nih research festival

october 24-28, 2011

building 10 &
natcher conference center

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NATIONAL INSTITUTES OF HEALTH

Intramural Research Program

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list of abbreviations

CC	NIH Clinical Center
CIT	Center for Information Technology
CSR	Center for Scientific Review
FIC	John E. 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
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	Eunice Kenney Shriver 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
NIMHD	National Institute on Minority Health and Health Disparities
NINDS	National Institute of Neurological Disorders and Stroke
NINR	National Institute of Nursing Research
NLM	National Library of Medicine
OCPL	Office of Communications 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
USUHS	Uniformed Services University of Health Sciences
VRC	Vaccine Research Center

general schedule of events

Monday, October 24, 2011

10:00 a.m.–Noon Building 10, Masur Auditorium
Opening Plenary Session
Molecular Mechanisms of Human Disease

Noon–2:00 p.m. Move to…Natcher Conference Center, Building 45
Poster Session I
Biochemistry/Chemistry
Bioinformatics
Biophysics
Cancer
Development
Pharmacology/Physiology
Special Exhibits on Resources for Intramural Research

2:00 p.m.–4:00 p.m. Natcher Conference Center
Concurrent Symposia Session I
New Insights into Disease Pathogenesis and Treatment Through Genome-wide RNAi Screening
Ruth L. Kirschstein Auditorium
Advances in Immune Targeted Therapies
Room E1/E2
Informing Therapeutic Interventions with Mechanism-Based Pharmacology and Toxicology
Balcony A
Protecting the Brain From Traumatic Injury
Balcony B
Primary Cilia—The Antenna of the Cell: From Biogenesis to Disease
Balcony C

Tuesday, October 25, 2011

10:00 a.m.–11:30 a.m. Natcher Conference Center, Room F1/F2

Improving Workplace Dynamics

10:00 a.m.–Noon Natcher Conference Center

Concurrent Symposia Session II

Computational Approaches to Study Protein Interactome in Context of Disease
Ruth L. Kirschstein Auditorium

Signals and Patterns: Basic and Clinical Research in Developmental Biology
Room E1/E2

Telomerase and Telomeric Proteins in Telomere Maintenance, Cellular Plasticity, and Age-Related Disease
Balcony A

Neural Systems Underlying Social Function in Normal and Pathological Conditions
Balcony B

Molecular Logic of Angiogenesis in Development and Disease
Balcony C

Noon–2:00 p.m. Natcher Conference Center

Poster Session II

Cell Biology
Epidemiology
Epigenetics/ Transcription/Chromatin
Genetics/Genomics
Molecular Biology
Oxidative Stress
Proteomics
Signaling/RNA/Cytokines
Stem Cell
Structural Biology

Special Exhibits on Resources for Intramural Research

2:00 p.m.–4:00 p.m. Natcher Conference Center

Concurrent Symposia Session III

Notes from the RNA-Seq Revolution: Deep Sequencing Transcribed RNA in Health and Disease
Ruth L. Kirschstein Auditorium

CHI Symposium: Measuring the Perturbed Human Immune System
Room E1/E2

Neural Plasticity in Sensation and Cognition
Balcony A

Dynamic Protein Assemblies: Large and Small
Balcony B

Environmental Influences on Reproductive Tract Development and Function
Balcony C

4:15 p.m.–6:00 p.m. Natcher Conference Center

2012 FARE Program and Award Ceremony

Wednesday, October 26, 2011

10:00 a.m.–Noon	Natcher Conference Center
	Poster Session III
	Clinical Investigation/Cultural/Social Sciences/Aging/Disease Prevention
	Endocrinology
	Imaging
	Research Support Services
	Technology
	Special Exhibits on Resources for Intramural Research
Noon–2:00 p.m.	Natcher Conference Center
	Concurrent Symposia Session IV
	Post-translational Modifications: From Protein Structure to Systems Biology Ruth L. Kirschstein Auditorium
	Advances in Rare Diseases Research Room E1/E2
	Mitochondria in the Brain Balcony A
	IPSC Cells for Screening and Therapy Balcony B
	Mast Cells in Health and Disease Balcony *C*
2:00 p.m.–4:00 p.m.	Natcher Conference Center
	Poster Session IV
	Immunology/Inflammation
	Infectious Disease
	Neurobiology/Behavior/Sensory Systems
	Virology/Microbiology
	Special Exhibits on Resources for Intramural Research

Thursday, October 27, 2011

9:30 a.m.–3:30 p.m.	Parking Lot 10H
	Technical Sales Association Exhibit Tent Show
10:00 a.m.–Noon	South Lobby of Building 10
	NIH Core Poster Session

Friday, October 28, 2011

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

opening plenary session
building 10
masur auditorium

monday, october 24, 2011
10:00 a.m.–noon

Molecular Mechanisms of Human Disease

Co-chairs: Gary Nabel, VRC, and Robert Wiltrout, NCI

Information provided from the Human Genome Project, as well as the rapid advancement of enabling molecular technologies, have provided a foundation for new approaches to unravel the mysteries of many diseases. In particular, genetic and genomic information is allowing unprecedented insights into the aberrant functions of overexpressed, repressed or dysregulated genes in many disease settings, and allowing researchers to interrogate and identify specific molecular mechanisms associated with disease causation and progression. These new insights into the molecular etiology of disease are now being rapidly exploited to provide new targets for development of new therapeutic and/or prevention strategies.

Program

Understanding the Pathogenesis of Primary Immunodeficiencies Using Model Systems
Pamela Schwartzberg, NHGRI

Molecular Linkages Between Metabolic Imbalance, Genome Stability, and Breast Cancer
Kevin Gardner, NCI

From Phenotype to Function: Discovering Molecular Mechanisms of NF-κB Regulation through Forward Genetics of NEMO Syndrome
Eric Hanson, NIAMS
FARE Award Winner

Using Genetics to Understand the Neuropathology of Stuttering
Dennis Drayna, NIDCD

Locating the Achilles' Heel of Cancer Through Functional and Structural Genomics
Louis Staudt, NCI

BIOCHEM/CHEM:
Biochemistry/Chemistry

BIOCHEM/CHEM-1 **C Bachran, S Abdelazim, S Liu, S Leppla (NIAID)**
Ubiquitin-modulated intracellular processing as a determinant of the potency of tumor-targeted anthrax toxins

BIOCHEM/CHEM-2 **M Bahta, GT Lountos, B Dyas, RG Ulrich, DS Waugh, TR Burke, Jr. (NCI)***
Development of nanomolar affinity inhibitors of the Yersinia pestis protein-tyrosine phosphatase YopH

BIOCHEM/CHEM-3 **A Bhirde, Y Sun, X Chen (NIBIB)**
Variable cellular conduct of photonic nano-dots

BIOCHEM/CHEM-4 **N Bojjireddy, T Balla (NICHD)**
Characterization of a novel splice variant of phosphatidylinositol 4-Kinase III beta

BIOCHEM/CHEM-5 **Y Chen, SG Tarasov, V Gaponenko, OMZ Zack Howard, JJ Oppenheim, M Dyba, S Subramanian, NI Tarasova (NCI)***
Fully synthetic virus-like nanoparticles targeting prostate cancer cells

BIOCHEM/CHEM-6 **P Cheruku, A Plaza, JL Keffer, CA Bewley (NIDDK)**
Natural cyclic peptide and its analogs as carboxypeptidase A inhibitors

BIOCHEM/CHEM-7 **EE Chufan, K Kapoor, S Durell, SV Ambudkar (NCI)**
Molecular mechanism of the polyspecificity of the MDR-linked P-glycoprotein (ABCB1)

BIOCHEM/CHEM-8 **A Freeman, D Ritt, D Morrison (NCI)***
Differential effects of dimerization on B-Raf and C-Raf function in normal and disease signaling

BIOCHEM/CHEM-9 **RJ Holland, AE Maciag, LG Rodriguez, JE Saavedra, LK Keefer (NCI)**
The effect of JS-K, a lead O2-arylated diazeniumdiolate anti-cancer agent, on the cellular glutathione status

BIOCHEM/CHEM-10 **Y Jia, S Banerjee, C Siburt, A Crumbliss, A Alayash (FDA/CBER)**
Binding and redox reaction kinetic studies of native and modified hemoglobins with haptoglobin

BIOCHEM/CHEM-11 **J Kurasawa, S Shestopal, T Lee, A Sarafanov (FDA/CBER)**
Mapping the binding regions of low-density lipoprotein receptor for coagulation factor VIII

BIOCHEM/CHEM-12 **FY Li, RB Rothman, JR Deschamps, AE Jacobson, RC Rice (NIDA)**
Probes for narcotic receptor mediated phenomena: conceptualization, synthesis, and pharmacological evaluation of ring-expanded phenylmorphans

*FARE Award Winner

BIOCHEM/CHEM:
Biochemistry/Chemistry

BIOCHEM/CHEM-13 **Y Liu, Q Wang, N Soetandyo, K Baek, R Hegde, Y Ye (NIDDK)***
A ubiquitin ligase-associated chaperone holdase maintains polypeptides in soluble states for proteasome degradation

BIOCHEM/CHEM-14 **S Locatelli-Hoops, I Gorshkova, K Gawrisch, A Yeliseev (NIAAA)**
Expression and characterization of recombinant human peripheral cannabinoid receptor CB2: exploring the Halo tag and 1D4-Rho tag as novel tools for purification and immobilization

BIOCHEM/CHEM-15 **AE Maciag, C Luthers, RJ Holland, L Shi, LW Fornwald, JE Saavedra, PJ Sinko, RK Prud'homme, LK Keefer (NCI)**
GSTP1-activated nitric oxide (NO)-releasing prodrug PABA/NO enhances effectiveness of docetaxel in non-small-cell lung cancer (NSCLC) cells

BIOCHEM/CHEM-16 **H Maruoka, MO Barrett, S de Castro, N Kim, S Costanzi, KT Harden, KA Jacobson, MPS Jayasekara (NIDDK)***
Pyrimidine nucleotides with 4-alkyloxyimino and terminal tetraphosphate δ-ester modifications as selective agonists of the P2Y4 receptor

BIOCHEM/CHEM-17 **PC McCarthy, R Saksena, C Lee, Y An, DC Peterson, JF Cipollo, WF Vann (NIGMS)**
Chemoenzymatic synthesis of immunoreactive polysialic acid-tetanus Hc fragment glycoconjugates

BIOCHEM/CHEM-18 **RP McGlinchey, JC Lee (NHLBI)**
The repeat domain of the functional amyloid Pmel17 forms amyloid fibrils at the acidic melanosomal pH

BIOCHEM/CHEM-19 **T Mollan, Y Xiang, E Khandros, M Weiss, A Alayash, J Olson (NHLBI)**
The role of alpha-hemoglobin stabilizing protein in adult human hemoglobin assembly

BIOCHEM/CHEM-20 **T Mukherjee, M Gurumurthy, G Marriner, S Cellitti, R Singh, A Nayyar, I Choi, E Dayao, D Schimel, D Weiner, Y Lee, B Geierstanger, U Manjunatha, H Boshoff, L Via, C Barry (NIAID)***
Diagnosis and treatment of tuberculosis: one potential solution, PA-824

BIOCHEM/CHEM-21 **S Muthana, Y Zhang, D Farnsworth, J Gildersleeve (NCI)**
Synthesis of glycopeptides: coupling efficiency vs. epimerization

BIOCHEM/CHEM-22 **JE Saavedra, WS Sehareen, L Shi, LW Fornwald, RK Prud'homme, LK Keefer, AE Maciag (NCI)**
PARP-inhibitor/nitric oxide (NO)-donor dual prodrugs as anticancer agents

BIOCHEM/CHEM-23 **V Simhadri, N Katagiri, S Tseng, R Zichel, N Edwards, M Stern, D Kopelman, J Muste, Z Sauna, A Komar, C Kimchi-Sarfaty (FDA/CBER)**
A synonymous mutation V107V in Factor IX is not silent: possible cause of Hemophilia B

*FARE Award Winner

poster session i
natcher conference center

monday, october 24, 2011
noon–2:00 p.m.

BIOINFO:
Bioinformatics

BIOINFO-1 **E Asaki, Y He, K Meyers, W Xiao, J Powell (CIT)**
mAdb—microArray Database System: bioinformatics for analyzing and managing microarray data

BIOINFO-2 **D Beloslyudtsev, C Cope, D Preuss (NLM)**
Nuts and bolts—how to prepare and deal with big data in next-gen sequencing

BIOINFO-3 **K Brick, F Smagulova, P Khil, G Petukhova, RD Camerini-Otero (NIDDK)**
Hotspot mapping quantifies the contribution of PRDM9 to meiotic DSB localization

BIOINFO-4 **C Cope, G Coulouris, T Madden, D Preuss, S Sherry (NLM)**
NCBI and cloud–computing efforts in genomics

BIOINFO-5 **J Dommer, X Ambroggio, V Gopalan, E Dunham, J Taubenberger, D Hurt (NIAID)**
The Hemagglutinin Structure Prediction (HASP) project: an interactive tool for the generation and analysis of high-quality hemagglutinin homology model

BIOINFO-6 **D Donohue, N Temiz, A Bacolla, R Cer, K Bruce, U Mudunuri, M Yi, N Volfovsky, B Luke, R Stephens, J Collins (NCI)**
ISRCE at ABCC: non-B DNA and cancer

BIOINFO-7 **M Holko, K Ayanbule, C Evangelista, I Kim, H Lee, P Ledoux, K Marshall, R Muertter, K Phillippy, P Sherman, A Soboleva, M Tomashevsky, S Wilhite, A Yefanov, T Barrett (NLM)**
GEO database: new developments and tools for data query and analysis

BIOINFO-8 **T Huan, J Zhu, R Joehanes, B Zhang, Z Wang, A Johnson, P Munson, P Courchesne, C O'Donnell, J Derry, S Friend, X Yang, D Levy (NHLBI)**
Systems biology approaches to exploring molecular mechanism underlying blood pressure

BIOINFO-9 **S Kim, BE Evan, SH Bryant (NLM)**
PubChem3D

BIOINFO-10 **J Li, S Varma, Y Guo, Y Mohamoud, Y Zhang, H Su, M Lenardo, Y Huyen (NIAID)**
GeneIntegrator: An integrated microarray data management and analysis system

BIOINFO-11 **X Liu, W Xiao, R Schmitz, S Jhavar, G Wright, J Powell, L Staudt (CIT)**
Detecting and linking fusion transcripts to carcinogenesis

BIOINFO-12 **D Managadze, I Rogozin, D Chernikova, S Shabalina, E Koonin (NLM)***
Negative correlation between expression level and evolutionary rate of long intergenic non-coding RNAs

BIOINFO-13 **P Puigbo, YI Wolf, EV Koonin (NLM)***
Genome-wide comparative analysis of phylogenetic trees and search for trends in the phylogenetic forest

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BIOINFO:
Bioinformatics

BIOINFO-14 **B Rance, E Doughty, D Demner-Fushman, MG Kann, O Bodenreider (NLM)***
A biologically rich approach to identifying pharmacogenomic relations in text

BIOINFO-15 **D Russ, S Glanowski, C Johnson (CIT)**
Identifying differential expression in count data from high-throughput sequencing

BIOINFO-16 **H Schaefer, TJ Andrews, A Basu, M Flanigan, J Hadfield, D Hope, S Jacob, K Ketchum, J Klemm, Y Kotliarov, D Li, H Liu, JP Marple, J McCusker, C Nguyen, N Nguyen, Q Phung, C Piepenbring, D Siemaszko, M Heiskanen (NCI)**
caIntegrator: a translational research tool to bridge subject annotation, genomic and biomedical imaging data

BIOINFO-17 **P Schuck, P Brown, H Zhao (NIBIB)**
On the distribution of protein refractive index increments

BIOINFO-18 **Z Wei, J Yao, S Wang, R Summers (CC)***
Computer-aided teniae coli detection using height maps from computed tomographic colonography Images

BIOINFO-19 **W Xiao, X Liu, R Schmitz, S Jhavar, G Wright, J Powell, L Staudt (CIT)**
Assess and minimize false SNVs from RNA-Seq analysis

BIOINFO-20 **H Zhao, PH Brown, M Magone, P Schuck (NIBIB)**
The molecular refractive function of lens gamma crystallins

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BIOPHY:
Biophysics

BIOPHY-1 **PH Brown, A Balbo (NIBIB)**
Biophysical methods for intramural scientists

BIOPHY-2 **EK Dimitriadis (NIBIB)**
Atomic force microscopy: a versatile tool in biology and biophysics

BIOPHY-3 **N Gavara, A LaCroix, V Luo, R Chadwick (NIDCD)***
Being out of shape: cell stiffness correlates with actin fiber content rather than cell area

BIOPHY-4 **K Gupta, K Harlen, M Branco, A Puri, J Schneider, R Blumenthal (NCI)**
Beta hairpin peptides induced membrane perturbations in the liposomes: A charge-based interaction study

BIOPHY-5 **LC Hwang, YW Han, AG Vecchiarelli, BE Funnell, K Mizuuchi (NIDDK)***
Dynamic self-organization of bacterial DNA segregation machinery in cell-free reaction

BIOPHY-6 **Z Jiang, JC Lee (NHLBI)**
Assessing the phospholipid lateral reorganization in a bilayer upon α-Synuclein binding

BIOPHY-7 **T Kim, A Kirill, E Heldman, R Blumenthal, B Shapiro (NCI)**
Molecular dynamics simulations of siRNA bolaamphiphile nanoparticle complexes suggest their potential as a therapeutic siRNA delivery vehicle

