Holmes (NIAAA)
Cortico-amygdala Dendritic Dysmorphology of 129S1/SvImJ Mice

NEURO/ BEHAV/ SENSYS-26
M Matsuda, A Chitnis (NICHD)
Notch-restricted Atoh1 Expression Regulates Morphogenesis of the Posterior Lateral Line in Zebrafish

NEURO/ BEHAV/ SENSYS-27
J Isaac (NIGMS)
Activity-dependent Change in the NR2 Subunit of NMDA Receptors

NEURO/ BEHAV/ SENSYS-28
B Mozer, D Sandstrom (NHLBI)
A Drosophila Neuroligin is Required for Synapse Stability and Function

NEURO/ BEHAV/ SENSYS-29
JE Belforte, K Nakazawa (NIMH)
Postnatal NMDA Receptor Deletion Confined to Corticolimbic GABAergic Neurons Abolishes Drug-induced Gamma Oscillation in Adult Mouse Brain

*** FARE Award Winner**

NEURO/ BEHAV/ SENSYS-30
MG Panessiti, MA Fox, FS Hall, GR Uhl, DL Murphy (NIMH)
An Analysis of the Involvement of the Serotononergic System in the Phenotype of Dopamine Transporter (DAT)-deficient Mice: Models for Neuropsychiatric Disorders

NEURO/ BEHAV/ SENSYS-31
JG Pope, S Chen, C Graydon, F Qiao, B Kachar, W Li (NEI)
Structural and Functional Changes in the Hibernating Ground Squirrel Photoreceptor Ribbon Synapse

NEURO/ BEHAV/ SENSYS-32
M Potter,* C Yuan, C Ottenritter, M Mughal, H van Praag (NIA)
Exercise Accelerates Symptom Onset and Does Not Improve Cognition or the Neurogenesis Deficit in a Mouse Model of Huntington's Disease

NEURO/ BEHAV/ SENSYS-34
D Rubinstein, F Carver, J Mitchell-Francis, T Holroyd, J Apud, D Weinberger, R Coppola (NIMH)
An MEG Study of Differential High-Frequency Gamma Activity in Schizophrenia During an Oddball Task

NEURO/ BEHAV/ SENSYS-35
JA Salemme, PR Moya, D-M Chuang, DL Murphy (NIMH)
Enhanced Antidepressant-like Effect of Lithium in Serotonin Transporter (SERT) Knockout Mice

NEURO/ BEHAV/ SENSYS-36
M Sedlacek, SD Brenowitz (NIDCD)
Spontaneous Firing of Cartwheel Cells in the Dorsal Cochlear Nucleus Evokes Endocannabinoid Release and Retrograde Suppression of Parallel Fiber Synapses

NEURO/ BEHAV/ SENSYS-37
JS Seely, CC Chow (NIDDK)
Neural Population Response Normalization in Theoretical Firing Rate Models

NEURO/ BEHAV/ SENSYS-38
SR Soekadar,* M Witkowski, E Buch, A Venkatakrishnan, N Birbaumer, LG Cohen (NINDS)
Modulating Control of a Noninvasive Brain-computer-interface in Healthy Subjects by Simultaneous Application of Anodal tDCS

NEURO/ BEHAV/ SENSYS-39
A Soumier,* H Cameron (NIMH)
Possible Implication of Adult Hippocampal Neurogenesis in the Rapid and Long-lasting Antidepressant Effects of Ketamine in Rats

NEURO/ BEHAV/ SENSYS-40
C Squires, K Whorton, M Cadman, J Brintnall, M Vieira, M Pao, B Karp (NIMH)
Protecting Human Subjects Participating in Mental Health Research via Ongoing Consent Monitoring

*** FARE Award Winner**

NEURO/ BEHAV/ SENSYS-41
H Swendsen, A Schmitz, C Grillon, K Merikangas (NIMH)
Gender Differences in Anxious Responses in Adolescents and Adults Using the Startle Reflex

NEURO/ BEHAV/ SENSYS-42
E Utreras,* J Keller, A Terse, MJ Iadarola, AB Kulkarni (NIDCR)
Downregulation of Cdk5 Pathways in TGF-beta 1 Knockout Mice Affects Pain Signaling

NEURO/ BEHAV/ SENSYS-43
A Velayati, Y Blech-Hermoni, JH Choi, W Westbroek, CS Landazabal, E Goldin, BK Stubblefield, E Sidransky, N Tayebi (NHGRI)
The Evaluation of a Loss-of-function GBA Variant Found in Patients with Parkinson's Disease

NEURO/ BEHAV/ SENSYS-44
P Wang,* BD Lazarus, ME Forsythe, DC Love, MW Krause, JA Hanover (NIDDK)
Loss of O-GlcNAc Reduces the Proteotoxicity in Caenorhabditis Elegans Models of Human Neurodegenerative Diseases

NEURO/ BEHAV/ SENSYS-45
H-L Wang, A Chakraborti, TH Ng, T Yamaguchi, M Morales (NIDA)
Glutamatergic Signaling by Both Mesocorticolimbic Glutamatergic and Mesocorticolimbic Glutamatergic-dopaminergic Neurons

NEURO/ BEHAV/ SENSYS-46
Y Wang, Y Wei, I Karatsoreos, R Blumenthal, P Yuan, C Dou, HK Manji, B McEwen, J Du (NIMH)
Can Bcl-2-Associated Athanogene 1 Regulate Glucocorticoid Receptor Trafficking to the Mitochondria?

NEURO/ BEHAV/ SENSYS-47
K Whorton, D Niner (NIMH)
A Model of Collaboration for the Education and Continued Informed Consent for Participants in Schizophrenia Research

NEURO/ BEHAV/ SENSYS-48
T Yamaguchi, TH Ng, M Morales (NIDA)
Glutamatergic Signaling Neurons Are Present in All Subdivisions of the Dopamine Midbrain System

NEURO/ BEHAV/ SENSYS-49
S Zhang, M Morales (NIDA)
Ultrastructural Evidence for Glutamatergic Signaling by Serotonergic Neurons on Dopaminergic (DA) Neurons of the Ventral Tegmental Area (VTA)

NEURO/ BEHAV/ SENSYS-50
J Zhang, J Tuo, X Cao, D Shen, C Chan (NEI)
Synaptic Pathology of Photoreceptor Terminals in Ccl2/Cx3cr1-deficient Mice

*** FARE Award Winner**

SIG/RNA/CYTOK: Signaling/Small RNAs/Cytokines

SIG/RNA/CYTOK-1
AD Berendsen, TM Kilts, MF Young (NIDCR)
A Novel Mechanism for Modulation of Canonical Wnt Signaling by the ECM Component, Biglycan

SIG/RNA/CYTOK-2
BE Tvermoes, GS Bird, JH Freedman (NIEHS)
Cadmium Induces Transcription Independent of Calcium Mobilization