BIOPHY-8 **LJ Pang, EJ Li, PD Smith, AJ Jin (NIBIB)**
QCM-D instrumentation and data analyses for characterizations of biological complexes

BIOPHY-9 **A Popescu-Hategan, K Gersh, D Safer, J Weisel (NIBIB)**
Single molecule TIRF calibration determines number of molecules in cross section of individual fibrin fibers

BIOPHY-10 **E Rosta, G Hummer (NIDDK)***
Roles of metal ions in the catalytic reaction of RNase H

BIOPHY-11 **AM Shibeko, WW Li, MV Ovanesov (FDA/CBER)**
Positive feedback of FXI activation by thrombin regulates blood clot growth

BIOPHY-12 **P Smith, J Kakareka, C Meuse, M Braiman, R Hendler (NIBIB)**
How to study the structure and function of a membrane protein: the photon-driven proton pump, bacteriorhodopsin (BR)

BIOPHY-13 **S Zustiak, R Nossal, D Sackett (NICHD)***
A fluorescence correlation spectroscopy study of hindered–probe diffusion in complex media

*FARE Award Winner

CANCER:
Cancer

CANCER-1 **M Aparicio, P Amornphimoltham, R Weigert, J Lewis, F Cuttitta, E Zudaire (NCI)**
Development of a phenotypic profiling platform with high predictive value for the identification of novel antiangiogenic drugs

CANCER-2 **J Bhatnagar, H Sim, K Kapoor, E Chufan, S Ohnuma, E Georgieva, P Borbat, J Freed, Z Sauna, S Ambudkar (NCI)**
Mapping conformational changes associated with the catalytic cycle of human P-glycoprotein (ABCB1)

CANCER-3 **M Blank, Y Tang, M Yamashita, SS Burkett, SY Cheng, YE Zhang (NCI)**
A tumor suppressor function of Smurf2 associated with controlling chromatin landscape and genome stability through RNF20

CANCER-4 **C Campbell, Y Zhang, D Farnsworth, J Gildersleeve (NCI)**
Humoral responses to glycans as biomarkers of cancer vaccine efficacy

CANCER-5 **Y Cheng, NX Cawley, T Yanik, CP Liu, A Papazian, SRK Murthy, PY Loh (NICHD)**
Carboxypeptidase E in neuroprotection: links to neurodegeneration and Alzheimer disease

CANCER-6 **X Di, Y Zhang, L Rivera Rosado, J Chen, B Zhang (FDA/CBER)**
TRAIL resistance mediated by constitutively active autophagy

CANCER-7 **J Eberle, R Mazor, A Vassall, R Beers, I Pastan (NCI)**
Mapping and removal of T-cell epitopes in the PE38 portion of immunotoxins

CANCER-8 **M Feng, W Chen, D Dimitrov, M Ho (NCI)**
HN3: a human single-domain monoclonal antibody binds cell surface-associated glypican-3 and inhibits hepatocellular carcinoma cell proliferation

CANCER-9 **C Garber, Z Shan, J Simmons, C Husko, J Wiest (NCI)**
Identification of tumor suppressor gene, TUSC1, as an autophagy-specific binding partner to Beclin1

CANCER-10 **A Giles, C Persenaire, M Kasai, R Kaplan (NCI)**
Defining the role of bone marrow-derived cells in pre-metastatic niche formation

CANCER-11 **S Karami, Q Lan, N Rothman, PA Stewart, LE Moore (NCI)**
Occupational trichloroethylene exposure and kidney cancer risk: a meta-analysis

CANCER-12 **J Kato, J Zhu, C Liu, M Stylianou, V Hoffmann, MJ Lizak, CG Glasgow, J Moss (NHLBI)**
Effects of ADP-ribosylarginine hydrolase (ARH1) on cell proliferation and tumorigenesis

*FARE Award Winner

CANCER-13 **C Lee, D Esposito, C-P Day, G Merlino (NCI)**
Chemotherapy activates Notch pathway to promote repopulation of lung squamous cell carcinoma: a putative mechanism of recurrence

CANCER-14 **T Maity, HS Rho, H Zhu, U Guha (NCI)**
Identification of substrates of lung cancer-specific mutant EGFR kinases

CANCER-15 **SRK Murthy, TK Lee, NX Cawley, SM Hewitt, K Pacak, RT Poon, YP Loh (NICHD)***
An N-terminal truncated carboxypeptidase E splice isoform induces metastasis by activating nedd9 and other metastasis-inducing genes

CANCER-16 **H Nakashima, BH Joshi, SR Husain, RK Puri (FDA/CBER)**
Combination therapy by IL-13 receptor alpha2 DNA vaccine and immunotoxin inhibits metastatic murine cancers

CANCER-17 **AJ O'Hara, ML Rudd, M Le Gallo, CL Hanigan, MJ Merino, B Borate, T Wolfsberg, LC Brody, SC Chandrasekharappa, DW Bell (NHGRI)**
Recurrent genomic regions of focal copy number alteration in clinically aggressive endometrial carcinomas

CANCER-18 **Y Phung, X Xiang, H Mitchell (NCI)**
Establishing an in vitro tumor multicellular spheroid model to investigate antibody therapy

CANCER-19 **T Prickett, X Wei, I Cardenas-Navia, J Teer, J Lin, V Walia, J Gartner, J Jiang, P Cherukuri, A Molino, M Davies, J Gershenwald, K Stemke-Hale, E Margulies, S Rosenberg, Y Samuels (NHGRI)**
Exon capture analysis of G-protein coupled receptors reveals activating mutations in GRM3 in melanoma

CANCER-20 **S Ranuncolo, G Wright, W Xiao, S Pittaluga, E Jaffe, B Lewis (NCI)***
RELB-dependency uniquely distinguishes Hodgkin lymphoma from Non-Hodgkin lymphomas

CANCER-21 **L Rivera Rosado, B Zhang (FDA/CBER)**
Acquired resistance to the death-receptor targeted therapies in breast cancer cells

CANCER-22 **ML Rudd, J Price, LM Pollock, K Lee, SK Fogoros, C Hanigan, S Zhang, T Wolfsberg, KJ McManus, A Young, R Blakesley, AK Godwin, MJ Merino, P Hieter, K Myung, DW Bell (NHGRI)**
Genetic and functional defects in ATAD5, a chromosome instability gene, in primary endometrial cancers

CANCER-23 **J Sabo, A Gillespie, W Goodspeed, A Goodwin, A Baldwin, J Solomon, S Steinberg, B Widemann, E Dombi (NCI)**
Analysis of PN growth rates during adolescence in NF1

*FARE Award Winner

CANCER:
Cancer

CANCER-24 **Y Song, Q Zhang, R Bash, B Kutlu, S Difilippantonio, C Yin, D Gilbert, S Wang, C Yang, E Bullitt, T Kafri, K McCarthy, D Louis, L Hood, C Miller, T Van Dyke (NCI)***
Inducible astrocytomas in genetically engineered mice: delineation of grade-specific molecular drivers in tractable preclinical models

CANCER-25 **ME Urick, ML Rudd, AK Godwin, D Sjroi, M Merino, DW Bell (NHGRI)***
p85α, the regulatory subunit of PI3K, is somatically mutated at a high frequency in primary endometrial cancer

CANCER-26 **V Vehdam, M Weiger, C Stuelten, M Herrera, W Losert, C Parent (NCI)**
Breast cancer cell migration dynamics

CANCER-27 **Y Wang, X Cao, D Shen, J Tuo, R Villasmil, C Chan (NEI)**
Up-regulation of apoptosis of Ccl2-/-/Cx3cr1-/- mouse and human retinal pigment epithelium under inflammatory and oxidative stress

CANCER-28 **S Woditschka, D Palmieri, GW Sledge, S Badve, PS Steeg (NCI)***
The DNA double-strand repair genes BARD1 and RAD51 as molecular targets for brain metastases from breast cancer

CANCER-29 **G Zhang, A Schetter, P He, N Funamizu, P Hussain (NCI)***
DPEP1 and TPX2 as independent predictors of cancer-specific mortality in pancreatic ductal adenocarcinoma

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poster session i
natcher conference center

monday, october 24, 2011
noon–2:00 p.m.

DEV:
Development

DEV-1 **SM Ahmad, TR Tansey, N Jeffries, SS Gisselbrecht, NM Rusan, AM Michelson (NHLBI)***
Two forkhead transcription factors regulate the division of cardiac progenitor cells by a Polo-dependent pathway

DEV-2 **L Earl, K Ten Hagen (NIDCR)**
pgant7, an O-glycosyltransferase, influences wing development in Drosophila melanogaster

DEV-3 **N Gotoh, L Gieser, R Villasmil, H Rajasimha, R Cojocaru, T Cogliati, A Swaroop (NEI)**
Aging and retinal degeneration in rod photoreceptors: system biology to detect stochastic functional changes

DEV-4 **L Hayes, M Zervas, S Ahn (NICHD)**
The progenitors in the ventral mesencephalon mutually regulate the induction and cessation of Shh and Gli1 expression for proper dopamine neuron specification

DEV-5 **W Li, Y Mukoyama (NHLBI)**
Development of venous vascularute system in developing skin

DEV-6 **Y Li, I Linnoila (NCI)***
Identification of a novel multipotent cell lineage in the lung

DEV-7 **YL Miao, P Stein, CJ Williams (NIEHS)**
Outside-in calcium signaling is required for mouse egg activation

DEV-8 **I Onitsuka, J Nam, J Hatch, Y Uchida, Y Mukoyama (NHLBI)**
Coronary vessels determine pattern of postganglionic sympathetic innervation in developing heart

DEV-9 **RC Plate, JM Bemis, T Daniele, M Hardin, S Helfinstein, A Lahat, NA Fox, DS Pine, M Ernst (NIMH)**
Effect of age on reward sensitivity in a pediatric sample of anxious and healthy participants

DEV-10 **E Tian, M Hoffman, K Ten Hagen (NIDCR)**
Disruption of protein O-glycosylation alters FGF signaling by modulating basement membrane composition

DEV-11 **D Tran, K Ten Hagen (NIDCR)**
An O-glycosyltransferase is required for proper salivary gland development in Drosophila

DEV-13 **L Zhang, K Ten Hagen (NIDCR)**
Mucin-type O-glycosylation is required for digestive system formation and function in Drosophila

DEV-14 **X Zhu, SM Ahmad, A Aboukhalil, BW Busser, TR Tansey, A Haimovich, N Jeffries, ML Bulyk, AM Michelson (NHLBI)**
Differential regulation of mesodermal gene expression by Drosophila cell type-specific forkhead transcription factors

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PHARM/PHYS:
Pharmacology/Physiology

PHARM/PHYS-1 **A Pandya, J Yakel (NIEHS)**
Allosteric modulator desformylflustrabromine relieves the inhibition of alpha2beta2 and alpha4beta2 nicotinic acetylcholine receptors by beta amyloid 1-42 peptide

PHARM/PHYS-2 **C Schwartz, K Kapoor, SV Ambudkar, S Shukla (NCI)**
Use of Baculovirus BacMam vectors for expression of ABC drug transporters in mammalian cells

PHARM/PHYS-3 **HM Sim, CP Wu, SV Ambudkar, ML Go (NCI)**
In vitro and in vivo modulation of ABCG2 by functionalized aurones and structurally related analogs

PHARM/PHYS-4 **B Stangl, V Vatsalya, M Zametkin, M Cooke, V Ramchandani (NIAAA)**
Influence of personality measures and priming effects on IV alcohol self-administration in social drinkers

PHARM/PHYS-5 **M Sutherland, A Carroll, BJ Salmeron, T Ross, E Stein (NIDA)***
Differential amygdala responses to varenicline and nicotine in acutely-abstinent smokers: implications for individualized smoking cessation treatment?

PHARM/PHYS-6 **G Tanchian, B Horvath, P Mukhodpadhyay, S Batkai, C Goodfellow, M Glass, R Mechoulam, P Pacher (NIAAA)**
A new cannabinoid CB2 receptor agonist HU-910 attenuates oxidative stress, inflammation and cell death associated with hepatic ischaemia/reperfusion injury

PHARM/PHYS-7 **V Vatsalya, M Zametkin, B Stangl, V Ramchandani (NIAAA)**
Changes in skin blood flow following acute intravenous alcohol in social drinkers

*FARE Award Winner

concurrent symposia session i
natcher conference center
room E1/E2

monday, october 24, 2011
2:00 p.m.–4:00 p.m.

New Insights into Disease Pathogenesis and Treatment Through Genome-wide RNAi Screening

Co-chairs: Natasha Caplen, NCI, and
Christopher Austin, NHGRI

The NIH Scientific Directors recently approved the establishment of a genome-wide RNAi screening facility at the NIH Chemical Genomics Center (NCGC) to perform collaborative projects with intramural investigators. This state-of-the-art facility is now fully operational and actively conducting large-scale screens with investigators from throughout the NIH. This symposium will highlight some of the exciting large-scale RNAi screening projects currently being executed at the Trans-NIH RNAi screening facility to illustrate the value of large-scale functional genomic approaches and to promote further interest in the use of this important new Trans-NIH resource.

Program

Geminin: The Achilles' Heal Of Cancer Cells
Mel Depamphilis, NICHD

Genome-Wide siRNA Screening to Reveal DNA Replication Stress
Kyungjae Myung, NHGRI

RNAi Screening to Analyze Immunotoxin-Mediated Killing of Cancer Cells
David Fitzgerald, NCI

Functional and Chemical Genomic Approaches to Study the Mechanisms of Mitochondrial Quality Control Linked to Neurodegenerative Disease
Sam Hasson, NINDS

Genome-Wide RNAi Screening for Modifiers of Lysosomal Storage Disorders
Ellen Sidransky, NHGRI

concurrent symposia session i
natcher conference center
ruth l. kirschstein auditorium

monday, october 24, 2011
2:00 p.m.–4:00 p.m.

Advances in Immune Targeted Therapies

Co-chairs: Liliana Guedez, NCI, and
Shaden Kamhawi, NIAID

Immunology-based technologies have significantly contributed to the development of therapies that modulate the immune system. It is timely to discuss transfer of genetically modified T cells, vaccines, genetically engineered antibodies, and interleukins as some of the promising fronts in the war against many diseases. This symposium topic is of broad interest to NIH intramural investigators who have been leaders in the development and translational research of targeted immune therapeutics. As the results from clinical trials are provided, new and unexpected information is revealed; some mechanistic differences between preclinical models and humans are reported. This symposium will serve as a scientific platform to exchange cutting-edge clinical information on issues related to the immunotherapies, describe challenges encountered in the clinic, and discuss experimental approaches on how to improve the clinical translation of therapies that modulate the immune system.

Program

Recent Developments in T-Cell Adoptive Immunotherapy for Cancer Treatment
Nicholas Restifo, NCI

Therapeutic Cancer Vaccines Combined with Standard Therapies in the Treatment of Human Carcinoma
Ravi A. Madan, NCI

Bench-to-Bedside Development of Anti-CD22 Immunotoxins for Childhood Acute Lymphoblastic Leukemia
Alan Wayne, NCI

Clinical Translation of Daclizumab for the Treatment of Multiple Sclerosis
Bibiana Bielekova, NINDS

Modulation of Myeloid-Derived Dendritic Cell Maturity: Unmasking a Novel Role for the Tumor Suppressor p15Ink4b in Immunity
Joanna Fares, NCI
FARE Award Winner

concurrent symposia session i
natcher conference center
room E1/E2

monday, october 24, 2011
2:00 p.m.–4:00 p.m.

Informing Therapeutic Interventions with Mechanism-Based Pharmacology and Toxicology

Co-chairs: Minkyung Song, NCI, and Juan Lertora, CC

It is essential to translate mechanisms of drug action and toxicity into efficient discovery and development of safe and effective therapeutics. Elucidation of molecular mechanisms underlying disease pathogenesis and differential responses to drugs in individual patients will inform rational development of therapeutic interventions. Such research efforts will allow scientists to contribute to reducing late-stage drug attrition due to unanticipated toxicity or lack of clinical efficacy. During this symposium, the speakers will discuss: mechanism-based repurposing of an agent for potential treatment of various liver diseases; development of therapeutic strategies and novel bioactive substances by understanding molecular pharmacology and toxicology of candidate agents; mechanisms of microbial drug resistance within the host; incorporation of molecular characteristics and biological functions of therapeutic targets during the discovery of drug candidates; identification of somatic activating mutations in the disease pathway to inform targeted therapies; and use of positron emission tomography tracers as molecular imaging probes to guide the development of therapeutic interventions.

Program

Role of Poly (ADP-Ribose) Polymerase 1 (PARP-1) in Liver Injury, Inflammation, and Fibrosis
Bela Horvath, NIAAA
FARE Award Winner

Bench-to-Bedside and Back-to-the-Bench: Development of Novel Therapeutic Agents
William Figg, NCI

The Relationship Between Cryptococcal Adaptation to Azole Drugs and Azole Therapy Failure
June Kwon-Chung, NIAID

Therapeutic Interventions Based on G Protein-Coupled Receptors for Extracellular Nucleosides and Nucleotides
Kenneth Jacobson, NIDDK

Somatic Activating Mutations in the PI3K Pathway Informing Targeted Therapies of Endometrial Cancer
Daphne Bell, NHGRI

Positron Emission Tomography: A Tool to Study Pathophysiology and Facilitate Therapeutic Drug Development
Robert Innis, NIMH

concurrent symposia session i
natcher conference center
balcony A

monday, october 24, 2011
2:00 p.m.–4:00 p.m.

Protecting the Brain From Traumatic Injury

Co-chairs: Lee Eiden, NIMH, and John Hallenbeck, NINDS

A cross-section of NIH and USUHS scientists who are participating in both formal and informal collaborations to decipher the mechanisms of mild traumatic brain injury underlying post-traumatic stress disorder (PTSD) and other long-term cognitive complications of mild traumatic brain injury (mTBI) will explore this issue from several distinct points of view: pre-conditioning of brain responses to ischemia and insult; long-term effects on hippocampal function of non-penetrating injury; neuroprotection by endogenous brain transmitters and synthetic ligands, including epigenetic mechanisms for sparing of brain function; and relationships between clinical emotional disorders and sub-clinical organic brain injury. "Unsiloing" these distinct but critically interdependent aspects of mTBI and PTSD should be of intense interest to the translational community, both military- and civilian-oriented, on the NIH and USUHS campuses.

Program

Introduction to Protecting the Brain from Traumatic Injury
Lee Eiden, NIMH

PTSD and Traumatic Brain Injury: Defining the Problem
Robert Ursano, USUHS

Boosting Endogenous Stress Resistance in the Brain to Counter the Consequences of CNS Insults
John Hallenbeck, NINDS

Stroke and Traumatic Brain Injury: Common Mechanisms and Potential Treatments
De-Maw Chuang, NIMH

Alterations in Hippocampal Function and Gene Expression After Controlled Cortical Injury
Maria Braga, USUHS

Boosting Endogenous Cannabinoids to Alleviate the Effects of Psychological Trauma
Andrew Holmes, NIAAA

Analysis of Brain Network Dynamics after Transcranial Direct Current Stimulation
Anusha Venkatakrishnan, NINDS
FARE Award Winner

concurrent symposia session i
natcher conference center
balcony B

monday, october 24, 2011
2:00 p.m.–4:00 p.m.

Primary Cilia—The Antenna of the Cell: From Biogenesis to Disease

Chair: Anand Swaroop, NEI

The microtubule-based primary cilium, an extension of the plasma membrane, affords cells the ability to interact with and respond to their extracellular environment. Cilia in different tissues serve unique functions based on the primary role of that cell type; disruptions in cilia formation lead to cell death and/or organ dysfunction. As nearly all mammalian cells contain cilia, generalized cilia dysfunction affects many organs, including brain, lung, and primary sensory organs such as the retina, cochlea, and olfactory epithelium. More than 1,000 genes are involved in cilia formation and function; thus, genetic mutations in many genes cause an overlapping spectrum of syndromic ciliopathies such as Leber congenital amaurosis, Bardet-Biedl and Joubert Syndromes. In the past several years, mutations linked to ciliopathies have been identified, providing the opportunity to examine the structural and functional basis of ciliogenesis and cell dysfunction. Recent insights from these studies can help design new treatments for human ciliopathies.

Program

Overview of Clinical Features of Disorders of the Primary Cilia
Meral Gunay-Aygun, NHGRI

Anatomic and Functional CNS Developmental Abnormalities in Bardet-Biedl Syndrome
Leslie Biesecker, NHGRI

A Periciliary Ridge Complex in Mammalian Photoreceptors
Tiansen Li, NEI

Reciprocal Rescue of Sensory Cell Cilia Defects by Cep290 and Bbs6 (Mkks) Alleles
Helen May-Simera, NIDCD
FARE Award Winner

Primary Cilia in the Auditory System: Regulation of Hair Cell Development and Planar Cell Polarity
Matthew Kelley, NIDCD

Planar Cell Polarity Breaks Bilateral Symmetry by Controlling Ciliary Positioning
Yingzi Yang, NHGRI

nih research festival
natcher conference center
room F1/F2

tuesday, october 25, 2011
10:00 a.m.–11:30 a.m.

Improving Workplace Dynamics

This session is sponsored by the Office of Intramural Training and Education

Understanding how personalities and work styles influence lab or office dynamics will help you improve your work efficiency and productivity. It may also decrease your stress and help you harness everyone's strengths to help move your work forward. This session, appropriate for scientific and administrative staff, will describe a standard set of work styles that impact how individuals interact in teams and groups. The workshop will be an interactive and fun way to explore group dynamics. Registration is required to participate.

Computational Approaches to Study Protein Interactome in Context of Disease

Co-chairs: Myra Derbyshire, NLM, and
Maria Morasso, NIAMS

This symposium will illustrate how computational and systems biology methods are being used to study disease systems at different levels of organization. The functioning of a cell requires a variety of intermolecular interactions, and perturbations in interaction networks often result in cellular malfunction and disease. The accumulation of unprecedented experimental data produced by novel technologies means that now large-scale cellular networks are available for analysis for a wide range of organisms across the evolutionary spectrum. In this session we will specifically focus on network dynamics including regulation, disease-related perturbations, and in-silico models which provide control and predictive power. At the same time, we will showcase how the complexity of individual elements in the networks can be addressed by molecular biophysics and structural biology approaches which study the underlying physicochemical principles and may explain the molecular mechanisms of cellular function.

Program

Genome-Scale Analysis of Single-Stranded DNA: Implications for Eukaryotic Gene Transcription
Damian Wojtowicz, NLM
FARE Award Winner

Identifying Causal Genes and Dysregulated Pathways in Complex Diseases
Teresa Przytycka, NLM

Exploring Structural Complexes for Large-Scale Mapping of Human Protein Interaction Network
Anna Panchenko, NLM

Computational and Experimental Analysis of Stimulus-Dependent p53 Dynamics in Single Cells
Eric Batchelor, NCI

Computational "Omics" Analyses of MicroRNA Functions and MicroRNA-mRNA Interactions
John Tsang, NIAID

Proteomic Approaches to the Studies of the Immune System Signaling Networks
Aleksandra Nita-Lazar, NIAID

concurrent symposia session ii
natcher conference center
room E1/E2

tuesday, october 25, 2011
10:00 a.m.–noon

Signals and Patterns: Basic and Clinical Research in Developmental Biology

Co-chairs: Mitch Eddy, NIEHS, and Humphrey Yao, NIEHS

Understanding how organs form during development not only advances our knowledge on the basic biology of living organisms, but also provides clues on how defects in fetal life could contribute to disorders in adulthood and potential for disease treatment. This symposium brings a diverse group of NIH intramural researchers from four institutes to present basic and clinically relevant studies on organ formation in vertebrate. Covering topics from cell-fate determination, genome-wide identification of developmental regulator, to environmental impact on organ development, this symposium will attract a broad audience with interests on organogenesis, signal transduction, stem cell biology, cancer biology, and fetal-environment interaction.

Program

Maternal Control of Fertilization and Early Mouse Development
Jurrien Dean, NIDDK

Wnt Signaling in Vertebrate Morphogenesis
Yingzi Yang, NHGRI

Hoxd Proteins, Gli3/Hh and Beta-catenin Interact in a Pathway Directing Joint Formation
Susan Mackem, NCI

The Role of Fgf Signaling in the Outgrowth of Embryonic Structures
Mark Lewandoski, NCI

The Expansion of Progenitor Cells During Organogenesis Requires Both Fgfr2b and c-Kit Signaling
Isabelle Lombaert, NIDCR
FARE Award Winner

Sex, Survival, and Hedgehog: A Story of How Embryos Make their Gonads and Adrenals
Humphrey Yao, NIEHS

concurrent symposia session ii
natcher conference center
balcony A

tuesday, october 25, 2011
10:00 a.m.–noon

Telomerase and Telomeric Proteins in Telomere Maintenance, Cellular Plasticity, and Age-Related Disease

Co-chairs: Yie Liu, NIA, and Sharon Savage, NCI

More than 25 years ago, Carol Greider and Elizabeth Blackburn identified telomerase, which was capable of synthesizing the repetitive DNA at the ends of most eukaryotic chromosomes. In the absence of telomerase, telomeres gradually shorten and associated with aging and premature aging syndromes. Besides telomerase, telomeric proteins also play key roles in telomere maintenance. Mutations in telomerase and telomeric proteins contribute to diseases in humans. While telomerase or telomeric proteins are specialized for telomere regulation, other functions that are independent of telomere maintenance have been reported. This section will highlight new findings in telomere biology including: the mechanisms of telomere length regulation in model organisms; the role of telomere attrition in human aging; mutagenesis of telomerase components and telomeric proteins in inherited diseases; DNA repair pathways in telomere damage repair, telomere damage response, and premature aging syndromes; and the extracurricular activities of telomerase and telomeric proteins.

Program

Characterization of Human Telomere Biology Disorders
Sharon Savage, NCI

Telomere Dynamics in iPS Cells Derived From Human Patients With Telomerase Mutations
Thomas Winkler, NIBIB

Coordinated Changes of Telomere Length, Telomerase Activity, and Composition of Subsets in Blood Lymphocytes In Vivo With Age
Nan-ping Weng, NIA

Epigenetic Protection of Drosophila Telomeres
Yikong Rong, NCI

Nontelomeric Functions of TRF2 in Neural Stem Cells, Neurons, and Tumor Cells
Mark Mattson, NIA

Oxidative DNA Damage Affects Telomere Integrity
Haritha Vallabhaneni, NIA
FARE Award Winner

concurrent symposia session ii
natcher conference center
balcony B

tuesday, october 25, 2011
10:00 a.m.–noon

Neural Systems Underlying Social Function in Normal and Pathological Conditions

Co-chairs: Alex Martin, NIMH, and Bruno Averbeck, NIMH

Systems neuroscience has begun to shed light on the anatomical networks and neuromodulators that underlie developmental disorders of social functioning. In this symposium we will discuss this circuitry and how it goes awry in autism spectrum disorders, schizophrenia, and childhood psychopathy. We will first discuss functional connectivity analyses that are beginning to inform our most complex social processes, including inter-subject synchronization during natural conversation and conscious awareness. We will then turn our attention to clinical disorders, discussing the breakdown of neural connectivity in autism spectrum disorders and its relation to autistic symptoms, and the neural underpinnings of callous and unemotional traits characteristic of childhood psychopathic tendencies and conduct disorders. Finally, we will discuss deficits in emotion perception in schizophrenia, and the ability of oxytocin to ameliorate these deficits. Gaining insight into these neural systems will further our ability to diagnose and ultimately to treat these disorders.

Program

Developmental Synaptic NMDA Receptor Remodeling by Kv4.2 Potassium Channels In Vivo
Eun Young Kim, NICHD
FARE Award Winner

Joint Intention and Common Ground: Imaging Inter-Subject Coherence During Natural Conversation
Nuria Abdulsabur, NIDCD

Slow Cortical Potentials and the Emergence of Consciousness
Biyu He, NINDS

Fractionating the Social Brain in Autism Spectrum Disorders
Stephen Gotts, NIMH

The Neurobiology of Conduct Disorder with Callous and Unemotional Traits
James Blair, NIMH

Emotion Perception and Oxytocin in Schizophrenia
Bruno Averbeck, NIMH

concurrent symposia session ii
natcher conference center
balcony C

tuesday, october 25, 2011
10:00 a.m.–noon

Molecular Logic of Angiogenesis in Development and Disease

Co-chairs: Yosuke Mukoyama, NHLBI, and Xuri Li, NEI

Angiogenesis plays central roles in organ development as well as organ maintenance, tissue repair, and diverse disease conditions. This symposium will discuss advances in angiogenesis research with an emphasis on molecular events underlying vascular development and disease. Lessons learned from developmental studies in model organisms have been applied to questions concerning not only genetic programs that govern blood-vessel formation, but paracrine signals between blood vessels and surrounding target tissues that support cell-fate decisions and patterning. In disease studies, dysregulated vessel formation contributes to numerous malignant, ischemic, inflammatory, infectious, and immune disorders. Molecular insights into these processes provide new therapeutic opportunities. By virtue of these diverse elements of vascular biology, an integrated view of angiogenesis linking developmental pathways and disease pathogenesis with multiple vasculature models will be presented by senior and junior investigators from four institutes (NHLBI, NEI, NCI, and NICHD).

Program

Neuronal Control of Vascular Fate and Branching Pattern in Developing Skin Vasculature
Yosuke Mukoyama, NHLBI

A Fishes-Eye View of Angiogenesis
Brant Weinstein, NICHD

EphrinB2: A Critical Regulator of Endothelial Cell Function and Vascular Integrity
Giovanna Tosato, NCI

TEM8 Blockade Results in Broad Anti-Tumor Activity Through Inhibition of Host Tumor Vasculature
Amit Chaudhary, NCI
FARE Award Winner

Arterial Calcification Due to Deficiency in CD73: The Role of Extracellular Purine Metabolism in Patients With Vascular Calcification
Manfred Boehm, NHLBI

Angiogenesis in Eye Development and Disease
Xuri Li, NEI

CELLBIO:
Cell Biology

CELLBIO-1 **M Barzik, JA Hammer III (NHLBI)***
Myosin 18A is highly concentrated in dendritic spines of Purkinje neurons: possible implications for spine morphogenesis

CELLBIO-2 **S Das, EC Rerichae, A Bagorda, CA Parent (NCI)**
Receptor desensitization modulates signal relay during Dictyostelium development

CELLBIO-3 **M Fujimoto, T Hayashi, R Urfer, S Mita, TP Su (NIDA)**
A novel ligand-controlled endoplasmic reticulum chaperone sigma-1 receptor regulates the intracellular processing of brain-derived neurotrophic factor

CELLBIO-4 **A Gustafson, W Westbroek, J Marugan, J Xiao, W Zheng, A Velayati, E Goldin, E Sidranksy (NHGRI)**
Cell-based evaluation of small molecules for treatment of Pompe disease

CELLBIO-5 **E Joo, K Yamada (NIDCR)***
Myosin phosphatase coordinates the levels of contractility and acetylated microtubules to ensure normal cell migration

CELLBIO-6 **M Jovic, M Kean, Z Szentpetery, A Gingras, J Brill, T Balla (NICHD)***
Regulation of PI4KIIa retrograde transport

CELLBIO-7 **YJ Kim, T Balla (NICHD)**
A highly dynamic ER-derived phosphatidylinositol synthesizing organelle supplies phosphoinositides to cellular membranes

CELLBIO-8 **A Kirshenbaum, K O'Brien, A Desai, G Bandara, E Fischer, M-Y Jung, A Gilfillan, W Gahl, D Metcalfe (NIAID)**
HPS1 16-bp duplication (c.1470_1486dup16) induces human mast cell phenotypic changes in vivo and in vitro

CELLBIO-9 **J Lam, X Yao, C Dai, K Fredriksson, M Yu, K Keeran, G Zywicke, D Malide, S Levine (NHLBI)**
Nucleobindin 2 mediates eosinophilic airway inflammation in experimental house-dust-mite-induced asthma

CELLBIO-10 **PR Lee, RD Fields (NICHD)***
Control of local protein synthesis and initial events in myelination by action potentials

CELLBIO-11 **S Lee, A Tipirneni, C Blackstone (NINDS)***
The novel MIT-domain-containing protein MITD1 interacts with ESCRT-III proteins and functions in cytokinesis

CELLBIO-12 **C-C Li, J-K Kuo, R Kiyama, J Moss, M Vaughan (NHLBI)**
Effects of BIG1 and KANK1 on cell polarity and directed migration during wound healing

*FARE Award Winner

CELLBIO:
Cell Biology

CELLBIO-13 **LL Liu, CA Parent (NCI)**
mTORC2 regulates the chemoattractant-mediated activation of adenylyl cyclase 9 in a PKC-dependent fashion

CELLBIO-14 **A Masedunskas, M Sramkova, L Parente, K Uzzun Sales, P Amornphimoltham, R Weigert (NIDCR)**
Role for the Acto-myosin complex in the dynamics of regulated exocytosis revealed by intravital microscopy in live rodents

CELLBIO-15 **A McCollum, M Angelos, E Kohn (NCI)***
A novel function of WW domain binding protein 2 (WBP2) in regulating cytoskeletal function and cellular division through binding to co-chaperone BAG3

CELLBIO-16 **S Oddoux, S Nandkeolyar, W Liu, K Zaal, E Ralston (NIAMS)**
In vivo visualization of microtubule dynamics in muscle fibers

CELLBIO-17 **F Pratto, M Bellani, R Camerini-Otero (NIDDK)**
Mouse model for the study of SPO11 splicing isoform during mouse meiosis

CELLBIO-18 **HN Ramanathan, Y Ye (NIDDK)***
The p97 ATPase associates with EEA1 to regulate the size of early endosomes

CELLBIO-19 **B Renvoisé, J Stadler, R Singh, JC Bakowska, C Blackstone (NINDS)***
Mouse model for the complicated hereditary spastic paraplegias Troyer syndrome (SPG20)

CELLBIO-20 **C Schindler, D Nemecek, A Steven, J Bonifacino (NICHD)***
BLOC-1 function in cargo sorting towards lysosome-related organelles

CELLBIO-21 **E Schneider, S Gaur, J Gao, P Murphy (NIAID)**
The leukocyte chemotactic receptor FPR1 (Formyl Peptide Receptor 1) is expressed on lens epithelial cells and regulates lens homeostasis

CELLBIO-22 **BR Webster, I Scott, MV Stevens, KY Kim, MN Sack (NHLBI)***
Mitochondrial acetyltransferase 1 (MAT1) and Sirt3 function as a "nutrient sensors" regulating mitophagy

CELLBIO-23 **R Weigert (NIDCR)**
In vivo internalization of plasmid DNA in salivary gland epithelium

CELLBIO-24 **Y Zhao, El Zaika, CA Ma, JJ Spinner, MC Kinney, DB Conze, K Iwai, JD Ashwell, EM Oltz, DW Ballard, A. Jain (NIAID)**
CYLD regulates TNF-mediated NF-κB signaling by controlling binding of RIP to NEMO

*FARE Award Winner

EPID:
Epidemiology

EPID-1 **F Barone-Adesi, R Chapman, X He, W Hu, R Vermeulen, N Rothman, Q Lan (NCI)***
Risk of lung cancer associated with domestic use of different types of coal in Xuanwei, China

EPID-2 **KH Barry, S Koutros, SI Berndt, G Andreotti, JA Hoppin, DP Sandler, LA Burdette, M Yeager, LE Beane Freeman, JH Lubin, X Ma, T Zheng, MC Alavanja (NCI)***
Genetic variation in DNA repair genes, pesticide exposure, and prostate cancer risk

EPID-3 **C Bodelon, J Shi, RM Pfeiffer, NE Caporaso, A Pesatori, M Rubagotti, MT Landi (NCI)***
Genetic variation in inflammatory genes and survival after lung cancer diagnosis

EPID-4 **V Burton, C Conway, N Hu, S Hewitt, P Taylor (NCI)**
Protein expression and survival in esophageal squamous cell carcinoma (ESCC) cases from China

EPID-5 **B Davis, J-S Vidal, J Zhang, L Launer (NIA)**
The alcohol paradox: The effects of alcohol consumption on brain volume and cognitive function in an aging Icelandic population

EPID-6 **S De Matteis, D Consonni, AC Pesatori, PA Bertazzi, N Caporaso, JH Lubin, S Wacholder, MT Landi (NCI)**
Are smoking women at higher risk than men for lung cancer?