SIG/RNA/CYTOK-3
N Goldberger, B Tran, K Hunter (NCI)
Identification of Candidate MicroRNAs Regulating Breast Cancer Metastasis

SIG/RNA/CYTOK-4
J Hunsberger, Y Leng, A Elkahloun, D Chuang (NIMH)
Profiling microRNAs Involved in the Neuroprotective Effects of Mood Stabilizers

SIG/RNA/CYTOK-5
FA Khan, W Shen, J Krall, F Vandeput, E Degerman, M Movsesian, VC Manganiello (NHLBI)
PDE3A: A Component of a Molecular Scaffold that May Integrate Cyclic AMP and Calcium ATPase Transduction Pathways in Human Myocardium

SIG/RNA/CYTOK-6
VB Lu,* JH Zhang, HL Puhl, WF Simonds, SR Ikeda (NIAAA)
Selectivity of Regulator of G Protein Signaling 7 (RGS7) Protein in G Protein-coupled Receptor Responses Revealed in an RGS7 Mutant Mouse

SIG/RNA/CYTOK-7
T Martin, S Jayanthi, B Ladenheim, M McCoy, J Cadet (NIDA)
Differential Changes in Striatal Expression of Neurexin and Neuroligin after Methamphetamine Administration

SIG/RNA/CYTOK-8
M Mendonca, H Kalish (NIBIB)
Multiplex Immunoassay of Cytokines Released by Vasoactive Intestinal Peptide-stimulated Astrocytes

SIG/RNA/CYTOK-9
P Porter-Gill, A Kaushiva, Y Fu, L Prokunina-Olsson (NCI)
miRNA Profiling in Normal and Tumor Bladder Tissue Samples

SIG/RNA/CYTOK-10
J Revollo,* J Cidlowski (NIEHS)
Removing the Brake in Glucocorticoid Signaling: Silencing of Hes1 is Necessary for Glucocorticoid Actions

SIG/RNA/CYTOK-11
M Rossi,* E Rosemond, S McMillin, M Scarselli, J Donaldson, J Wess (NIDDK)
Identification of Tmem147 as a Novel M3 Muscarinic Receptor-interacting Protein: Potential Clinical Relevance

SIG/RNA/CYTOK-12
P Sethupathy,* K Vickers, D Pearson, A Remaley, F Collins (NHGRI)
Novel Role for microRNA-27 in the Regulation of Cholesterol Biosynthesis and Global Lipid Metabolism

*** FARE Award Winner**

SIG/RNA/ CYTOK-13 J Sun, F Wang, N Li, I Fraser (NIAID)
Developing an siRNA Screening Assay in the THP-1 Human Monocyte Cell Line for Analysis of TLR Signaling Pathways

SIG/RNA/ CYTOK-14 S Xi, M Yang, Y Tao, H Xu, J Shan, M Zhang, DS Schrump (NCI)
Cigarette Smoke Enhances Pulmonary Carcinogenesis via Downregulation of Hsa-miR-487b in Respiratory Epithelial Cells

SIG/RNA/ CYTOK-15 J Yan,* V Mihaylov, X Xu, J Brzostowski, C Parent, T Jin (NIAID)
ELMO-E, A Novel Linkage Between G-protein-coupled Receptor (GPCR) Signaling and Actin Rearrangement

STEMCELL: Stem Cell

STEMCELL-1 BS Mallon, RS Hamilton, KY Park, KG Chen, RDG McKay (NINDS)
Characterization and Use of Human Pluripotent Stem Cells

STEMCELL-2 C Chisholm,* G Vazquez-Ortiz, C Li, C Xiao, X Xu, A Vassopoilis, C Deng (NIDDK)
Overcoming Chemotherapy Resistance by Targeting Breast Cancer Stem Cells

STEMCELL-3 AH Juan,* A Derfoul, X Feng, J Ryall, S Dell'Orso, H Zare, A Pasut, MA Rudnicki, V Sartorelli (NIAMS)
Polycomb Protein Ezh2 Regulates Muscle Stem Cell Function to Control Skeletal Muscle Growth and Regeneration

STEMCELL-4 JL Lo Surdo, SR Bauer (CBER)
A Quantitative Bioassay to Measure Adipogenesis in Human Bone Marrow Mesenchymal Stromal Cells

STEMCELL-5 I Lombaert, S Abrams, M Hoffman (NIDCR)
Stem Cell Factor/c-Kit Signaling Maintains Epithelial End Bud Progenitor Cells during Submandibular Gland Organogenesis

STEMCELL-6 J Chenoweth, B Mallon, R Hamilton, P Tesar, K Chen, K Park, R McKay (NINDS)
Studying Genetic and Epigenetic Variation in Pluripotent Human Stem Cells

STEMCELL-7 M Onyshchenko, I Panyutin, R Neumann (CC)
Induction of Iodine Uptake in Human Embryonic Stem Cells during Differentiation into Thyroid-like Cells

STEMCELL-8 K Park, B Mallon, K Chen, R Hamilton, R McKay (NINDS)
Genetic Manipulation of Human Pluripotent Stem Cells

*** FARE Award Winner**

STEMCELL-9 A Sivarapatna, P Lucas, R Gress (NCI)
Maximizing Hematopoietic Stem Cell Potential in a Murine Bone Marrow Transplantation Model

STEMCELL-10 MV Sokolov, IG Panyutin, RD Neumann (CC)
Functional Genomics of Human Embryonic Stem Cell Response to Ionizing Radiation Exposures

STEMCELL-11 C Sweeney,* J Zou, U Choi, J Pan, B-K Chou, L Cheng, H Malech (NIAID)
Modeling X-linked Chronic Granulomatous Disease using Neutrophils Differentiated from Patient-derived Induced Pluripotent Stem Cells

STEMCELL-12 J Vogler, Y Ji, O Amrani, M Samaan, D Griffin, G Christopherson, M Kluk, WM Jackson, LJ Nesti (NIAMS)
Enhancing the Neurotrophic Function of Mesenchymal Progenitor Cells from Orthopaedic Combat Trauma

STEMCELL-13 H Wang, G Ge, Y Uchida, B Luu, S Ahn (NICHD)
The Role of Gli3 in Forebrain Neurogenesis

STRUCTBIO: Structural Biology

STRUCTBIO-1 GA Bermejo, CD Schwieters (CIT)
Improvement of the Torsion-Angle Database Potential in Xplor-NIH

STRUCTBIO-2 C Biertümpfel,* Y Zhao, Y Kondo, S Ramón-Maiques, M Gregory, JY Lee, C Masutani, AR Lehmann, F Hanaoka, W Yang (NIDDK)
Structure and Mechanism of Human DNA Polymerase eta

STRUCTBIO-3 J Chappie,* S Acharya, M Leonard, S Schmid, F Dyda (NIDDK)
G Domain Dimerization Controls Dynamin's Assembly-stimulated GTPase Activity