EPID-7 **A Golozar, I Ruczinski, P Gravitt, T Beaty, N Hu, YL Qiao, JH Fan, T Ding, ZZ Tang, S Dawsey, N Freedman, C Abnet, A Goldstein, P Taylor (NCI)**
Genetic polymorphisms in candidate inflammation-related genes and risk of esophageal squamous cell carcinoma

EPID-8 **JN Hofmann, K Schwartz, WH Chow, FG Davis, JJ Ruterbusch, N Rothman, S Wacholder, BI Graubard, JS Colt, MP Purdue (NCI)***
Pre-existing kidney disorders and risk of renal cell carcinoma: results from a population-based case-control study of Caucasians and African Americans

EPID-9 **R Joehanes, S Ying, AD Johnson, R Wang, N Raghavachari, CJ O'Donnell, PJ Munson, D Levy (NHLBI)**
Gene expression signatures of coronary heart disease: the NHLBI SABRe CVD Initiative

EPID-10 **G Lai, Y Park, P Hartge, A Hollenbeck, A Schatzkin, N Freedman (NCI)***
The association of diabetes with cancer incidence and mortality in the NIH-AARP Diet and Health Study

EPID-12 **G Neta, C-L Yu, A Brenner, F Gu, A Hutchinson, R Pfeiffer, E Sturgis, L Xu, M Linet, B Alexander, S Chanock, A Sigurdson (NCI)***
Common genetic variants in the 8q24 region and risk of papillary thyroid cancer

*FARE Award Winner

EPID:
Epidemiology

EPID-13 **E Peprah, A Bentley, A Doumatey, C Rotimi (NHGRI)**
Tumor Necrosis Factor alpha (TNF-α) in African Americans is associated with IL 1RA and LDL

EPID-14 **B Trabert, N Wentzensen, HP Yang, ME Sherman, A Hollenbeck, Y Park, LA Brinton (NCI)***
Estrogen plus progestin menopausal hormone use: a safe regimen of use with respect to endometrial cancer risk?

EPID-15 **J Wu, A Cross, D Baris, D Silverman, M Ward, M Karagas, A Johnson, S Cherala, M Schewnn, J Colt, K Cantor, N Rothman, R Sinha (NCI)**
Dietary factors and risk of bladder cancer in the New England region of the United States

EPID-16 **H Yang, B Trabert, M Murphy, M Sherman, J Sampson, L Brinton, P Hartge, A Hollenbeck, Y Park, N Wentzensen (NCI)**
Ovarian cancer risk factors by histologic subtypes in the NIH-AARP Diet and Health Study

*FARE Award Winner

EPIGEN/TRANS/CHROM:
Epigenetics/Transcription/Chromatin

EPIGEN/TRANS/CHROM-1 **D Ballachanda, B Lewis, N Cherman, P Robey, K Ozato, D Singer (NCI)***
Brd4 is a novel atypical kinase that phosphorylates the RNA Polymerase II C-terminal domain

EPIGEN/TRANS/CHROM-2 **L Baranello, D Wojtowicz, K Cui, F Kouzine, T Przytycka, Y Pommier, K Zhao, D Levens (NCI)***
Genome-wide mapping of topoisomerase 1 reveals a biphasic role in gene transcription

EPIGEN/TRANS/CHROM-3 **A Hogart, J Lichtenberg, S Ajay, S Anderson, E Margulies, D Bodine (NHGRI)**
Genome-wide DNA methylation profiling reveals distinct patterns during hematopoietic development

EPIGEN/TRANS/CHROM-4 **J Hoskins, J Jinping, H Parikh, I Collins, K Lo, S Hussain, L Amundadottir (NCI)**
Differential DNA methylation patterns in normal and neoplastic pancreatic tissues and associated effects on gene expression

EPIGEN/TRANS/CHROM-5 **Q Jin, L Yu, L Wang, Z Zhang, L Kasper, J Lee, C Wang, P Brindle, S Dent, K Ge (NIDDK)***
Distinct roles of GCN5/PCAF-mediated H3K9ac and CBP/p300-mediated H3K18/27ac in nuclear receptor transactivation

EPIGEN/TRANS/CHROM-6 **I Krivega, A Dean (NIDDK)**
Homodimerization of LDB1 is necessary for activation of the mouse β-major globin gene expression

EPIGEN/TRANS/CHROM-7 **JE Lee, YW Cho, X Feng, O Gavrilova, V Sartorelli, C Deng, K Ge (NIDDK)**
PA1 controls the induction of early adipogenic transcription factors

EPIGEN/TRANS/CHROM-8 **M Mortin, M Cooper, J Kennison (NICHD)**
Genetic analysis of homeotic gene silencing in Drosophila

EPIGEN/TRANS/CHROM-9 **ALY Pang, J Clark, J Fang, WY Chan, OM Rennert (NICHD)**
The tissue-restricted expression of N(alpha)-acetyltransferase catalytic subunit gene Arrest Defective 1B in the mouse and human is regulated by CpG island methylation

EPIGEN/TRANS/CHROM-10 **Y Postnikov, T Kurahashi, M Zhou, T Veenstra, M Bustin (NCI)**
HMGN1 interacts with PCNA and facilitates its binding to the nucleosomal array

*FARE Award Winner

EPIGEN/TRANS/CHROM:
Epigenetics/Transcription/Chromatin

EPIGEN/TRANS/CHROM-11 **Z Qian, EK Dimitriadis, S Adhya (NIBIB)**
GalR mediated interactions in the E. coli chromosome

EPIGEN/TRANS/CHROM-12 **N Sarai, K Nimura, T Tamura, T Kanno, M Patel, N Ayithan, K Ura, K Ozato (NICHD)**
Induced deposition of the histone variant H3.3 in interferon stimulated genes

EPIGEN/TRANS/CHROM-13 **G Wei, BJ Abraham, R Yagi, R Jothi, K Cui, S Sharma, L Narlikar, DN Northrup, Q Tang, WE Paul, J Zhu, K Zhao (NHLBI)***
Genome-wide analyses of GATA3-mediated gene regulation in distinct T-cell types

EPIGEN/TRANS/CHROM-14 **T Miranda, T Voss, L Schlitz, G Hager (NCI)**
Identification of chromatin modifiers involved in the recruitment of the glucocorticoid receptor to response elements by a high-throughput fluorescence-based screen

*FARE Award Winner

GEN/GENOM:
Genetics/Genomics

GEN/GENOM-1 **C Antolik, H He, J Song, L D'Souza, X Huang, X Wang (NEI)**
The NEI DNA Diagnostic Laboratory

GEN/GENOM-2 **AR Bentley, A Doumatey, H Huang, J Zhou, D Shriner, A Adeyemo, C Rotimi (NHGRI)**
APOL1 variant modifies the HDL-kidney function relationship in populations of African ancestry

GEN/GENOM-3 **P Bushel, R McGovern, L Liu, O Hofmann, A Huda, J Lu, W Hide, X Lin (NIEHS)**
Population differences in transregulator expression quantitative traits loci

GEN/GENOM-4 **C Cropp, Y Kim, A Molloy, J Mills, P Kirke, J Scott, L Brody, A Wilson, J Bailey-Wilson (NHGRI)**
Novel functional variants for serum uric acid and total serum bilirubin levels in an Irish population

GEN/GENOM-5 **A Etemadi, F Islami, FJ van Schooten, D Phillips, F Kamangar, C Abnet, A Golozar, R Godschalk, P Boffetta, R Malekzadeh, S Dawsey (NCI)**
Determining the best model to explain inter-individual variations in PAH-DNA adduct levels among non-smokers

GEN/GENOM-6 **Y Guo, J Park, E Humes, K Hoe, H Levin (NICHD)**
Integration profiling: a genome-wide mapping of sequence function

GEN/GENOM-7 **S Khan, X Zhou, D Tamura, E Compe, J Egly, T Ueda, J Boyle, J DiGiovanna, K Kraemer (NCI)**
XPD mutations inhibit TFIIH-dependent transactivation mediated by vitamin D receptor in trichothiodystrophy fibroblasts

GEN/GENOM-8 **P Khil, F Smagulova, K Brick, R-D Camerini-Otero, G Petukhova (NIDDK)**
Sequencing-based detection of ssDNA

GEN/GENOM-9 **Y Kim, RA Mathias, N Faraday, D Becker, L Becker, AF Wilson (NHGRI)***
Targeted deep resequencing identifies coding variants in the PEAR1 gene that play a role in platelet aggregation in individuals at high risk for coronary artery disease

GEN/GENOM-10 **C Kuschal, J J DiGiovanna, SG Khan, KH Kraemer (NCI)**
Induction of readthrough of stop codons by aminoglycosides increases DNA repair in xeroderma pigmentosum group C cells

GEN/GENOM-11 **V Maduro, N Tarazi, H Dorward, R Wersto, J Mullikin, R Legaspi, NISC Comparative Sequencing Program, W Gahl, C Boerkoel (NHGRI)**
Defining a novel cause of failure to thrive and developmental delay

*FARE Award Winner

GEN/GENOM:
Genetics/Genomics

GEN/GENOM-12 **V Nagarajan, P Crompton, D Hurt (NIAID)**
Genome-wide nucleotide bias does not significantly affect the relative amino acid composition

GEN/GENOM-13 **M Nickerson, K Im, K Misner, A Yates, D Wells, H Bravo, K Fredrikson, W Tan, M Yeager, B Zbar, M Dean, S Bova (NCI)**
Accumulation of cancer driver gene mutations during progression of metastatic prostate cancer

GEN/GENOM-14 **R O'Neill, P de Jong, KC Lloyd (NCRR)**
Thousands of knockout mouse strains are available from the KOMP Repository www.komp.org

GEN/GENOM-15 **M Rotunno, TK Lam, J Lubin, A Vougt, PA Bertazzi, NE Caporaso, MT Landi (NCI)**
GSTM1 and GSTT1 copy numbers and mRNA expression in lung cancer

GEN/GENOM-16 **C Simpson, T Green, B Doan, C Amos, S Pinney, E Kupert, M de Andrade, P Yang, A Schwartz, P Fain, A Gazdar, J Minna, J Wiest, H Rothschild, D Mandal, M You, T Coons, C Gaba, M Anderson, J Bailey-Wilson (NHGRI)**
Covariate-based linkage analysis of lung cancer risk reveals novel loci on 9p21 and 20q12

GEN/GENOM-17 **H Sung, M Krischnan, D Ng, S Gonsalves, P Cruz, J Mullikin, L Biesecker, A Wilson (NHGRI)**
Association of sequence variants in the USF1, ROS1 and ABCA genes with glycohemoglobin levels in the ClinSeq Study

GEN/GENOM-18 **N Tarazi, V Maduro, R Wersto, J Mullikin, R Legaspi, NISC Comparative Sequencing Program, W Gahl, C Boerkoel (NHGRI)**
Alternative estrogen receptor β promoter utilization causes mild intellectual disability

GEN/GENOM-19 **F Tekola Ayele, A Doumatey, H Huang, J Zhou, G Chen, D Shriner, A Adeyemo, C Rotimi (NHGRI)**
A genome-wide association study in African Americans uncovers loci influencing interleukin (IL)-10 and IL-1Ra plasma levels

GEN/GENOM-20 **K Verhein, M High, Y Chen, D Fargo, T Wiltshire, S Kleeberger (NIEHS)***
Candidate susceptibility genes in a murine model of RSV-induced bronchiolitis

GEN/GENOM-21 **T Vilboux, T Falik-Zaccai, Y Zivony-Elboum, F Gumruk, M Cetin, CF Boerkoel, Y Huang, D Maynard, H Dorward, K Berger, R Kleta, Y Anikster, BE Kehrel, K Jurk, P Cruz, JC Mullikin, JG White, M Huizing, WA Gahl, M Gunay-Aygun (NHGRI)***
NBEAL2 is mutated in Gray Platelet Syndrome and required for biogenesis of platelet alpha-granules

*FARE Award Winner

GEN/GENOM-22 **V Walia, SA Rosenberg, RC Elble, T Waldman, Y Samuels (NHGRI)**
Mutational and functional analysis of the tyrosine phosphatase gene family in melanoma

GEN/GENOM-23 **X Zhao, AR Lokanga, D Kumari, K Usdin (NIDDK)**
The role of Cockayne Syndrome group B (CSB) in repeat expansion in Fragile X premutation mice

GEN/GENOM-24 **Q Zhou, G Lee, J Brady, A Sheikh, J Khan, D Kastner, I Aksentijevich (NHGRI)**
Exome sequencing identifies a PLCG2 mutation in a dominantly inherited systemic inflammatory disease

MOLBIO:
Molecular Biology

MOLBIO-1 **A Basseville, A Tamaki, C Ierano, Y Ward, RW Robey, RS Hegde, SE Bates (NCI)***
Histones deacetylase inhibitors mediate rescue of the ABCG2 Q141K variant: potential for a new treatment for gout

MOLBIO-2 **A Denney, K Scibelli, A Rattray, B Shafer, J Strathern (NCI)**
A novel assay for investigating transcriptional fidelity in Saccharomyces cerevisiae

MOLBIO-3 **P Eswara Moorthy, M Erb, J Gregory, J Silverman, K Pogliano, J Pogliano, K Ramamurthi (NCI)**
Cellular architecture determines the ultrastructure of a bacterial cell division component

MOLBIO-4 **TD Fufa, JS Byun, C Wakano, CM Haggerty, K Gardner (NCI)***
Transcriptional cross-regulation of the RNA polymerase II elongation factor ELL by MLL-ELL fusion and HTLV-1 tax oncoproteins

MOLBIO-5 **E Guirguis, S Hockman, N Raghavachari, O Gavrilova, V Manganiello (NHLBI)**
Potential roles of phosphodiesterase 3B knockout in acquisition of brown fat characteristics by white adipose tissue in mice

MOLBIO-6 **Y Li, K Burns, Y Arao, K Korach (NIEHS)**
The mechanism of action of endocrine-disrupting chemicals Bisphenol A, Bisphenol AF and Zearalenone on estrogen receptors in vitro

MOLBIO-7 **S Loesgen, S Shahzad-ul-Hussan, CA Bewley (NIDDK)**
HIV-1 inhibitors from nature: understanding and optimizing potent cyanobacterial carbohydrate-binding proteins

MOLBIO-8 **MC Malicdan, CF Boerkel, Y Huang, J Kwan, C Groden, WA Gahl, C Toro (NHGRI)**
Identification of a novel cause of autosomal dominant, adult-onset distal myopathy

MOLBIO-9 **M Maurizi (NCI)**
4-O-carboxymethyl ascochlorin induced autophagy through ER-stress in hepatocellular carcinoma cells

MOLBIO-10 **M Onyshchenko, T Gaynutdinov, E Englund, A Appella, R Neumann, I Panyutin (CC)**
Quadruplex formation is necessary for stable PNA invasion into duplex DNA of BCL2 promoter region

MOLBIO-11 **K Ramessar, L Krumpe, CY Xiong, J Wilson, JB McMahon, BR O'Keefe (NCI)**
Isolation, characterization, and recombinant production of a novel anti-HIV protein, Cnidarin1

MOLBIO-12 **MC Tseng, WT Hsieh, L Feigenbaum (NCI)**
Speed congenics services at NCI-Frederick

*FARE Award Winner

MOLBIO-13 **L Waters, M Sandoval, G Storz (NICHD)***
Expanding the manganese regulon in Escherichia coli: a new small protein, mntS and efflux pump, mntP

MOLBIO-14 **T Wigand, M Sramkova, A Masedunskas, R Weigert (NIDCR)**
Trafficking of beta-2-adrenergic receptors in the submanidibular salivary glands of live rats

MOLBIO-15 **W Zhou, Y Chung, J Liu, E Parrilla Castellar, L Tessarollo, P Aplan, D Levens (NCI)**
FBP knock-out leads to a hematopoietic maturation defect

OXIDSTRESS:
Oxidative Stress

OXIDSTRESS-1 **MA Abdelmegeed, BJ Song (NIAAA)**
Evaluation of CYP2E1 role in protein nitration, phosphorylation, and endoplasmic reticulum stress in acetaminophen-treated mice

OXIDSTRESS-2 **E Blumenthal, F D'Agnillo (FDA/CBER)**
Hemoglobin-mediated oxidative stress induces human endothelial barrier dysfunction

OXIDSTRESS-3 **Y Gonzalez-Berrios, E Shacter, A Rao (FDA/CBER)**
Autophagy and cell death in breast cancer cells following oxidative stress by mitoquinone

OXIDSTRESS-4 **C Johnson, A Patterson, K Krausz, C Lanz, D Kang, H Luecke, F Gonzalez, J Idle (NCI)**
UPLC-ESI-QTOFMS-based metabolomics for urinary biomarker discovery in gamma-irradiated rats

OXIDSTRESS-5 **BJ Kim, KH Moon, MA Abdelmegeed, BJ Song (NIAAA)**
Increased secretion of cellular proteins via classical and nonclassical pathways in alcohol-exposed human HepG2 hepatoma cells and rats

OXIDSTRESS-6 **MJ Kohr, J Sun, A Aponte, G Wang, M Gucek, C Steenbergen, E Murphy (NHLBI)***
Resin-assisted capture methods show that S-nitrosylation exerts cardioprotection during ischemia/reperfusion injury by directly reducing cysteine oxidation

OXIDSTRESS-7 **Y Li, V Periwal (NIDDK)**
Regulation of reactive oxygen species (ROS) production by high-fat diet in skeletal muscle mitochondria

OXIDSTRESS-8 **CP Pereira, PW Buehler (FDA/CBER)**
The importance of bCys93 in processes of hemoglobin oxidation and clearance

OXIDSTRESS-9 **CP Pereira, E Karnaukhova, DJ Schaer, PW Buehler (FDA/CBER)**
Oxidative stability of avian hemoglobin components A and D and their differential capabilities to handle oxidative insult

*FARE Award Winner

PROTEOM:
Proteomics

PROTEOM-1 **E An, S Park, R Germain, A Nita-Lazar (NIAID)**
Understanding molecular mechanism of osteoclast formation and function

PROTEOM-2 **J Cole, D Nanavati, C Chen, B Martin, A Makusky, G Csako, S Markey (NIMH)**
Biosynthetic concatenated labeled peptides are useful alternatives to whole labeled proteins: human serum albumin as a case study

PROTEOM-3 **P Kriebel, L Jenkins, G Zhang, C Parent (NCI)**
The isolation and proteomic analysis of Dictyostelium exosomes

PROTEOM-4 **F Li, Y Zhang, AD Patterson, KW Krausz, JD Schuetz, FJ Gonzalez (NCI)***
Metabolomics reveals the mechanism of bile salt export pump mutation related-cholestasis and its novel physiological functions in vivo

PROTEOM-5 **NP Manes, E An, V Sjoelund, M Ishii, M Meier-Schellersheim, RN Germain, A Nita-Lazar (NIAID)**
Sphingosine-1-phosphate mediated chemotaxis of osteoclast precursors investigated using targeted proteomics via mass spectrometry

PROTEOM-6 **V Sjoelund, A Nita-Lazar (NIAID)**
Quantitation of phosphorylation levels in the TLR signaling pathway in mouse macrophages using iTRAQ

PROTEOM-7 **V Sridhara, DL Bai, A Chi, J Shabanowitz, DF Hunt, SH Bryant, LY Geer (NLM)**
Using subspectral interval matching to make novel identifications of ETD tandem mass spectra

PROTEOM-8 **S Yuditskaya, GJ Kato (NHLBI)**
Proteomics of sickle cell disease and sickle cell-associated pulmonary hypertension

*FARE Award Winner

SIG/RNA/CYTOK:
Signaling/RNA/Cytokines

SIG/RNA/CYTOK-1 **J Abend, P Kieffer-Kwon, J Ji, V Flowers, A Gallaher, J Ziegelbauer (NCI)**
Target prediction, validation, and functions of viral miRNAs

SIG/RNA/CYTOK-2 **M Corrigan-Cummins, W Wang, K Calvo (CC)**
MicroRNAs -20a, -20b, -194, -301b and follicular lymphoma

SIG/RNA/CYTOK-4 **N Goldberger, R Walker, CH Kim, K Hunter (NCI)***
Identification of miR-290-3p and miR-290-5p as tumor and metastasis suppressors in breast cancer

SIG/RNA/CYTOK-6 **C Keembiyehetty, M Comly, D Love, O Gavrilova, J Hanover (NIDDK)**
Increased O-GlcNAcylation altered metabolic signaling in O-GlcNAcase (OGA) knockout embryonic fibroblasts cells and transgenic mice

SIG/RNA/CYTOK-7 **S Kerkar, R Goldszmid, P Muranski, D Chinnasamy, Z Yu, R Reger, R Morgan, E Wang, F Marincola, G Trinchieri, S Rosenberg, N Restifo (NCI)***
IL-12 triggers an acute-inflammatory environment within tumors that reverses dysfunctional antigen-presentation by myeloid-derived cells

SIG/RNA/CYTOK-8 **F Khan, W Shen, S Beca, S Hockman, P Backx, V Manganiello (NHLBI)**
PDE3A is an important regulator of sarcoplasmic reticulum Ca2+-ATPase (SERCA2) activity

SIG/RNA/CYTOK-9 **R Singh, B Renvoise, J Stadler, C Blackstone (NINDS)**
Role of the BMP signaling pathway in the pathogenesis of hereditary spastic paraplegias

SIG/RNA/CYTOK-10 **S Singh, J Foley, H Zhang, D Hurt, J Farber (NIAID)**
Selectivity in the use of Gαi/o-proteins is determined by the DRF motif in CXCR6 and is cell-type specific

*FARE Award Winner

STEMCELL:
Stem Cell

STEMCELL-1 **G Chen, J Beers (NHLBI)**
NHLBI Human iPSC Core Facility

STEMCELL-3 **B Huang, M Katakura, H Kim (NIAAA)**
Quantitative proteomics analysis for DHA-enhanced proliferation of neural stem cells

STEMCELL-4 **J Ji, T Yamashita, L Reid, Y Song, J Wei, J Khan, X Wang (NCI)***
Identification of MicroRNAs specific to hepatic cancer stem cells but not to normal stem cells by small RNA deep sequencing

STEMCELL-5 **I Lombaert, S Abrams, M Hoffman (NIDCR)***
The expansion of progenitor cells during organogenesis requires c-Kit/Fgfr2b-dependent transcription factor expression

STEMCELL-6 **MV Sokolov, RD Neumann (CC)**
Global microRNAome responses to ionizing radiation in human embryonic stem cells

STEMCELL-7 **C Sweeney, J Zou, BK Chou, U Choi, J Pan, H Wang, S Dowey, L Cheng, H Malech (NIAID)***
Zinc finger nuclease mediated safe harbor targeted gene transfer in patient iPSCs functionally corrects X-linked chronic granulomatous disease

STEMCELL-8 **H Wang, A Kane, E Karey, C Lee, S Ahn (NICHD)**
Gli3 is required for the establishment of adult SVZ neural stem cell niche and postnatal olfactory neurogenesis via interaction with Notch pathway

STEMCELL-9 **PM Wang, WJ Martin II (NICHD)**
Alveolar tissuegenesis and repair by airway delivery of donor type II epithelial cells

*FARE Award Winner

STRUCTBIO:
Structural Biology

STRUCTBIO-1 **N Anthis, M Clore (NIDDK)***
Global regulation of the structure, dynamics, and function of the calcium sensor protein calmodulin revealed by paramagnetic NMR

STRUCTBIO-2 **H Feng, L Jenkins, S Durell, R Hayashi, S Mazur, S Cherry, J Tropea, M Miller, A Wlodawer, E Appella, Y Bai (NCI)**
Structural basis for p300 Taz2-p53 TAD binding and modulation by phosphorylation

STRUCTBIO-3 **A Fera, A Dosemeci, P Gallant, T Reese (NINDS)**
Do CaMKII holoenzymes hide inside postsynaptic densities?

STRUCTBIO-4 **WK Kasprzak, AR Diehl, E Bindewald, T-J Kim, MT Zimmermann, RL Jernigan, BA Shapiro (NCI)**
Building-block dynamics play an important role in RNA nanostructure design and modeling

STRUCTBIO-5 **N Noinaj, N Easley, N Mizuno, J Gumbart, E Boura, S Buchanan (NIDDK)***
The structure of the iron import machinery from pathogenic Neisseria

STRUCTBIO-6 **S Orlow, S Chacko, M Dolan, D Hoover, D Hurt, V Gopalan (CIT)**
Simplifying molecular dynamics on the Biowulf Cluster using the NAMD server at NIH

STRUCTBIO-7 **CH Tai, R Paul, D K.C., J Shilling, BK Lee (NCI)**
SymD server: a platform for detecting internally symmetric protein structures

STRUCTBIO-9 **P Tumbale, D Appel, R Kraehenbuehl, PD Robertson, J Williams, J Krahn, I Ahel, RS William (NIEHS)***
Structural basis of DNA ligase proofreading by aprataxin with insights into AOA1 neurodegenerative disease

STRUCTBIO-10 **T White, R Nandwani, A Nath, S Subramaniam (NCI)***
Structural mechanism of CD4-independent HIV infection

STRUCTBIO-11 **R Yedidi, K Maeda, D Davis, D Das, P Wingfield, D Smith, H Mitsuya (NCI)**
Structure-function studies of multidrug-resistant HIV-1 protease in complex with darunavir

*FARE Award Winner

concurrent symposia session iii
natcher conference center
ruth l. kirschstein auditorium

tuesday, october 25, 2011
2:00 p.m.–4:00 p.m.

Notes from the RNA-Seq Revolution: Deep Sequencing Transcribed RNA in Health and Disease

Co-chairs: Francis McMahon, NIMH, and Mark Cookson, NIA

RNA-Seq is a revolutionary new technique that leverages high-throughput sequencing technologies to provide estimates of transcript abundance at a precision not previously realized in hybridization-based microarray profiling. RNA-Seq also enables the detection of novel, low-abundance transcripts, allele-specific expression, alternative splicing, and posttranscriptional modifications, such as RNA editing. This technique thus provides a fundamental context in which the impact of genetic variation on gene expression can be evaluated in various cells and tissues. This Symposium will give an overview of ongoing RNA-Seq work in several institutes. Tissue types under study range from brain to platelets, diseases from bipolar disorder to atherosclerosis. Methodological issues will also be addressed, including determining alternative splicing, elucidating novel transcripts, and bioinformatic annotation.

Program

Exploring the Transcriptional Complexity of the Brain
Mark Cookson, NIA

RNA-seq Analysis of Human and Mouse Platelet Transcriptomes
Andrew Oler, NIAID

RNA-Seq in Brain Tissue from Patients with Bipolar Disorder
Francis McMahon, NIMH

Transcriptome Profiling of Cardiovascular Disease by Massively Parallel Short-Read DNA Sequencing
Shurjo Sen, NHGRI
FARE Award Winner

Bioinformatic Challenges of Working with RNA-Seq Data
Nirmala Akula, NIMH

concurrent symposia session iii
natcher conference center
room E1/E2

tuesday, october 25, 2011
2:00 p.m.–4:00 p.m.

CHI Symposium: Measuring the Perturbed Human Immune System

Co-chairs: Neal Young, NHLBI, and Ron Germain, NIAID

Despite enormous advances, the human immune system remains largely uncharacterized in health and disease. CHI is using several multiplex high-throughput assays and integrative computation biology to assess the immune system in normal subjects before and after various interventions and perturbations. This symposium will highlight the latest studies conducted in collaboration with various institutes.

Program

Toward a Better Understanding of Human Immune Responses: Utilizing and Integrating Large-Scale Coherent Data Sets
John Tsang, NIAID

A Randomized Trial of Horse Versus Rabbit Antithymocyte Globulin in Severe Aplastic Anemia
Phillip Scheinberg, NHLBI

Steroid Sparing Effects of Retinal S Protein and a Related 14 aa Peptide in Noninfectious Uveitis
Robert Nussenblatt, NEI

The Effects of a Single High or Medium Dose of Hydrocortisone on the Human Immune System
Matt Olnes, NHLBI

Assessing the Role of Chemokine Gradient Structure in 3-D Innate Cell Migration: Insights Into What Directs Immune Cells Movement in Tissues
Caren Petrie Aronin, NIAID
FARE Award Winner

concurrent symposia session iii
natcher conference center
balcony A

tuesday, october 25, 2011
2:00 p.m.–4:00 p.m.

Neural Plasticity in Sensation and Cognition

Co-chairs: David Leopold, NIMH, and Bruno Averbeck, NIMH

Our daily interaction with other people and with the environment depends on complex, evolved neural circuits that are able to sense, interpret, and respond to a wide range of stimuli. The brain's sensory and cognitive circuitry is inherently malleable, with many neurons changing their responses based on experience or in response to injury. Studying how the brain reprograms its responses to stimuli requires carefully controlled testing paradigms, often using animal models, in which the responses of neurons or populations of neurons can be tracked longitudinally over seconds, days, or weeks during normal experience, in the context of learning, or in response to injury. This symposium will focus on recent technological and conceptual advances in the study of neural plasticity, highlighting research at the NIH that sheds light on the brain's inherent propensity for functional reorganization.

Program

Assembly Mechanisms for Heteromeric Kainate Receptors
Janesh Kumar, NICHD
FARE Award Winner

Multiple Forms of Neural Plasticity Combine to Extract Features From Sensory Stimuli
Mark Stopfer, NICHD

Long-Term Plasticity Driven by Reward Association Learning in Monkey Inferotemporal Cortex
David McMahon, NIMH

Robust Memory of the Reward Value of Visual Objects in the Nigro-Collicular Pathway
Masaharu Yasuda, NEI

Can We Use Structural MRI Techniques to Assess Plasticity in the Human Brain Non-invasively?
Cibu Thomas, NIMH

Impact of Impaired Sensory Input on Cortical Processing and Perception: Insights from Macular Degeneration and Amputation
Christopher Baker, NIMH

concurrent symposia session iii
natcher conference center
balcony B

tuesday, october 25, 2011
2:00 p.m.–4:00 p.m.

Dynamic Protein Assemblies: Large and Small

Co-chairs: Sriram Subramaniam, NCI, and James Hurley, NIDDK

The organization of proteins and other macromolecules into functional complexes is a central concept in biology. The complexes range from well-ordered symmetric assemblies with repeating units to heterogeneous multi-protein assemblies that display variable composition and stoichiometry, and range in size from many megadaltons to under 100 kilodaltons. This symposium features a collection of talks that will present progress on using NMR spectroscopy, X-ray crystallography, cryo-electron microscopy and computational modeling to unravel the structural and functional organization of a variety of biologically interesting protein complexes.

Program

The Structure of the Iron-Import Machinery from Pathogenic Neisseria
Nicholas Noinaj, NIDDK
FARE Award Winner

Interactions between Proteins and Lipids Viewed by NMR Spectroscopy
Adriaan Bax, NIDDK

Too Big for NMR, Too Small for EM, and Too Floppy for X-rays: New Hybrid Approaches for Mid-Sized Dynamic Protein Complexes
James Hurley, NIDDK

Structures and Topology of Translated and Untranslated Regions of mRNA: Combined Approach to Structure Problems
Yun-Xing Wang, NCI

Needles in Haystacks: Mechanisms for Locating DNA Lesions
Wei Yang, NIDDK

Protein Structure Determination with Cryo-Electron Microscopy
Sriram Subramaniam, NCI

concurrent symposia session iii
natcher conference center
balcony C

tuesday, october 25, 2011
2:00 p.m.–4:00 p.m.

Environmental Influences on Reproductive Tract Development and Function

Co-chairs: James Segars, NICHD, and
Kenneth Korach, NIEHS

Impaired reproductive health is a devastating condition affecting millions of couples worldwide. Exposure to environmental chemicals poses a significant threat to reproductive health, particularly when the exposure occurs during prenatal and early postnatal development when organ and neural systems are forming. This symposium will group intramural investigators from several institutes to highlight cutting-edge basic and translational research on how the environment influences development and function of reproductive organ systems. This session is particularly timely because there is growing awareness in the research community and the public domain that our increasingly polluted environment can negatively impact human health.

Program

Factors Influencing Urogenital Organogenesis
Alan Perantoni, NCI

Early Life Exposures and Subsequent Cancer Risk: The DES Project
Rebecca Troisi, NCI

Environmental Exposures and Female Reproductive Tract Function
Carmen Williams, NIEHS

Role of Epithelial Estrogen Receptor alpha in the Oviduct During Gamete Fertilization and Embryo Development
Wipawee Winuthayanon, NIEHS
FARE Award Winner

Environmental Influences on Natural History and Diagnosis of Endometriosis
Germaine Louis, NICHD

2012 FARE Program and Award Ceremony

The Fellows Award for Research Excellence (FARE) Program is in its 15th year of providing recognition for the outstanding scientific research performed by intramural fellows who have less than five years of research experience at 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 the applicant's chosen study section. This year 250 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 2012.