STRUCTBIO-4 K Backus, MA Dolan, CE Barry (NIAID)
Putative Membrane Binding Interface of TB Antigen 85 Determined by Molecular Dynamics

STRUCTBIO-5 PW Keller, CS Adamson, JB Heymann, EO Freed, AC Steven (NIAMS)
The HIV-1 Maturation Inhibitor Bevirimat Stabilizes the Immature Gag Lattice

STRUCTBIO-6 S Li, Y Liang, R Das, Y Tsai, S Tarasov, J Mariano, J Li, R Byrd, X Ji, A Weissman (NCI)
Insights into the Molecular Basis of RING Finger Ubiqutin Ligase Activity and Processivity

*** FARE Award Winner**

STRUCTBIO-7 YH Liang, R Das, J Li, J Mariano, AM Weissman, RA Byrd, X Ji (NCI)
Structural Basis for Allosteric Activation of Ubiquitylation Mediated by Ube2g2 and gp78 RING Finger

STRUCTBIO-8 G Lountos,* A Jobson, J Tropea, C Self, Y Pommier, R Shoemaker, D Waugh (NCI)
Structure-assisted Design of Novel Inhibitors of Human Checkpoint Kinase 2, a Drug Target for Cancer Therapy

STRUCTBIO-9 D Nemecek, B Heymann, J Qiao, L Mindich, AC Steven (NIAMS)
Maturation of Bacteriophage phi6 Procapsid Revealed by cryoEM

STRUCTBIO-10 Y Ryabov, CD Schwieters (CIT)
Using NMR Relaxation Data in Globular Protein Structure Determination

STRUCTBIO-11 C Schwieters (CIT)
Software Tools for Biomolecular NMR Structure Determination

STRUCTBIO-12 JR Stagno, AS Altieri, J Li, RA Byrd, X Ji (NCI)
Coiled-coil dsRNA Forms a Scaffold for Protein Assembly and Crystallization

STRUCTBIO-13 R Thangudu, S Bryant, T Madej, A Panchenko (NLM)
A Knowledge-based Approach to Target Protein–Protein Interfaces for Drug Discovery

STRUCTBIO-14 CJ Tsai, R Nussinov (NCI)
Protein Nanoscale Architecture by Symmetry

STRUCTBIO-15 M Makiya, MA Dolan, Z Chen (NIAID)
Antibody Binding to Anthrax Edema Factor (EF) Determined by RosettaDock Using Flexible Loop Modeling

VIROL/MICRO: Virology/Microbiology

VIROL/ MICRO-1 J Abend,* T Uldrick, J Ziegelbauer (NCI)
Regulation of TWEAKR Expression by KSHV microRNA Prevents TWEAK-induced Apoptosis and Inflammatory Cytokine Expression

VIROL/ MICRO-2 M Aldea, M Machner (NICHD)
The *Legionella pneumophila* Effector Protein LidA Simultaneously Binds Rab GTPases and Phosphatidylinositol 3-phosphate

VIROL/ MICRO-3 C Allan, H Song, R Johnson (NIAID)
Flow Cytometric Analysis by TruCountTM Tubes of SHFV-infected Rhesus Macaques

*** FARE Award Winner**

VIROL/ MICRO-4
Y Cai,* E Berger (NIAID)
Developing an Immunotoxin Directed Against KSHV gH glycoprotein as a Novel Therapeutic Strategy for KSHV-related Multicentric Castleman's Disease

VIROL/ MICRO-5
Y Chen,* M Machner (NICHD)
Interaction of *Legionella pneumophila* Effector Protein LidA with the Host Cell Rab6 GTPase

VIROL/ MICRO-6
R Friedman, J Soto, F Schmeisser, JP Weir (CBER)
Protection of Mice Against Influenza A H5N1 Virus Challenge by Vaccination with Mammalian-derived, Virus-like Particles

VIROL/ MICRO-7
KM Guglielmi,* HN Ramanathan, JT Patton (NIAID)
Contribution of Rotavirus RNA-dependent RNA Polymerase Template Entry Tunnel Residues to RNA Synthesis

VIROL/ MICRO-8
L Houzet,* Z Klase, ML Yeung, KT Jeang (NIAID)
Evidence for Sequence-specific Evolution of HIV RNA by Cellular miRNA-based Selection

VIROL/ MICRO-9
R Johnson, C Jett, A Smith, J Dyall, A Lara, R Kurnat, R Byrum, D Ragland, E Zommer, M St.Claire, J Paragas, J Blaney, P Jahrling (NIAID)
Simian Hemorrhagic Fever Virus Infection in Rhesus Macaques

VIROL/ MICRO-10
A Kachko,* G Kochneva, G Sivolobova, A Grazhdantseva, I Zubkova, F Wells, M Merchlinsky, O Williams, H Watanabe, A Ivanova, V Loktev, S Netesov, M Major (CBER)
Dissecting Peptide Recognition Profiles against Hepatitis C Virus (HCV) Envelope Glycoproteins Reveals New Neutralizing Antibody Epitopes

VIROL/ MICRO-11
J-G Kang,* N Pripuzova, V Majerciak, M Kruhlak, Z-M Zheng (NCI)
Escape of Viral and Human IL6 from microRNA-mediated Suppression by Kaposi Sarcoma-associated Herpesvirus ORF57

VIROL/ MICRO-13
J Vogel, T Kristie (NIAID)
Inhibition of the Histone Demethylase LSD1 Blocks alpha-Herpesvirus Lytic Replication and Reactivation from Latency

VIROL/ MICRO-14
SW Liu, B Moss (NIAID)
Poly(A) Binding Protein Protects RNA with a 5′ Poly(A) Leader, Characteristic of Poxvirus Intermediate and Late mRNAs, from Decapping by the Vaccinia Virus D9 and D10 Enzymes

VIROL/ MICRO-15
V Majerciak, H Uranishi, M Kruhlak, GR Pilkington, MJ Massimelli, J Bear, GN Pavlakis, BK Felber, ZM Zheng (NCI)
KSHV ORF57 Interacts Directly with Cellular Factors RBM15 and OTT3 to Promote ORF59 Expression

*** FARE Award Winner**

VIROL/ MICRO-16
L Marshall, L Dunham, C Ryschkewitsch, G Major (NINDS)
The Transcription Factor Spi-B Binds Unique Sequences Present in the Tandem Repeat Promoter/Enhancer of JC Virus and Supports Viral Activity

VIROL/ MICRO-17
MJ Massimelli, JG Kang, ZM Zheng (NCI)
Two Elements on Each End of KSHV Noncoding RNA, PAN, Guide Viral ORF57 for PAN Stability

VIROL/ MICRO-18
JW Mays,* SR Das, JG Gibbs, HD Hickman, JR Bennink, JW Yewdell (NIAID)
Putative Open Reading Frame May Encode Novel 12th Influenza A Virus Protein

VIROL/ MICRO-19
C Butan, LM Hartnell, AK Fenton, D Bliss, RE Sockett, S Subramaniam, JLS Milne (NCI)
Spiral Architecture of the Nucleoid in the Predatory Gram-negative Bacterium *Bdellovibrio bacteriovorus*

VIROL/ MICRO-20
MC Monaco, D Maric, E Geras-Raaka, N Arbour, M Blain, W Yang, J Antel, EO Major (NINDS)
Establishment of a Progenitor-derived Oligodendrocyte Culture System from Human Fetal Brain for the Study of JC Virus

VIROL/ MICRO-21
K Nagamine, G Hung, S Lo (CBER)
Species-specific Amplification of *Streptococcus pyogene*s DNA by Real-time PCR

VIROL/ MICRO-22
GI Parra, K Bok, B Cottingham, C Rhodes, E Abente, C Sandoval-Jaime, S Sosnovtsev, KY Green (NIAID)
Characterization of a Panel of Monoclonal Antibodies Against Norwalk Virus Capsid Protein

VIROL/ MICRO-23
N Pripuzova, B Li, S Tsai, R Wang, G-C Hung, S-H Lo (CBER)
Real-time PCR Array for Rapid Detection of Viral Pathogens in Human Tissues

VIROL/ MICRO-24
L QI,* J Kash, V Dugan, B Jagger, YF Lao, Z Sheng, K Hartshorn, J Taubenberger (NIAID)
Evasion of Pulmonary Surfactant D Protein Binding by Pandemic Influenza Virus Hemagglutinins from 1918 to 2009 Correlates with the Ability to Induce Severe Lower Respiratory Tract Pathology in Mice

VIROL/ MICRO-25
HB Sanford, J Bernbaum, R Johnson, V Wahl-Jensen, PB Jahrling, JH Kuhn (NIAID)
Electron-microscopic Visualization of Simian Hemorrhagic Fever Virus (SHFV) and SHFV-infected Cells

*** FARE Award Winner**

VIROL/ MICRO-26
I Sastalla, L Maltese, AP Pomerantsev, SH Leppla (NIAID)
Rapid Killing of Murine Macrophages Caused by a *Bacillus cereus* Secreted Toxin

VIROL/ MICRO-27
M Shingai,* Y Nishimura, CR Brown, MA Martin (NIAID)
A Novel R5-Tropic SIV/HIV Chimeric Virus Specifically Targets Tissue Macrophage during the Acute Infection of Rhesus Macaques

VIROL/ MICRO-28
KF Smith, WA Huang, MC Bash (CBER)
Analysis of the Effect of PorB Antigenic Diversity on Neisseria Meningitidis Fitness

VIROL/ MICRO-29
J Speicher (NIAID)
Test of a Method Employing Growth in a Target Cell as the Primary Method of Screening Large Populations of Live-virus Vaccine Candidates

VIROL/ MICRO-30
X Wen, D Cao, R Jones, J Li, S Szu, Y Hoshino (NIAID)
Construction and Characterization of Human Rotavirus Recombinant VP8* Subunit Vaccine Candidates

VIROL/ MICRO-31
XZ Zhao, K Maddali, BC Vu, SJ Smith, C Marchand, SH Hughes, Y Pommier, TR Burke (NCI)
Development of Bicyclic and Tricyclic 3-Hydroxy-2(1H)-pyridone Containing HIV-1 Integrase Inhibitors

*** FARE Award Winner**

Special Exhibits on Resources for Intramural Research
Natcher Conference Center

Tuesday, October 5
12:00 PM–2:00 PM
Wednesday, October 6
11:00 AM–1:00 PM, 3:00 PM–5:00 PM

Information booths on intramural research resources will be displayed in the lobby areas of the Natcher Conference Center on October 5 and 6. The following NIH Institutes and Centers, offices, programs, and organizations will be represented.

Applied Biomedical Supercomputing on the NIH Helix Systems, CIT
The NIH Helix Systems (offered by CIT) provides high-performance scientific computational resources, training, consulting, and collaboration for the intramural NIH community. Resources available to Helix users include the Biowulf Linux cluster with almost 9,000 processors; very large memory systems (72-512 GB), high-performance file systems, and a dedicated staff to provide technical support. Applications include licensed products such as Matlab and the Biobase suite for gene regulation and transcription interpretation; sequence assembly packages such as MIRA and Velvet; web applications such as the EMBOSS sequence analysis suite; in-house-developed tools such as DNAworks for oligonucleotide design and StrucTools for 3-D structure analysis; and applications for small- or large-scale use in the areas of computational chemistry, molecular dynamics, sequence analysis, linkage and phylogenetic analysis, structural biology, mathematical and statistical analysis, image processing, proteomics, and more (http://helix.nih.gov).

Bioinformatics and Computational Biosciences Branch (BCBB), Office of Cyber Infrastructure and Computational Biology (OCICB), NIAID
The Bioinformatics and Computational Biosciences Branch (BCBB) partners with clients in the research process by applying bioinformatics and computational biology methods to generate new hypotheses and data, analyze existing data, and ultimately elevate the use of these methods and resources throughout the NIH. BCBB offers the following services:

Communications and Outreach
Training and Education for Researchers
Web Collaboration Strategy
Seminars, Training, and Consultation
Emerging Technologies Research
Analytic Algorithms and In-silico Modeling
Scientific Research Management
Database Development
Data Analysis and Research Services
Custom Scripting
Project Portfolio Management
Custom Scientific Software Development

We will be demonstrating bioinformatics concepts and resources at our booth throughout the festival. You may also contact us by emailing ScienceApps@niaid.nih.gov.

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Center for Information Technology (CIT)
The Center for Information Technology (CIT) supports NIH and other Federal research and management programs with efficient, cost-effective administrative and high-powered scientific computing. From supercomputing to management of an Image Processing Facility, CIT provides the NIH intramural community with bioinformatics support and scientific tools and resources to advance computational science. CIT can help your organization with computer training, technical support, application development and hosting services, IT acquisition, networking, telecommunications, and IT security. For more information, contact the CIT Planning, Evaluation, and Communications Office (PECO) at citcommoffice@mail.nih.gov or 301-496-6203, or visit the CIT website at http://cit.nih.gov.

CIT Video Services
CIT Video Services provides a variety of communication and collaboration services that enable the NIH community to interact with people worldwide, including:

- *VideoCasting and Podcasting:* Presentations are sent as live streaming video, then archived in a form that allows the viewer to rewind, fast forward, and pause the show. Podcast files can be downloaded and viewed offline on a computer or portable media player.

- *NIH Web Collaboration using Connect:* Online meeting application allows you to hold virtual meetings and share documents, images, and video online with colleagues or collaborators across the globe, without the high costs and scheduling difficulties of travel.

- *Video Conferencing:* Allows people to attend meetings held in another location by sending a real-time, TV-style signal between two or more rooms.