We encourage all eligible intramural postdoctoral and clinical fellows to apply to the next FARE competition in Spring 2012.

CLIN/CULT/AGING/DISPREV:

Clinical Investigation/Cultural/Social Sciences/ Aging/Disease Prevention

CLIN/CULT/AGING/DISPREV-1 **A Adams, B Baseler, L Hoopengardner, J Pierson, S Simpson, S Vogel (NIAID)**
Value added in using monitoring and training to improve the quality of clinical data from a clinical trial

CLIN/CULT/AGING/DISPREV-2 **ME Cooke, V Vatsalya, A Thiyagarajan, JM Gilman, DW Hommer, M Heilig, VA Ramchandani (NIAAA)**
Subjective response to intravenous alcohol is predicted by initial sensitivity and recent drinking history in non-dependent drinkers

CLIN/CULT/AGING/DISPREV-3 **K Davenport, S Greenberg, H Herro (NLM)**
Photoshop Spectroscopy

CLIN/CULT/AGING/DISPREV-4 **A Del Valle-Pinero, H Van Deventer, A Martino, N Patel, A Remaley, W Henderson (NINR)**
Intestinal permeability in patients with digestive disorders

CLIN/CULT/AGING/DISPREV-6 **S Hasni, B Dema, D Hardwick, G Souto-Adeva, C Jiang, J Rivera, G Illei (NIAMS)**
Elevated IgE anti-ds-DNA levels are associated with serological disease activity in patients with SLE: potential for a new treatment target

CLIN/CULT/AGING/DISPREV-7 **W Haso, I Pastan, R Morgan, C Mackall, R Orentas (NCI)**
Generation and optimization of a chimeric antigen receptor against CD22: a new immunotherapeutic agent for treating B-lineage leukemia and lymphoma

CLIN/CULT/AGING/DISPREV-8 **S Hastak, S Sandberg, W Ver Hoef, J Evans, R Angeles, L McKenzie, M Woodcock, C Mead, E Helton, J Speakman (NCI)**
BRIDG model: representing the shared semantics in protocol-driven research

CLIN/CULT/AGING/DISPREV-9 **M Hill, J Csokmay, R Chason, J Cohen, A DeCherney, J Segars, A James, M Payson (NICHD)**
Experience with a patient-friendly, mandatory single blastocyst transfer policy: the power of one

CLIN/CULT/AGING/DISPREV-10 **CP Hsiao, D Wang, A Kaushal, L Saligan (NINR)**
Mitochondria-related gene expression changes are associated with fatigue in patients with non-metastatic prostate cancer receiving external beam radiation therapy

CLIN/CULT/AGING/DISPREV-11 **M Jobes, D Epstein, K Preston (NIDA)***
Drinking and drug use from a prospective perspective

*FARE Award Winner

CLIN/CULT/AGING/DISPREV:

Clinical Investigation/Cultural/Social Sciences/ Aging/Disease Prevention

CLIN/CULT/AGING/DISPREV-12 **ZG Kang, JJ Chen, YK Yu, B Li, SY Sun, BL Zhang, L Cao (NCI)**
Drozitumab, a human antibody to death receptor 5, has potent anti-tumor activity against rhabdomyosarcoma with the expression of caspase-8 predictive of response

CLIN/CULT/AGING/DISPREV-14 **E Kent, N Arora, K Bellizi, N Aziz, A Hamilton, I Oakley-Girvan, J Rowland (NCI)***
Gaps in health information for cancer survivors: indicators of those most in need

CLIN/CULT/AGING/DISPREV-15 **L Kwako, M Schwandt, V Ramchandani, D George, D Hommer, M Heilig (NIAAA)**
Identification of empirical subtypes among treatment-seeking alcoholics using latent class analysis

CLIN/CULT/AGING/DISPREV-16 **W Lau, M Ji, K Collie, M Bukowski, M Vos, L Krueger, C Johnson (CIT)**
Matching NIH grants to ClinicalTrials.gov protocols

CLIN/CULT/AGING/DISPREV-17 **DW Lee, JN Kochenderfer, C Rader, RJ Orentas, CL Mackall (NCI)**
Development of chimeric antigen receptor cellular therapy targeting CD19 for the treatment of pediatric acute lymphocytic leukemia

CLIN/CULT/AGING/DISPREV-18 **K Moon, K Richter, J Segars, E Wolff, E Widra (NICHD)**
Racial/ethnic disparities in assisted reproductive technology (ART) outcomes: an analysis of 10,413 patients from a single fertility practice

CLIN/CULT/AGING/DISPREV-19 **L Murphy, S Garantziotis, J Cidlowski (NIEHS)**
Role of glucocorticoid receptor SNPs in receptor function and metabolic disease

CLIN/CULT/AGING/DISPREV-20 **N Patel, P Gurgel, A Naik, D Asher, L Gregori (FDA/CBER)**
Development of a peptide-ligand-based device to remove bacterial contamination from platelet concentrates

CLIN/CULT/AGING/DISPREV-21 **AJ Pavletic, M Pao, DS Pine, DA Luckenbaugh, DR Rosing (NIMH)**
Prevalence and clinical significance of ECG abnormalities in physically healthy volunteers for mental health protocols

*FARE Award Winner

CLIN/CULT/AGING/DISPREV-22 **LM Rubenstein, KR Timpano, DL Murphy (NIMH)**
Age of onset in obsessive-compulsive disorder: clinical impact of early versus late onset

CLIN/CULT/AGING/DISPREV-23 **D Shen, Y Wang, J Tuo, C Chan (NEI)**
Macrophage polarization in Ccl2/Cx3cr1 double deficient mice

CLIN/CULT/AGING/DISPREV-24 **M Skarzynski, J Weldon, I Pastan (NCI)**
Rational design of improved recombinant immunotoxins through optimization of the Pseudomonas exotoxin A furin cleavage site

CLIN/CULT/AGING/DISPREV-25 **C St. Hilaire, SG Ziegler, T Markello, A Bruscs, C Groden, F Gill, H Carlson-Donohoe, RJ Lederman, MY Chen, D Yan, MP Siegenthaler, C Arduino, Cynth Mancini, B Freudenthal, HC Stanescu, AA Zdebik, R Krishna Chagant, R Kleta, WA Gahl, M Boehm (NHLBI)***
Novel disease caused by mutations in CD73 leads to vascular calcification in adults

CLIN/CULT/AGING/DISPREV-26 **W Steagall, G Pacheco-Rodriguez, C Glasgow, Y Ikeda, J Lin, J Moss (NHLBI)**
Osteoprotegerin affects clinical phenotypes and cell biology in lymphangioleiomyomatosis (LAM)

CLIN/CULT/AGING/DISPREV-27 **A Venkatakrishnan, M Sandrini, JL Contreras-Vidal, LG Cohen (NINDS)***
Independent component analysis of resting brain activity reveals transient modulation of local cortical processing by transcranial direct current stimulation

CLIN/CULT/AGING/DISPREV-28 **JM Werner, T Heller, B Rehermann (NIDDK)**
Early natural killer cell responses in hepatitis C virus exposed health-care workers who do not develop acute infection

ENDOC:
Endocrinology

ENDOC-1 **R Agnihothri, D Dellavalle, JD Linderman, S Smith, A Courville, S Yavuz, L Simchowitz, FS Celi (NIDDK)**
Triiodothyronine serum levels decrease during controlled weight loss: an indicator of nutritional status in humans

ENDOC-2 **SA Beall, G Levy, M Maguire, M Payson, B Steggman, J Segars (NICHD)**
Body mass index does not impact number of oocytes retrieved or oocyte maturation in women undergoing ART

ENDOC-3 **S Chandran, A McPherron (NIDDK)***
The role of serotonin and myostatin in metabolism

ENDOC-4 **Z Chen, Z Liu, Y Shin, M Yuan, J Fiori, O Carlson, M Bernier, J Egan (NIA)***
Taste precursor cells, potential substitutes for pancreatic β cells in type 1 diabetes

ENDOC-5 **W Jou, T Chanturiya, O Gavrilova (NIDDK)**
Phenotyping metabolic disease in mice

ENDOC-6 **J Junghyo, G Kilimnik, A Kim, C Guo, V Periwal, M Hara (NIDDK)**
Formation of pancreatic islets involves coordinated expansion of small islets and fission of large interconnected islet-like structures

ENDOC-7 **K Lichti-Kaiser, HS Kang, AM Jetten (NIEHS)***
The role of Glis3 in the development of functional pancreatic beta-cells and diabetes

ENDOC-8 **Y Liu, V Poon, G Sanchez-Watts, AG Watts, G Aguilera (NICHD)**
Salt-inducible kinase regulates corticotropin releasing hormone transcription in hypothalamic neurons by controlling the activity of the CREB co-activator, TORC

ENDOC-10 **S Srivastava, Y Kashiwaya, R Pawlosky, MT King, G Niu, X Chen, K Clarke, RL Veech (NIAAA)***
Diets that elevate ketone bodies increase mitochondrial biogenesis and uncoupling protein 1 in brown adipose tissue of mice

ENDOC-11 **H Xu, A Adeyemo, A Elkahloun, J Adeleye, W Balogun, H Huang, J Zhou, G Chen, D Shriner, C Adebamowo, S Chandrasekharappa, CN Rotimi (NHGRI)**
Whole-genome expression profiling of skeletal muscle reveals potential link between insulin resistance and diabetes in overweight West Africans

*FARE Award Winner

IMAG:
Imaging

IMAG-1 **H Amalou, B Wood, B Carelsen, N Noordhoek, A Radaelli, S Kadoury, J Kruecker, N Abi-Jaoudeh (CC)**
Cone beam CT input for EM tracked biopsies

IMAG-2 **F Amyot, TR Zimmermann, J Riley, JM Kainerstorfer, V Chernomordik, L Najafizadeh, F Krueger, E Wassermann, AH Gandjbakhche (NICHD)**
Functional near infrared spectroscopy with anatomical registration

IMAG-3 **Y Ardeshirpour, R Zielinski, V Chernomordik, J Capala, G Griffiths, A Gandjbakhche, M Hassan (NICHD)**
In vivo detection of cancer biomarkers using fluorescence lifetime imaging

IMAG-4 **DAA Baranger, J Paiement, Y Tong, VS Mattay, TS Woodward, DR Weinberger, JH Callicott (NIMH)**
CPCA of the N-back working memory task in schizophrenia: a multivariate approach to the identification of intermediate phenotypes in schizophrenia

IMAG-5 **F Basuli, H Wu, C Li, Z Shi, A Sulima, GL Griffiths (NHLBI)**
A first synthesis of [18F]Lapatinib: a potential tracer for positron emission tomographic imaging of ErbB1/ErbB2 tyrosine kinase activity

IMAG-6 **J Butman, N Gai (CC)**
The B1 field and variability in left-right brain perfusion with 3-D IR-PULSAR and its implications in symmetry studies

IMAG-7 **X Chen, R Summers, J Yao (CC)**
Automatic 3-D kidney segmentation based on shape constrained GC-OAAM

IMAG-8 **R Cheng, A Bokinsky, J Senseney, M McAuliffe (CIT)**
Java GPU-based multi-histogram volume rendering framework

IMAG-9 **N Gai, C Stehning, M Nacif, D Bluemke (CC)**
Characterization and correction for Modified Look Locker (MOLLI) T1 mapping using Bloch simulations and corroboration with scan measurements

IMAG-10 **HK Gao, G Niu, M Yang, QM Quan, D Kiesewetter, XY Chen (NIBIB)**
PET imaging of insulinoma using 18F-FBEM-EM3106 B, a new GLP-1 analog

IMAG-11 **N Guo, L Lang, H Gao, G Niu, DO Kiesewetter, Q Xie, X Chen (NIBIB)**
Quantitative analysis and parametric imaging of 18F-FPRGD and 18F-FPPRGD2 kinetics in breast cancer xenografts using a compartmental model

IMAG-12 **D Hammoud, D Thomasson, J Hufton, J Lawler (NIAID)**
Quantitative MRI perfusion using arterial spin labeling and intravoxel incoherent motion: potential applications in monitoring infectious disease

*FARE Award Winner

IMAG:
Imaging

IMAG-13 **SA Jansen, Y Song, TN O'Sulilvan, L Ileva, B Hughes, P Mulhern, E Siegal, J Chen, T Van Dyke (NCI)**
Noninvasive characterization of mouse and human glioblastoma multiforme

IMAG-14 **J Kainerstorfer, I Styles, H Dehghani, L Najafizadeh, F Amyot, J Riley, P Smith, A Medvedev, A Gandjbakhche (NICHD)**
Wavelength optimized real-time feedback of brain activation by principal component analysis on near–infrared spectroscopy data

IMAG-15 **T Karpova, J McNally (NCI)**
NCI Core Fluorescence Imaging Facility (Bldg. 41)

IMAG-16 **N Kawel, M Nacif, F Santini, S Liu, J Bremerich, A Arai, D Bluemke (CC)**
Myocardial T1 mapping using a Modified Look-Locker Inversion Recovery (MOLLI) sequence in CMRI: influence of contrast agent on absolute T1 values and the partition coefficient

IMAG-17 **D Kennedy, N Preuss, C Haselgrove, R Buccigrossi, M Ellisman, J Grethe, H Evans-Kavaldjian, A Crowley, K Pohland, J Turner (NIBIB)**
NITRC: Neuroimaging Informatics Tools and Resources Clearinghouse, a successful knowledge environment for the functional and structural MR researcher

IMAG-18 **F Lalonde, R Cheng, J Senseney, M McAuliffe (NIMH)**
A MIPAV plugin for the visual and quantitative comparison of FreeSurfer subcortical segmentation results

IMAG-19 **C Lee, KP Kim, D Long, SL Simon, A Bouville, W Bolch (NCI)**
A computer program for organ dose calculation for patients undergoing computed tomography examinations

IMAG-20 **W Li, L Lang, N Guo, Y Ma, DO Kiesewetter, G Niu, X Chen (NIBIB)**
Comparison study of [18F] FAl-NOTA-PRGD2, [18F] FPPRDG2 and [68Ga] Ga-NOTA-PRGD2 for PET imaging of U87MG tumors in mice

IMAG-21 **MG Linguraru, WJ Richbourg, JM Watt, V Pamulapati, RM Summers (CC)**
Liver and tumor segmentation and analysis from CT of diseased patients

IMAG-22 **W Liu, N Raben, K Zaal, T Ploug, E Ralston (NIAMS)**
A fast, automatic and quantitative image processing tool for assessing skeletal muscle health

IMAG-23 **S Lynch, N Morgan, C Kemble, E Bennett, X Xiao, H Wen (NHLBI)**
Multilayer coated echelle transmission gratings for x-ray phase sensitive imaging

*FARE Award Winner

IMAG-24 **P Maggi, MI Gaitán, EM Sweeney, J Senseney, C Shea, L Massacesi, S Jacobson, A Silva, DS Reich (NINDS)**
Early blood-brain-barrier permeability changes in the normal-appearing white matter of a marmoset model of MS

IMAG-25 **M Nacif, A Young, B Cowan, E-Y Choi, N Mewton, O Gjesdal, C Sibley, V Sachdev, H Hannoush, A Zavodni, N Kawel, S Liu, E Turkbey, R Noureldin, J Lima, D Bluemke (CC)**
CMR diastolic function: relationship between 3-D model-based assessment, mitral valve inflow phase contrast and echo-Doppler assessment

IMAG-26 **K Nadine, J Lee, C Sibley, M Nacif, N Gai, P Kellman, D Bluemke (CC)**
Quantification of accuracy and precision of cardiac magnetic resonance T1 mapping: a phantom study

IMAG-27 **L Najafizadeh, J Kainerstorfer, A Medvedev, F Amyot, J Riley, A Gandjbakhche (NICHD)**
Assessment of functional brain activation using a NIRS/EEG multimodal system

IMAG-28 **G Niu, Y Murad, H Gao, O Jacobson, J Zhang, X Chen (NIBIB)**
Molecular imaging of CEACAM6 using antibody probes of different sizes

IMAG-29 **V Pamulapati, BJ Wood, MG Linguraru (CC)**
Liver segmental anatomy and analysis from vessel and tumor segmentation

IMAG-30 **J Riley, V Reddy, F Amyot, L Najafizadeh, J Kainerstorfer, Y Ardeshipour, V Chernomordik, A Gandjbakhche (NICHD)**
A polar probabilistic atlas for MRI-free functional imaging in MNI/Talairach space for MRI excluded patients

IMAG-31 **J Senseney, A Gilbert, I Evangelou, M McAuliffe (CIT)**
Single-, bi- and multi-exponential fitting of quantitative T2 MR images

IMAG-32 **Z-D Shi, A Sulima, H Wu, W Kothmann, J Diamond, GL Griffiths (NHLBI)**
Design and syntheses of caged mGluR6 antagonists for studies on dynamic signaling mechanisms in ON bipolar cells

IMAG-33 **A Sousa, M Aronova, G Zhang, R Leapman (NIBIB)**
Special nanoscale imaging modes in biological electron microscopy

IMAG-34 **A Suzuki, T Fujisawa, P Dover, H Kobayashi, T Inoue, BH Joshi, RK Puri (FDA/CBER)**
Development of a novel bio-imaging approach for assessing biodistribution of IL-13PE immunotoxin in targeting intracranial Interleukin-13 receptor positive glioblastoma tumors in mouse model