- *Conference Room Design and Support:* Traditional spaces can be transformed into Multimedia Conference Rooms for meeting with people in the room, as well as remote attendees using VTC and Web Collaboration.

Core Facilities
Core Facilities in the NIH Intramural Research Program (IRP) provide ongoing research support to intramural investigators in support of the biomedical research mission of the NIH. They provide specialized technical and theoretical knowledge, access to state-of-the-art technology, and training of students, fellows, visiting fellows, and other research personnel. Some examples of the diverse cores in the NIH IRP include facilities supporting confocal microscopy, flow cytometry, proteomics, microarray analysis, DNA sequencing, bioinformatics, and cytogenetics, among others. The use of core facilities allows centralized specialized services and technical expertise resulting in cost savings in equipment, personnel, and training.

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Foundation for Advanced Education in the Sciences
The Foundation for Advanced Education in the Sciences (FAES) is a nonprofit organization at the NIH that was established in 1959 by a group of senior scientists "to foster and encourage scientific research and education, and to facilitate communication among scientists, by whatever means may be practical." Initially, FAES organized an evening academic program at the NIH to permit investigators to supplement laboratory training with advanced formal education. The success of this academic program served as a catalyst towards creating additional programs and services. Current FAES activities include: FAES Graduate School and BioTrac training programs, Health and Dental Insurance programs, FAES Bookstore, Conference Management services, Cultural Enrichment activities, FAES Social and Academic Center, and student housing.

Green Labs
Many of the diseases that we research at NIH have been shown to have an environmental component. As a result, NIH has a unique responsibility to carefully consider the environmental impacts of our day-to-day activities. NIH is a leader in environmental stewardship, but we can do even better. Each of us must take simple actions to minimize our environmental impacts. The NIH Environmental Management System (NEMS) is a management tool that helps us identify our most pressing environmental issues, set goals to address those issues, and improve our environmental performance. As a part of NEMS, the NIH Goes Greener campaign was launched to challenge all NIH employees and contractors to conduct their activities in a more environmentally sound manner. The NIH Green Teams, set up by each institute, are working toward greening each institute in general, with special emphasis on office greening. The NEMS Sustainable Laboratory Practices Working Group is developing procedures and tools on how to green laboratory activities. The group has been focusing its efforts to promote the use of less-toxic chemicals, reduce the use of laboratory supplies that can potentially lead to an increase in the release of greenhouse gases into the atmosphere and endocrine system-disrupting chemicals into our water, and promote energy use-reduction activities in the laboratory. Future efforts include opportunities for peer networking through Greening Chemical Labs mini fairs, a website tool where researchers can share their success stories, and an incentive program to encourage adoption of greener technologies.

I am Intramural
Our purpose is to promote the NIH intramural research program; the major goal of this effort is to raise awareness of the NIH Intramural Research Program by sharing thoughts and opinions, to help us to:

- Clearly explain how the research done here improves people's lives.
- Showcase the talents of scientists, clinicians, and professional staff, at all stages of their careers.
- Provide information on how we're training the "next generation" of biomedical scientists.
- Promote participation in clinical research studies done at the NIH Clinical Research Center.

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11:00 AM–1:00 PM, 3:00 PM–5:00 PM

NCI Cancer Biomedical Informatics Grid® (caBIG®)
The cancer Biomedical Informatics Grid® (caBIG®) is a collaborative network designed to accelerate the translation of discoveries from research to clinical care. This extensible informatics platform integrates diverse data types and supports interoperable software tools in clinical science, biospecimen management, imaging and discovery science. An institution can combine various caBIG® tools to form a comprehensive solution for data management as well as data integration, discovery, and analysis. Data management solutions within the caBIG® Life Sciences domain include those for microarray data (caArray), biospecimens (caTissue Suite), nanoparticle data (caNanoLab), and Genome Wide Association Study data (caGWAS).

To support the connection of data across these resources, there are integrative tools that allow scientists to search data across different repositories connected to the grid, and analyze, integrate, and visualize these data. CaIntegrator allows users with no programming skills to set up study-specific custom Web portals that allow search and analysis across different data types. caBench-to-Bedside (caB2B) allows users to search array data, biospecimens, and nanoparticle data across instances of caArray, caTissue Suite, and caNanoLab, on the grid. The Cancer Genome Atlas (TCGA) tools allow researchers to search and download large TCGA datasets as well as integrate, visualize, and explore clinical and genomic data using the TCGA data portal and the Cancer Genome WorkBench (CGWB).

NCI Technology Transfer Center (TTC)
The NCI Technology Transfer Center (TTC) provides a complete array of services to support the National Cancer Institute's (NCI) technology transfer activities and ensures that NCI's technology transfer activities comport with Federal statutes and regulations and the policies of the National Institutes of Health. A large part of TTC's responsibilities includes the negotiation of technology transfer agreements between the NCI and outside organizations such as universities and pharmaceutical and biotechnology companies. TTC reviews employee invention reports and makes recommendations to the NIH Office of Technology Transfer (OTT) concerning filing of patent applications. TTC also provides a range of technology transfer services to several other institutes.

NIH Blood Bank
The NIH Blood Bank exhibit will provide literature and information explaining donation opportunities for employees and visitors. Platelet, plasma, double red cell, research, and whole blood donation questions and answers will be available.

Special Exhibits on Resources for Intramural Research
Natcher Conference Center

Tuesday, October 5
12:00 PM–2:00 PM
Wednesday, October 6
11:00 AM–1:00 PM, 3:00 PM–5:00 PM

NIH Federal Credit Union
Our exhibit will be an informational table promoting our products and services; our main focus will be financial education. We are offering financial checkups on our loan products and credit checkups to help our members become financially fit. We also will have giveaways and a drawing.

NIMH Schizophrenia Research
The National Institute of Mental Health seeks healthy volunteers to participate in a study examining genes and brain function. Participation involves a blood draw and non-invasive neuroimaging, interviews, and cognitive testing. No overnight stays or medications are involved. Compensation is provided. To participate, call 1-800-411-1222 (TTY# 1-866-411-1010). Refer to Protocol #95-M-150.

NITAAC
For over a decade, the NIH Information Technology Acquisition and Assessment Center (NITAAC) has been delivering information technology to federal civilian and Department of Defense agencies through multiple governmentwide acquisition contracts. We've streamlined our processes, developed customer-focused initiatives, and built an e-ordering system unlike any other. Visit our booth and see for yourself how easy procurement can be.

Office of NIH History, OD
The Stetten Museum and the Office of History will be represented at the Research Festival by an exhibit that helps to explain our capabilities and unique functions. This year we will feature a scale model of a new Heart Valve Exhibition (shown in the context of the Clinical Center's South Entrance). And, we will exhibit concept boards that highlight the primary stories and historical narratives captured in this exhibition. One or two of the new museum objects collected as part of the exhibition research and content development, and background binders of photographs and objects associated with each story, will also be available for visitors to explore. The array of materials will help to illustrate the field research, image and object collecting, and oral history recording that helped to shape the visitor experiences within the exhibition. We will be distributing bookmarks that feature the individuals and objects associated specifically with the heart valve storylines (which will include some contemporary NIH folks who are continuing a long tradition of invention and innovation in cardiovascular medicine). Museum staff, Stetten Fellows, and historians will be on hand to answer questions about the various functions of the Stetten Museum and the Office of History, and to inquire with visitors about historical materials and collections that may be available to the museum and archives.

Special Exhibits on Resources for Intramural Research
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Tuesday, October 5
12:00 PM–2:00 PM
Wednesday, October 6
11:00 AM–1:00 PM, 3:00 PM–5:00 PM

Office of Research Services, OD
The Office of Research Services (ORS) provides a comprehensive portfolio of services to support the biomedical research mission of the NIH. Some examples of the diverse services ORS provides include: laboratory safety, security and emergency response, veterinary resources, scientific equipment and instrumentation services, the NIH Library, events management, travel and transportation, services for foreign scientists, and programs to enrich and enhance the NIH worksite.

Office of Science Education
The NIH Office of Science Education (OSE), http://science.education.nih.gov, plans, develops, and coordinates a comprehensive science education program to strengthen and enhance NIH's efforts to attract young people to biomedical and behavioral science careers and to improve science literacy in both adults and children. The OSE exhibit will showcase volunteer opportunities for NIH scientists, clinicians, and other professionals including:

- ***LifeWorks Speakers Bureau,*** http://science.education.nih.gov/LifeWorks/Speakers, volunteer to speak about a wide range of health and medical science topics and careers at schools and public science education events.

- ***LifeWorks® E-mentoring,*** http://science.education.nih.gov/LifeWorks/Ementoring, become a supportive mentor and guide students via email.

- ***LifeWorks (Career Exploration),*** http://science.education.nih.gov/LifeWorks/Careers, share your career story or become a video star at this career exploration website for middle and high school students.

Office of Training and Education, OD
The NIH Office of Intramural Training and Education (OITE) is a division of the Office of Intramural Research (OIR), Office of the Director (OD). Our mission is to enhance the training experience of students and fellows on all of the NIH campuses. We work closely with the Training Offices in the NIH institutes and centers to help trainees in the Intramural Research Program develop scientific and professional skills that will enable them to become leaders in the biomedical research community. We provide services to multiple groups: current trainees in programs in the NIH IRP; potential applicants to training programs at the NIH; investigators and staff at the NIH; and trainees and investigators outside the NIH (in the extramural community). Visit our website at www.training.nih.gov for additional information.

Special Exhibits on Resources for Intramural Research
Natcher Conference Center

Tuesday, October 5
12:00 PM–2:00 PM
Wednesday, October 6
11:00 AM–1:00 PM, 3:00 PM–5:00 PM

Recording for the Blind and Dyslexic (RFBD)
Recording for the Blind and Dyslexic (RFBD) is a nonprofit organization that provides recorded textbooks for students with visual disabilities. With headquarters in Princeton, N.J., RFBD units in cities around the country rely on more than 5,800 volunteers to produce recorded textbooks in all subject areas. The Washington, D.C. unit, located at 5225 Wisconsin Avenue, NW, hosts about 400 volunteers, week in and week out, who read, direct the recordings, prepare books for production, and do a variety of other jobs. In recent years, the organization has been faced with a much greater demand for high-level science texts than can be fulfilled at the main studio. To help meet this demand, RFBD established a recording space at NIH for the convenience of scientists and medical experts who can record college and postgraduate-level science texts. NIH volunteer readers fill a greatly needed gap by sharing their science and medical expertise. Our studio is located in the basement of Building 31 on the NIH campus, offering an exciting volunteer opportunity for NIH employees. For more information or to volunteer, contact Kathryn Sparks at ksparks@rfbd.org or 202-244-8990.

SAIC–Fredrick
The National Cancer Institute at Frederick offers a full range of cutting-edge research and development support to NIH scientists working in basic research, translational research, and preclinical studies. The Advanced Technology Program (ATP) offers the latest technology and expertise in genetics, genomics, proteins, proteomics, imaging, and nanotechnology. The Biopharmaceutical Development Program (BDP) provides state-of-the-art development of clinical-grade monoclonal antibodies, recombinant proteins, therapeutic peptides and plasmid DNA, oncolytic viruses, gene therapy products, and other biological agents. The Laboratory Animal Sciences Program (LASP) provides expertise in molecular technologies, animal model development and characterization, animal imaging, conventional histopathology, and molecular pathologic analysis. It provides comprehensive, high-quality animal care, technologies, and services to support the development of targeted cancer therapies. The Advanced Biological Computing Center (ABCC) has computing infrastructure to support bioinformatics, molecular modeling, image analysis, and high-throughput information solutions. These programs are operated by NCI–Frederick's prime contractor, SAIC–Frederick, Inc. For more information about how these programs can support your research please contact: ATP, Bruce Crise (criseb@mail.nih.gov); BDP, John Gilly (gillyj@mail.nih.gov); LASP, Lionel Feigenbaum (feigenbl@mail.nih.gov); or ABCC, Jack Collins (collinja@mail.nih.gov).

Technical Sales Association Research Festival Exhibit Tent Show
Parking Lot 10H

Thursday, October 7
9:30 AM–3:30 PM
Friday, October 8
9:30 AM–2:30 PM

The Technical Sales Association (TSA) sponsors the popular Research Festival Exhibit show on Thursday and Friday, October 7 and 8. More than 400 exhibitors will display state-of-the-art equipment, supplies and services by leading regional and national biomedical research suppliers. There is no cost to attend the exhibit but it is highly recommended that you preregister online to avoid the long on-site registration lines. To register and to obtain a listing of exhibitors, please visit http://www.gtpmgt.com.