*FARE Award Winner

IMAG:
Imaging

IMAG-35 **EB Turkbey, JC Backlund, A Small, A Redheuil, PA Cleary, JM Lachin, RA Noureldin, M Nacif, N Kawel, A Zavodni, JA Lima, DA Bluemke (CC)**
Relationship of aortic distensibility to cardiovascular disease risk factors in type 1 diabetes mellitus: the Diabetes Control and Complications Trial (DCCT)/Epidemiology of Diabetes Interventions and Complications (EDIC) Study

IMAG-36 **S Wang, V Anugu, T Nguyen, N Rose, J Burns, M McKenna, N Petrick, R Summers (CC)**
Fusion of machine intelligence and human intelligence for colonic polyp detection in CT colonography

IMAG-37 **B Xu, F Bhattacharyya, C Li, K Lane, A Sulima, G Griffiths (NHLBI)**
Preparation of an [18F]liposome using a novel “Click Chemistry” approach

IMAG-38 **J Yao, J Burns, T Wiese, R Summers (CC)**
Automatic detection of sclerotic bone metastases in the spine using computed tomography images

IMAG-39 **A Zavodni, B Wasserman, R McClelland, A Gomes, A Folsom, J Polak, J Lima, E Turkbey, N Kawel, R Noureldin, M Nacif, D Bluemke (CC)**
Carotid MRI and carotid IMT for prediction of cardiovascular events: the Multi-Ethnic Study of Atherosclerosis

*FARE Award Winner

RSCHSUPP:
Research Support Services

RSCHSUPP-1 **K Banfield, N Bubunenko, S Coccodrelli, V Grinberg, T Hartley, S Korolevich, J Mitchell, K Pike, T Plona, A Raziuddin, N Shraeder, D Soppet, M Smith, M Spencer, C Stewart, R Stewart, L Su, Z Sun, J Troyer, X Wu (NCI)**
Genetics and genomics services at the Laboratory of Molecular Technology

RSCHSUPP-2 **D Barnard (OD)**
Laboratory animal diet an environmental factor that affects research

RSCHSUPP-3 **R Byrum, I Alexander, B Rosa, N Oberlander, K Cooper, O Rojas (NIAID)**
Use of body surface temperature obtained with an infrared thermometer as an early endpoint criterium in orthopoxvirus infection studies

RSCHSUPP-4 **HS Eden, P Brown, E Dimitriadis, AM Gorbach, H Kalish, N Morgan, G Zhang (NIBIB)**
Biomedical Engineering and Physical Science Shared Resource

RSCHSUPP-5 **L Finkelstein, L Portilla (NCI)**
The New NIH Web MTA System

RSCHSUPP-6 **J Giri, L Lambert, J Pierson, J Tierney, B Baseler (NIAID)**
Mapping protocol lifecycle with project management methodology for optimizing and aligning resources within clinical research setting

RSCHSUPP-7 **D Harbourt, K Meza, D Wilson (OD)**
BSL-4 user survey results aiding the design of the next generation of positive pressure suits

RSCHSUPP-9 **A Livinski, B Sullivan (OD)**
How satisfied are our customers? A five-year evaluation of Information Desk services and staffing

RSCHSUPP-10 **P McLaughlin (NLM)**
Understanding biomedical terminologies: development of online documentation to facilitate user comprehension

RSCHSUPP-11 **A Schwartz, T Mitchell, D Masselle, A Yazdani, J Peterson (OD)**
Hazards associated with handling liquid nitrogen: what you must know to keep yourself safe

RSCHSUPP-12 **L Sternberg, M Anver, T Beachley, D Butcher, W Custer, G DiSalvo, X Hao, S Florea, D Green, Y Golubeva, D Haines, J Krolus, J Matta, T Morgan, G Rivera, R Oden, G Rivera, R Smith, S Smith, A Warner (OD)**
SAIC-Frederick Pathology and Histotechnology Shared Services Core

RSCHSUPP:
Research Support Services

RSCHSUPP-13 **K Vasudevan, J Sztein, R Elkins (NIAID)**
CMB/NIAID assisted reproduction technologies including cryopreservation: ARTiC

RSCHSUPP-14 **S Weiss, DO Dixon, K Cahill, L Fox, J Love, J McNamara, L Soto-Torres (NIAID)**
Data and safety monitoring in NIAID clinical trials

RSCHSUPP-15 **J Welsh (OD)**
Point-of-care resources comparison chart http://nihlibrary.ors.nih.gov/jw/POC5.html

RSCHSUPP-16 **L Young, M Bhagwat (OD)**
The NIH Library bioinformatics portal: Web analytics and social networking middleware

*FARE Award Winner

TECH:
Technology

TECH-1 **T Andresson, R Bagni, D Esposito, A Stephen, M Zhou, T Veenstra (NCI)**
The PRMC: meeting your protein and metabolite research needs

TECH-2 **C. Fisher, E. Grigorenko, S. Patel, K. Munnelly, H. Nakhasi, R. Duncan (FDA/CBER)**
Multiplex Screening for Virus, Bacteria, and Parasite Blood Borne Pathogens with the OpenArray Platform

TECH-3 **R Freimuth, E Freund, L Schick, M Sharma, G Stafford, B Suzek, J Hernandez, J Hipp, J Kelley, K Rokicki, S Pan, A Buckler, T Stokes, A Fernandez, I Fore, J Klemm (NCI)**
Life Sciences Domain Analysis Model (LS DAM): A foundational analysis model to support effective information exchange in Life Sciences

TECH-4 **Y Golubeva, R Smith, L Sternberg (OD)**
Tissue preparation for high-quality RNA retrieval via Laser Capture Microdissection (LCM)

TECH-5 **J Hua, J White, J Liu, R Summers (CC)**
Computer-aided abdominal lymph node detection using contrast-enhanced CT images

TECH-6 **N Morgan, J Romantseva, J Yoon, M Chandrangsu (NIBIB)**
Simple microfabrication techniques for biomedical applications

TECH-7 **B Otterson (NIHL), B Brown (NIHL), B Hope (NIHL), M Raju (DCRI), P Sengstack (DCRI), T Wheeler (NIHL), J McKeeby (DCRI) (OD)**
Case study to find the best way to include many clinical information resources into an easy-to-use interface for the Clinical Research Information System

TECH-8 **P.S Patel, P Leland, BH Joshi, RK Puri (FDA/CBER)**
Assessment of isotopic and non-isotopic technologies for evaluating biological activity of receptor targeted therapeutic immunotoxins consisting of IL-13 and truncated Pseudomonas exotoxin in human cancer cell lines

TECH-9 **C Reiter, JL Miller, Al Alayash (FDA/CBER)**
Effects of carbon monoxide (CO) on vascular endothelial cells under hypoxia and in the presence of cell-free hemoglobin and sickle red blood cells

TECH-10 **G Salem, J Dennis, L Abuhatzira, JP Gillet, A Shamir, M Bustin, MM Gottesman, JB Mitchell, TJ Pohida (CIT)**
Mouse Activity Monitoring System (MAMS): a novel and practical approach to in-rack home cage laboratory mice monitoring

TECH-11 **M Steele, M Sincan, A Fletcher, W Gahl, K Kempner (CIT)**
Case management portal for the Undiagnosed Diseases Program

TECH-12 **P Tonkins, S Wearins, J Witter, S Serrate-Sztein (NIAMS)**
Patient-Reported Outcomes Measurement Information System® (PROMIS): the science of patient-reported outcomes

Post-translational Modifications: From Protein Structure to Systems Biology

Co-chairs: Aleksandra Nita-Lazar, NIAID, and Mark Knepper, NHLBI

Post-translational modifications (PTMs) modulate the activity of most proteins, therefore adding a layer of complexity to the analysis of cellular processes and extending the repertoire of protein functions. The analysis of PTMs has proven to be challenging because of their abundance, complexity and, often, dynamic character. Nevertheless, excellent, innovative, and highly significant research encompassing many different types of PTMs is being conducted at NIH. This mini-symposium aims at showcasing different approaches to the PTM discovery and functional interpretation. The reversible AMPylation is crucial for the pathogenicity of Legionella. Careful, comprehensive analysis can lead to the discovery and functional characterization of new PTMs, like β-methylthiolation of an E.coli protein. S-nitrosylation is an example of the PTM regulating human physiology with clinical relevance. Two examples of systematic analyses of phosphorylation-dependent signaling networks will be described: the vasopressin signaling network and TLR signaling network.

Program

Phosphorylation Dynamics in the TLR Signaling Pathway
Virginie Sjoelund, NIAID

Systems Biology of G Protein-Coupled Receptor Signaling Revealed by Quantitative Phosphoproteomics
Jason Hoffert, NHLBI

A Proteomic and Transcriptomic Approach Reveals New Insight into Beta-Methylthiolation of Escherichia coli Ribosomal Protein S12
Michael Brad Strader, NIMH

The Role of S-Nitrosylation in Regulating Myocardial Cell Death and Protection
Elizabeth Murphy, NHLBI

Redox Modifications Play a Critical Role in Myocardial Ischemic Preconditioning
Mark Kohr, NHLBI
FARE Award Winner

Controlling Small GTPase Activity through Reversible AMPylation
Matthias Machner, NICHD

concurrent symposia session iv
natcher conference center
room E1/E2

wednesday, october 26, 2011
noon–2:00 p.m.

Advances in Rare-Diseases Research

Chair: Stephen Groft, OD

Traditionally, rare-diseases research has been driven by individual investigators funded by programs in individual institutes. The NIH Office of Rare Diseases Research (ORDR) sought to develop a new model for clinical research by leveraging the participation of multiple stakeholders to enhance the probability of success. The first program developed was the Rare Diseases Clinical Research Network, consisting of 19 consortia funded and/or managed by seven institutes and centers. These consortia collaboratively investigate more than 90 rare diseases, initiate research projects, develop clinical studies, recruit patients, and train future rare-diseases investigators. ORDR is also establishing the infrastructure for a Global Rare Disease Patient Registry (GRDR) that can be linked to biorepository/biospecimen databases. The goal is to aggregate de-identified patient data from any patient registry to be made available to the rare disease community. These efforts have been very successful and endorsed by many sectors of the scientific community and the government.

Program

Arterial Calcification Due to Deficiency of CD73: Identification of a New Genetic Disease and Mechanism Regulating Arterial Calcification
Cynthia St. Hilaire, NHLBI
FARE Award Winner

Biomarkers and Mechanism of Catecholaminergic Denervation in Chronic Autonomic Failure
David Goldstein, NINDS

Pathophysiology of Dystonia
Mark Hallett, NINDS

New Approaches for the Treatment of Bronchiolitis Obliterans Syndrome after Hematopoietic Stem Cell Transplantation
Kirsten Williams, NCI

Idiopathic Bronchiectasis: Unraveling Genetic Links and Host Susceptibility to Chronic Airway Infection
Kenneth Olivier, NIAID

Chronic Granulomatous Disease: Lessons From a Rare Disorder
Harry Malech, NIAID

Why Do African Americans Get More Kidney Disease?
Jeffrey Kopp, NIDDK

concurrent symposia session iv
natcher conference center
balcony A

wednesday, october 26, 2011
noon–2:00 p.m.

Mitochondria in the Brain

Co-chairs: Zheng Li, NIMH, and Craig Blackstone, NINDS

As the control center for an organism's physical as well as mental activities, the brain is heavily dependent on normal mitochondrial functions. Mitochondrial dysfunctions often manifest as neurological disorders. Intriguingly, it has recently emerged that not only metabolic, but also non-metabolic functions of mitochondria, such as the regulation of apoptosis, play a crucial role in the development and experience-dependent modification of neural circuits. The structural complexity and functional plasticity of neurons pose unique challenges in the brain to distribute mitochondria and differentially regulate their functions and turnover in distinct subcellular compartments. NIH investigators have recently made substantial contributions to the technical and conceptual advancement in the study of mitochondria. This symposium will highlight the exciting findings of NIH investigators in the understanding of how mitochondria are regulated in both normal and diseased brains.

Program

Dynamic Regulation of Mitochondrial Division
Craig Blackstone, NINDS

Non-Canonical Functions of Mitochondria in Synapses
Zheng Li, NIMH

Axonal Mitochondria Transport and Neurodegeneration
Zu-Hang Sheng, NINDS

Aprataxin Localizes to Mitochondria and Preserves Mitochondrial Function
Peter Sykora, NIA
FARE Award Winner

Mechanisms of Parkin-Mediated Mitophagy
Lesley Kane, NINDS

Profiling Mutations of the Mitochondrial Genome by Deep-Sequencing
Jun Zhu, NHLBI

concurrent symposia session iv
natcher conference center
balcony B

wednesday, october 26, 2011
noon–2:00 p.m.

IPSC Cells for Screening and Therapy

Co-chairs: Mahendra Rao, OD, and John O'Shea, NIAMS

The study of pluripotent stem cells is revolutionizing basic assumptions in biology. The rapidity with which the advances in stem cell biology will enter routine clinical practice remains to be determined, but there are few areas in biomedical research that are more exciting. The study of pluripotent stem cells affects virtually all scientists ranging from developmental and cell biologists to those interested in genomics and transcriptional and epigenetic regulation of gene expression. Most recently the topic of immunologic rejection of induced pluripotent stem cells has become an issue and will be of intense interest across the campus.

Program

Using iPS Cell Derived Retinal Pigment Epithelium to Understand Eye Disease Mechanisms
Kapil Bharti, NINDS

An iPS Approach to the Analysis and Treatment of Smith-Lemli-Opitz Syndrome, a Disorder Caused by Defective Cholesterol Synthesis
Heiner Westphal, NICHD

Zinc Finger Nuclease-Mediated Safe-Harbor Targeted Gene Transfer in Patient iPSCs Functionally Corrects X-Linked Chronic Granulomatous Disease
Colin Sweeney, NIAID
FARE Award Winner

Development of iPSC for the Treatment of Neurologic Disorders
Mahendra Rao, OD

concurrent symposia session iv
natcher conference center
balcony C

wednesday, october 26, 2011
noon–2:00 p.m.

Mast Cells in Health and Disease

Co-chairs: Andy Hurwitz, NCI, and Alasdair Gilfillan, NIAID

Mast cells and basophils are cells of common hematopoietic origin that have gained notoriety over the years for their role as central players in atopic disorders and anaphylaxis. It is only recently that their role in other aspects of health and disease has become better appreciated. The biochemical processes regulating their development and activation have been extensively investigated. In addition, unique roles for both basophils and mast cells have been proposed in immune activation, hypersensitivity, and control of other pathophysiologic processes. The goal of this symposium is to showcase various NIH laboratories that study these two cell populations in such diverse diseases as allergy and other hypersensitivities, immune deficiency, infectious disease, and cancer; as well as the laboratories that examine ontogeny, activation, and regulation of their cellular functions. The diversity of the speakers will invite researchers from many disciplines and provide a rich environment for discussion and future collaborations.

Program

Systemic Mast Cell Activation Syndrome: A New Clinical Entity?
Dean Metcalfe, NIAID

Human Genes that Impact the Mast Cell Compartment
Todd Wilson, NIAID

Mast Cells Regulate Immune Tolerance in Prostate Cancer
Stephanie Watkins, NCI
FARE Award Winner

Regulation of Mast Cell Activation by Co-Receptors: Pathological Implications
Michael Beaven, NHLBI

Opposing Roles for Alternatively Spliced Variants of the MS4A Gene Family Member, FcεRIβ, in Mast Cell Activation and Survival
Glenn Cruse, NIAID

Sphingolipids and Allergy: New Insights on the Regulation of Mast Cell Responsiveness and Beyond
Ana Olivera, NIAMS

IMMUNO/INFLAM:
Immunology/Inflammation

IMMUNO/INFLAM-1 **PV Afonso, M Janka-Juntilla, CM Oliver, CP McCann, CA Parent (NCI)***
Leukotriene B4 autocrine/paracrine secretion amplifies fMLP-gradient sensing during neutrophil chemotaxis

IMMUNO/INFLAM-2 **J Bonzo, A Patterson, Y Shah, F Gonzalez (NCI)***
Nuclear receptor peroxisome proliferator-activated receptor alpha protects the liver from LPS-induced hepatic apoptosis

IMMUNO/INFLAM-3 **G Cruse, A Gilfillan, M Beaven, D Metcalfe (NIAID)**
Multiple functions for the β subunit of FcεRI: positive and negative regulation of human mast cell activation, survival, and proliferation

IMMUNO/INFLAM-4 **C Dai, X Yao, J Lam, K Keeran, G Zywicke, X Qu, Z Yu, S Levine (NHLBI)**
Apolipoprotein A-I is an endogenous negative regulator of ovalbumin-induced neutrophilic airway inflammation

IMMUNO/INFLAM-5 **A Desai, N Medic, H Komarow, MA Beaven, AM Gilfillan, DD Metcalfe (NIAID)**
Delayed recovery from anaphylaxis in TRPC1-/- mice is driven by the elevated mast cell production of TNF-α

IMMUNO/INFLAM-6 **J Fares, L Wolff, J Bies (NCI)***
Modulation of myeloid-derived dendritic cell maturity: unmasking a novel role for the tumor suppressor p15Ink4b in immunity

IMMUNO/INFLAM-7 **KE Garcia-Crespo, SJ Gabryszewski, KD Dyer, HF Rosenberg (NIAID)**
Mechanisms of lactobacillus–mediated protection against acute respiratory virus infection

IMMUNO/INFLAM-8 **M Gerner, I Ifrim, W Kastenmuller, R Germain (NIAID)***
Distinct spatial localization and function of resident dendritic cell subsets in lymph nodes