NIH Core Poster Session
Building 10, South Lobby

Thursday, October 7
9:30 AM–3:30 PM
Friday, October 8
9:30 AM–2:30 PM

CORE IMAG: Core Imaging

CORE IMAG-1 D Bandy, D Ide, N Morgan, P Pham, T Talbot, D Trang, R Villadiego, G Dold
Section on Instrumentation Core Facility
Supporting NIMH, NINDS, and NICHD Research

CORE IMAG-2 J Zhang, JS Coles, MS Roof, D Shen, CC Chan
The NEI Histology Core

CORE IMAG-3 S Garfield, L Lim, P Mannan
The CCR Confocal Microscopy Core Provides New "Dimensions" in Imaging

CORE IMAG-4 S Lockett, K Peifley, L Rodriquez, D Chen, K Nandy, P Gudla, T Turbyville
Optical Microscopy and Analysis Laboratory at NCI-Frederick

CORE IMAG-5 S Subaran, F Indig
The Confocal Imaging Facility of the National Institute on Aging in Baltimore

CORE IMAG-6 U Baxa, K Nagashima, A Harned, C Burks, F Soheilian, A Kamata, D Parmiter, L Graham
The Electron Microscopy Laboratory

CORE IMAG-7 J McNally, T Karpova
Building 41, NCI Fluorescence Imaging Facility

CORE IMAG-8 RW Cox, ZS Saad
Scientific and Statistical Computing Core (NIMH and NINDS): Functional MRI Data Analysis Software and Support, Since 2001

CORE IMAG-9 H Qian
Introduction to Visual Function Core

CORE IMAG-10 K Zaal, E Ralston
A Tour of the NIAMS Light Imaging Facility

CORE IMAG-11 S Li, J Veen, Y Zhang, J Shen
Using Proton and Carbon-13 Magnetic Resonance Spectroscopy to Study Brain Metabolism and Disorder

CORE IMAG-12 M Kruhlak
The Experimental Immunology Branch Light Microscopy and Digital Imaging Core Facility

CORE IMAG-13 T Voss, J McNally, G Hager, T Misteli
High-throughput Imaging Screening Facility

CORE IMAG-14 S Anderson
NHLBI Animal MRI Core Facility

CORE IMAG-15 R Fariss, M Campos, C Gao
High-resolution Imaging Applications for Vision Research

CORE IMAG-16 R Coppola, T Holroyd, F Carver, S Robinson, J Mitchell-Francis, D Rubinstein, T Ard
NIMH MEG Core Facility

CORE FLOWCYT: Core Flow Cytometry

CORE FLOWCYT-17 W Telford, V Kapoor, N Voong
Flow Cytometry Core Laboratory, NCI Experimental Transplantation and Immunology Branch: A NCI Center for Cancer Research Core Facility

CORE FLOWCYT-18 K McKinnon, L Patterson, S Gordon, T Demberg, M Wong, D Edwards, G Franchini, M Robert-Guroff
Establishment of the Vaccine Branch Flow Cytometry Core Facility with Infectious Sorting Capabilities

CORE FLOWCYT-19 B Taylor, S Banerjee, M Poirier
The FACSCore Bldg 37 Facility: A Flow Cytometry and Cell Sorting Core Lab for CCR Scientists

CORE FLOWCYT-20 M Kench, M Ryherd, S Anderson
NHGRI Flow Cytometry Core

CORE TRANS: Core Transgenic

CORE TRANS-21 L Dong, S Ali, E Charleus, YL Feng, C Haugen, M Kopera, S Lee, J Lei, P Liu, P Miller, H Takahashi, S Tomarev, J Raber, R Weichbrod, T Plemons, l Trinchet-Anderson
NEI Genetic Engineering Core Facility

CORE TRANS-23 C Liu
NHLBI Transgenic/Knockout Mouse Core Facility

CORE TRANS-24 K Bishop, B Carrington, P Liu, R Sood
Resources and Services provided by the NHGRI Zebrafish Core Facility

NIH Core Poster Session
Building 10, South Lobby

Thursday, October 7
9:30 AM–3:30 PM
Friday, October 8
9:30 AM–2:30 PM

CORE GENE: Core Gene

CORE GENE-25 M Zhan
Bioinformatics Service for the NIA's Intramural Research Program

CORE GENE-26 M Gadina
The NIAMS Office of Science and Technology: Supporting Groundbreaking Research

CORE GENE-27 A Dutra, E Pak, S Wincovitch
NHGRI Cytogenetics and Microscopy Core Facility

CORE GENE-28 S Thorgeirsson, P Johnson, S Shema
The DNA Sequencing and Digital Gene Expression Core

CORE GENE-29 D Esposito, B Hopkins, T Taylor, B Gillette, R Bagni, D Chatterjee, J Hartley
Protein Expression Laboratory, SAIC-Frederick, Inc./NCI-Frederick

CORE GENE-30 B Tran, M Mehaffey, R Castle, Y Zhao, H Hebron, L Levin, J Orzechowski, M Smith
Center for Cancer Research Sequencing Facility: A Next- and Third-Generation Sequencing Resource

CORE GENE-31 S Martin, R Guha, P Tuzmen, N Caplen, Y Pommier, C Austin
The Trans-NIH RNAi Initiative

CORE GENE-32 J Hanson, J Rodriguez-Canales, M Emmert-Buck
The Laser Capture Microdissection Core of the Laboratory of Pathology, CCR

CORE GENE-33 K Peterson, J Gao, P Buchoff, C Jaworski, M Hauser, C Bowes-Rickman, D Hoover, G Wistow
NEIBank: EyeBrowse, EyeSAGE, and Eye Disease Genes Database

CORE GENE-34 C Li, C Deng
Fifteen-year Targeting

CORE GENE-35 A Hutchinson, M Beerman, J Boland, L Burdett, Q Chen, M Manning, A O'Neil, M Rivera-Silva, M Yeager
NCI Core Genotyping Facility: An Overview of Technology and Accomplishments

CORE GENE-36 T Ni, K Tu, H Wu, J Zhu
The DNA Sequencing and Computational Biology Core at NHLBI

CORE GENE-37 P Liu, K Woodhouse, N Raghavachari
NHLBI Genomics Core Facility

CORE GENE-38 KL Banfield, V Grinberg, BD Hicks, KM Pike, MW Smith, DR Soppet, CC Stewart, X Wu
Genomics Services at the Laboratory of Molecular Technology

CORE GENE-39 A Elkahloun, C Smith, J Miao
The NHGRI-NINDS-NIMH Microarray Core (MAC) Facility

CORE GENE-40 W Wood, E Lehrmann, Y Zhang, K Becker
The NIA Gene Expression and Genomics Unit

CORE GENE-41 W Chen, G Poy, HE Smith
The NIDDK Genomics Core Laboratory: Applications of Microarray Screening and Next-generation Sequencing Technologies

CORE PROTEIN: Core Protein

CORE PROTEIN-42 A Bhusry, D Banks, P Rajani, B Stannard, M Walter
NIDDK Clinical Research Core Laboratory: What We Do!

CORE PROTEIN-43 J Simpson, S Colantonio, S McNeil, R Fisher
Imaging Mass Spectrometry: A New Technology Coming to the Advanced Technology Program

CORE PROTEIN-44 NF Whittaker, JR Lloyd, DE Anderson
Advanced Mass Spectrometry Facility, NIDDK

CORE PROTEIN-45 P Walter, M Shrestha
Stable Isotopes in Clinical Studies: Advancements in Doubly Labeled Water and Labeled Glucose and Free Fatty Acids Analyses

CORE PROTEIN-46 A Aponte, Y Chen, G Wang, M Gucek
NHLBI Proteomics Core Facility

CORE PROTEIN-47 O Chertov, Y Kim, R Fisher
Protein Identification and Characterization

CORE PROTEIN-48 A Stephen, K Worthy, L Bindu, R Fisher
Surface Plasmon Resonance and Fluorescence Approaches to Investigating Molecular Interactions in the Protein Chemistry Laboratory

Neurobiology Symposium: *A Tribute to Marshall Nirenberg* Building 10, Masur and Lipsett

Friday, October 8
8:30 AM–4:00 PM

8:30 a.m.–8:45 a.m. ***Opening Remarks***
Michael Gottesman, DDIR, OD, NIH
Robert S. Balaban, NHLBI, NIH
Alan Peterkofsky, NHLBI, NIH

8:45 a.m.–9:00 a.m. ***An Overview of Nirenberg's Contributions to the Neurosciences***
Alessandra Rovescalli, NHLBI, NIH

9:00 a.m.–9:30 a.m. ***Closing the Circle: From Tumors to Neurons to Tumors***
Lloyd Greene, Columbia University Medical Center, New York, NY

9:30 a.m.–10:00 a.m. ***How Voltage-gated Sodium Channels Generate Electrical Signals in the Brain***
William Catterall, University of Washington, Seattle, WA

10:00 a.m.–10:30 a.m. ***Molecular Approaches to the Diagnosis and Treatment of Tumors of the Nervous System and Motor Disorders***
Xandra Breakefield, Massachusetts General Hospital Neuroscience Center, Charlestown, MA

10:30 a.m.–10:45 a.m. **Coffee Break**

10:45 a.m.–11:15 a.m. ***Using Evolutionary Divergence to Identify Functionally Related Neural Cis-regulatory Enhancers***
Ward Odenwald, NINDS, NIH

11:15 a.m.–11:45 a.m. ***Epigenetic Control of Behavior***
Moshe Szyf, Faculty of Medicine, McGill University, Montreal, Canada

11:45 a.m.–12:15 p.m. ***Genetic Approaches to Schizophrenia***
Edward Scolnick, Stanley Center for Psychiatric Research, Broad Institute, MIT, Boston, MA

12:15 p.m.–12:30 p.m. **Closing Remarks**
Samuel Barondes, Center for Neurobiology and Psychiatry, University of California School of Medicine, San Francisco, CA

Move to Lipsett Amphitheater

2:00 p.m.–4:00 p.m. **Memorial Service Honoring the Career of Marshall Nirenberg**
Lipsett Amphitheater

Informal reception at the Cloister will follow.

2010 NIH Research Festival Committees

NIH Research Festival Organizing Committee

Co-chairs:
Richard Leapman, Scientific Director, NIBIB
Richard Nakamura, Scientific Director, NIMH

Michael M. Gottesman, Deputy Director for Intramural Research, NIH
Richard Wyatt, Executive Director, Office of Intramural Research, OD
Joan Schwartz, Assistant Director, Office of Intramural Research, OD

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2010 NIH Research Festival Committees

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Kallie Wasserman, R&W
Rayne Ann Wood, ORS
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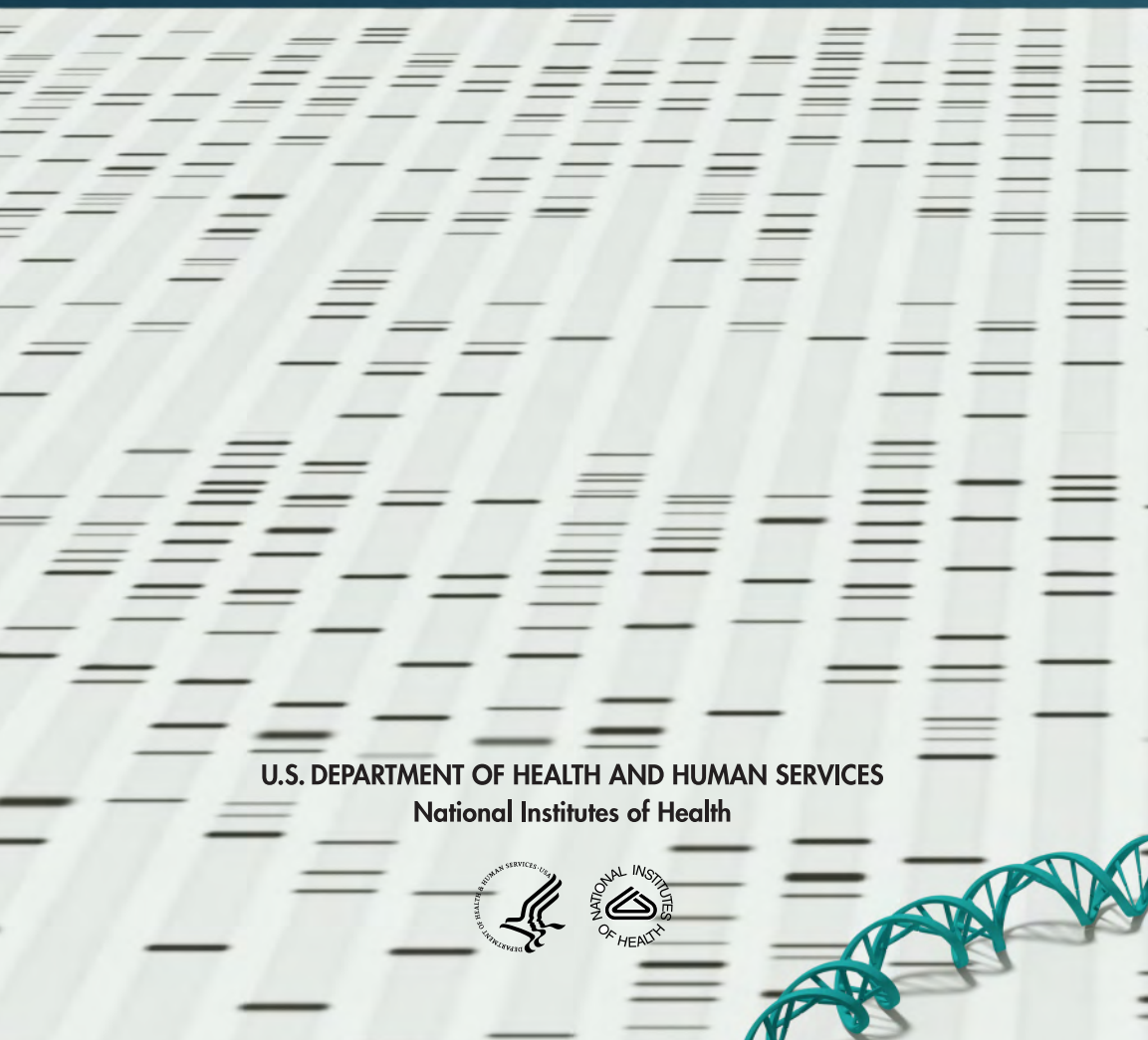
http://researchfestival.nih.gov



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