IMMUNO/INFLAM-9 **A Golding, F Hakim, S Pavletic, P Scheinberg, D Douek, J Melenhorst, E Shevach (NIAID)**
Discrimination of Treg subsets using Helios and FoxP3 followed by CDR3 sequencing reveals that the TCR repertoire of effector T Cells and natural regulatory T Cells is distinct

IMMUNO/INFLAM-10 **T Ito, D Smrz, H Kuehn, S Smrzova, G Bandara, M Jung, A Desai, M Beaven, D Metcalfe, A Gilfillan (NIAID)**
Reprogramming of mast cells to induce a hypoactive phenotype through prolonged SCF exposure

*FARE Award Winner

IMMUNO/INFLAM:
Immunology/Inflammation

IMMUNO/INFLAM-11 **T Jin, A Perry, J Jiang, JA Curry, L Unterholzner, Z Jiang, G Horvath, V Rathinam, E Latz, KA Fitzgerald, AG Bowie, TS Xiao (NIAID)**
Structural basis of cytosolic DNA recognition by innate immune receptors AIM2 and IFI16

IMMUNO/INFLAM-12 **M Jung, MA Beaven, G Bandara, A Desai, D Smrz, T Ito, DD Metcalfe, AM Gilfillan (NIAID)**
IL-33 down-regulates human mast-cell (MC) activation by reprogramming cell signaling

IMMUNO/INFLAM-13 **JG Kang, MJ Amar, AT Remaley, J Kwon, PJ Blackshear, PY Wang, PM Hwang (NHLBI)**
Zinc finger protein TTP interacts with CCL3 mRNA and regulates inflammatory diseases

IMMUNO/INFLAM-14 **ZZ Li, X Xu, I Weiss, O Jacobson, E Schneider, JL Gao, D McDermott, J Farber, P Murphy (NIAID)***
Enhancement of mixed hematopoietic chimerism by CXCR4 blockade in mice receiving allogeneic bone marrow transplantation without irradiation

IMMUNO/INFLAM-15 **K Lu, Y Kanno, J Cannons, R Handon, J O'Shea, P Schwartzberg (NIGMS)**
Functional and epigenetic analyses of in vitro-derived IL-21 producing follicular T helper-like cells

IMMUNO/INFLAM-16 **L Lu, JE Niemela, TA Fleisher, I Caminha, J Davis, MD Natter, LA Beer, KC Dowdell, S Pittaluga, M Raffeld, VK Rao, JB Oliveira (CC)***
Somatic KRAS mutations associated with a human non-malignant syndrome of autoimmunity and abnormal leukocyte homeostasis

IMMUNO/INFLAM-17 **SM Maloveste, D Chen, E Gostick, DA Price, BAP Lafont (NIAID)**
Diversity of the natural killer cell repertoire based on MHC class I recognition in macaques

IMMUNO/INFLAM-18 **N Medic, A Desai, H Komarow, MA Beaven, DD Metcalfe, AM Gilfillann (NIAID)**
Examination of the role of TRPM8 in human mast cell activation and its relevance to the etiology of cold-induced uricaria

IMMUNO/INFLAM-19 **A Melillo, K Elkins (FDA/CBER)**
T-bet is required for survival of primary Francisella tularensis LVS infection

IMMUNO/INFLAM-20 **M Mendonca, H Kalish (NIBIB)**
Application of nanotechnology for clinical diagnosis

*FARE Award Winner

IMMUNO/INFLAM-21 **C Michaud, D Ragland, K Shea, P Zerfas, R Kastenmayer, M St. Claire, W Elkins, A Gozalo (NIAID)**
Spontaneous pulmonary alveolar proteinosis in captive "Moustached Tamarins" (Saguinus mystax)(primates: Callitrichidae)

IMMUNO/INFLAM-22 **L Nugent, G Shi, C Tan, B Vistica, I Gery (NEI)**
A novel aryl hydrocarbon receptor ligand, ITE, suppresses immune-mediated ocular inflammation

IMMUNO/INFLAM-23 **MJ Ombrello, EF Remmers, G Sun, A Freeman, H Komarow, S Datta, P Torabi-Parizi, N Subramanian, TD Bunney, RW Baxendale, HS Kim, J Ho, E Long, S Moir, E Meffre, S Holland, M Katan, DL Kastner, H Hoffman, JD Milner (NHGRI)***
Genomic deletions of phospholipase Cγ2 abolish autoinhibition, causing a new syndrome of cold urticaria, antibody deficiency, and susceptibility to both autoimmunity and infection

IMMUNO/INFLAM-24 **S Parish, K Muindi, M Oakley, M Suzuki, R Tatituri, M Brenner, J Berzofsky, M Terabe (NCI)***
Unconventional glycosphingolipid or non-glycosphingolipid endogenous tumor lipid antigens recognized by CD1d-restricted NKT cells

IMMUNO/INFLAM-25 **C Petrovas, J Gall, E Haddad, R Sekaly, R Koup (NIAID)***
Determinants of poor immunogenicity of rare-serotype adenovirus vaccine vectors

IMMUNO/INFLAM-26 **AA Schaffer, H Abdollahpour, G Appaswamy, R Beier, EM Gertz, A Schambach, HH Kreipe, D Pfeifer, KR Engelhardt, N Rezaei, B Grimbacher, S Lohrmann, R Sherkat, C Klein (NLM)**
STK4 deficiency: A novel primary immunodeficiency affecting both innate and adaptive immunity and including cardiac defects

IMMUNO/INFLAM-27 **C Tan, B Vistica, L Nugent, G Shi, I Gery (NEI)**
Two distinct Th9 subpopulations are generated by activating naïve CD4 cells either by antigen/APC or anti-CD3/CD28 antibodies

IMMUNO/INFLAM-28 **C Teixeira, R Gomes, LF Oliveira, D Gilmore, D Elnaiem, C Meneses, P Lawyer, J Valenzuela, S Kamhawi (NIAID)**
A new role for NK cells in saliva-induced protection against Leishmania major transmitted by Phlebotomus duboscqi

IMMUNO/INFLAM-29 **J Tuo, X Cao, D Shen, Y Wang, J Oh, D Prockop, C Chan (NEI)**
The effect of intravitreous administration of recombinant TSG-6 protein on the retinal lesion in Ccl2-/-/Cx3cr1-/- mice

*FARE Award Winner

IMMUNO/INFLAM:
Immunology/Inflammation

IMMUNO/INFLAM-30 **B Vistica, G Shi, L Nugent, A Altman, I Gery (NEI)**
SLAT/Def6 knock-out (KO) mice exhibit profoundly reduced capacity to develop experimental autoimmune uveitis (EAU)

IMMUNO/INFLAM-31 **S Watkins, A Hurwitz (NCI)***
Mast cells infiltrate prostate tumors, suppress antigen specific T cells and promote the development of tolerogenic tumor associated dendritic cells

IMMUNO/INFLAM-32 **X Yao, C Dai, KF Fredrikkson, KJ Keeran, GJ Zywicke, X Qu, Z Yu, N Jefferies, JP Lin, M Kaler, R Shamburek, R Costello, G Csako, M Dahl, BG Nordestgaard, AT Remaley, SJ Levine (NHLBI)**
Human apolipoprotein E genotypes modify disease severity in experimental house dust mite-induced asthma

IMMUNO/INFLAM-33 **Z Zhou, Y Xiong, T Wild, P Sylvers, Y Zhang, L Zhang, L Wahl, S Wahl, S Kozlowski, A Notkins (NIDCR)**
Binding and expediting clearance of apoptotic cells by natural polyreactive antibodies

IMMUNO/INFLAM-34 **BH Zinselmeyer, S Heydari, D Nayak, DB McGavern (NINDS)***
PD-1 receptor blockade promotes clearance of a persistent viral Infection by overriding prolonged T-cell engagement

*FARE Award Winner

INFECTDIS:
Infectious Disease

INFECTDIS-1 **FF de Araujo, R Nagarkatti, E Roffe, AP Marino, A Debrabant (FDA/CBER)**
Development of a mouse model of Chagas disease and validation of an Aptamer-based assay to detect a biomarker of Trypanosoma cruzi infection

INFECTDIS-2 **C Dogo-Isonagie, S Lam, C Bewley (NIDDK)**
Identification of CCR5 ECL2 residues critical to HIV-1 entry

INFECTDIS-3 **R Hasley, C Hong, T Friesen, C Wilhelm, Y Nakamura, G Kim, J Park, M Sneller, G Roby, C Rehm, C Lane, M Catalfamo (NIAID)**
CD8 memory T-cell differentiation during HIV infection: the role of RUNX3, Eomes, and T-bet transcription factors and their impact on CD127 expression

INFECTDIS-4 **L Holz, JC Yoon, S Raghuraman, S Moir, M Sneller, B Rehermann (NIDDK)**
The "complexing" nature of B cells in hepatitis C virus infection: apoptosis versus survival

INFECTDIS-5 **KJ Kindrachuk, R Arsenault, KN Kindrachuk, S Napper, JE Blaney, PB Jahrling (NIAID)***
Kinome analysis reveals differential host-cell responses to West African or Central African monkeypox virus infection

INFECTDIS-6 **DG Kugler, PR Mittelstadt, JD Ashwell, A Sher, D Jankovic (NIAID)***
The endogenous glucocorticoid response plays a critical immunoregulatory role during Toxoplasma gondii infection by preventing T-cell-mediated lethality

INFECTDIS-7 **K McDowell, P McMahon, N Nag, J Beren, D Asher, L Gregori (FDA/CBER)**
The development of vCJD-infected blood reference materials

INFECTDIS-8 **B Morahan, C Strobel, U Hasan, S Eksi, B Czesny, K Williamson (NIAID)**
Functional analysis of the exported type IV HSP40 protein PFL2550w in P. falciparum gametocytes

INFECTDIS-9 **R Nagarkatti, FF de Araujo, C Gupta, A Debrabant (FDA/CBER)**
Identification of biomarkers for Chagas disease

INFECTDIS-10 **D Navarathna, S Amarnath, M Lionakis, D Roberts (NCI)***
Candida albicans exploits host eNOS to deregulate host immunity in a mouse model of disseminated candidiasis

INFECTDIS-11 **SH Park, NS Veerapu, B Rehermann (NIDDK)**
Repeated exposure to trace amounts of hepatitis C virus suppresses T-Cell responses to subsequent high-dose HCV challenge via induction of regulatory T Cells

*FARE Award Winner

INFECTDIS:
Infectious Disease

INFECTDIS-12 **I Sastalla, S Tang, D Crown, S Liu, MA Eckhaus, IK Hewlett, SH Leppla, M Moayeri (NIAID)**
Anthrax edema toxin impairs protein clearance in mice

INFECTDIS-13 **E Snitkin, A Zelazny, C Montero, F Stock, L Mijares, NISC Comparative Sequence Program, P Murray, J Segre (NHGRI)***
Genome-wide recombination drives diversification of epidemic strains of Acinetobacter baumannii

INFECTDIS-14 **TQ Tanaka, WA Guiguemde, RK Guy, KC Williamson (NIAID)**
Targeting the gametocyte to block malaria transmission

INFECTDIS-15 **Y Wang, Y He, D Scott, J Reed (FDA/CBER)***
Regulation of A1PI expression in monocytes and macrophages: potential role in anti-pathogen responses

INFECTDIS-16 **ZH Zhou, T Chen, K Arora, K Hyams, S Kozlowski (FDA/CBER)**
Complement C1 esterase inhibitor levels linked to infections and contaminated heparin-associated adverse events

*FARE Award Winner

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

NEURO/BEHAV/SENSYS-1 **L Abuhatzira, A Shamir, DE Schones, AA Schäffer, M Busitn (NCI)***
The chromatin binding protein HMGN1 regulates the expression of MeCP2 and affects the behavior of mice

NEURO/BEHAV/SENSYS-2 **NM Bashour, S Wray (NINDS)**
Progesterone may directly inhibit GnRH neuronal activity via progesterone receptor membrane component 1

NEURO/BEHAV/SENSYS-3 **DN Blitzer, SA Colalillo, MR Haynes, JW Barter, DR Weinberger, CF Zink (NIMH)**
The influence of motivational salience within the dopamine-striatal system: a DCM study

NEURO/BEHAV/SENSYS-4 **ED Burg, SR Taylor, HA Nash (NIMH)**
Fruit fly social behavior revealed by a new assay

NEURO/BEHAV/SENSYS-5 **G Carmona, T Nishimura, A Notkins (NIDCR)**
IA-2/IA-2ß null mice: alterations in behavior and learning

NEURO/BEHAV/SENSYS-6 **G Chandra, A Saha, MR Moralle, Z Zhang, C Sarkar, S Peng, AB Mukherjee (NICHD)***
PPT1-deficiency impairs maturation and activity of lysosomal cathepsin D contributing to INCL pathogenesis

NEURO/BEHAV/SENSYS-7 **CT Chiu, G Liu, P Leeds, DM Chuang (NIMH)***
Combined treatment with the mood stabilizers lithium and valproate produces multiple beneficial effects in transgenic mouse models of Huntingtons disease

NEURO/BEHAV/SENSYS-8 **SA Colalillo, DN Blitzer, JW Barter, MR Haynes, KH Wang, DR Weinberger, CF Zink (NIMH)**
Motivational saliency signal in the ventral striatum is modulated by genetic variation in the ARC gene region

NEURO/BEHAV/SENSYS-9 **E Dimitrov, Y Kim, T Usdin (NIMH)**
Tuberoinfundibular peptide of 39 residues (TIP39) modulates neuropathic pain

NEURO/BEHAV/SENSYS-10 **EE Dixon, BL Robustelli, K Rapuano, A Martin, GL Wallace (NIMH)**
Sleep quality and its behavioral correlates in adolescents and young adults with autism spectrum disorders

NEURO/BEHAV/SENSYS-11 **S Fanous, D Guez-Barber, E Goldart, R Schrama, F Theberge, J Bossert, Y Shaham, B Hope (NIDA)***
Characterization of prefrontal cortex neuronal ensembles in cue-induced heroin-seeking using FACS and neural inactivation

*FARE Award Winner

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

NEURO/BEHAV/SENSYS-12 **M Fukushima, R Saunders, D Leopold, M Mishkin, B Averbeck (NIMH)***
Temporal dynamics of the tonotopic map in awake primates

NEURO/BEHAV/SENSYS-13 **J Hunsberger, E Fessler, F Chibane, Y Leng, A Elkahloun, D Chuang (NIMH)**
Novel neuroprotective targets and biomarkers for bipolar disorder (BD): a microRNA approach

NEURO/BEHAV/SENSYS-14 **A Kar, AE Gioio, BB Kaplan (NIMH)**
Local synthesis of eukaryotic translation initiation factors EIF2B2 and EIF4G2 regulates axonal growth in rat sympathetic neurons.

NEURO/BEHAV/SENSYS-16 **S Kolata, G Rompala, Z Jiang, K Nakao, DA Paredes, K Nakazawa (NIMH)**
Postnatal GAD67 ablation in a subset of corticolimbic interneurons confers a negative symptoms-like phenotype

NEURO/BEHAV/SENSYS-17 **E Lee, M Seo, BB Averbeck (NIMH)**
Differential engagement of frontal-striatal circuits during decision making under different behavioral rules

NEURO/BEHAV/SENSYS-18 **JW Lee, HY Kim (NIAAA)**
Synaptamide (docsahexanoylethanolamide; DEA) promotes development of hippocampal neurons

NEURO/BEHAV/SENSYS-19 **D McMahon, A Kurnikova, C Zhu, H Merkle, F Ye, D Leopold (NIMH)**
Repetition priming effects in monkey cortex: an fMRI Study

NEURO/BEHAV/SENSYS-20 **C Mejias-Aponte, M Morales, E Kiyatkin, J Pieper, R Wise (NIDA)***
What are the phenotypes of VTA neurons responsive to cocaine?

NEURO/BEHAV/SENSYS-21 **B Mileykovskiy, L Kiyashchenko, B Liu, T Yamaguchi, M Morales (NIDA)**
Electrophysiological characterization of identified ventral tegmental area neurons in conscious rats

NEURO/BEHAV/SENSYS-22 **J Molina, C Kaplan, Q Chen, D Weinberger, HY Tan (NIMH)**
Functional connectivity changes during rest reflect task-related learning activity in a belief updating task

*FARE Award Winner

NEURO/BEHAV/SENSYS-23 **D Nayak, S Heydari, B Zinselmeyer, K Johnson, D McGavern (NINDS)***
Dynamics of an innate myeloid cell response to acute CNS viral infection

NEURO/BEHAV/SENSYS-25 **D Nguyen, M Nicolelis, S Lin (NIA)**
Non-cholinergic basal forebrain activity and cortical event-related potentials are coupled in time and amplitude

NEURO/BEHAV/SENSYS-26 **MA Rashid, M Katakura, HY Kim (NIAAA)**
Docosahexaenoic acid induces proliferation of neural stem cells via activation of Akt/ERK signaling pathways

NEURO/BEHAV/SENSYS-27 **C Sarkar, G Chandra, Z Zhang, S Peng, AB Mukherjee (NICHD)***
Lysosomal ceroid depletion by a small molecule: therapeutic implications for an inherited childhood neurodegenerative storage disease

NEURO/BEHAV/SENSYS-28 **J Schank, K Rowe, R Damadzic, K Cheng, A Thorsell, K Rice, M Heilig (NIAAA)***
The neurokinin-1 receptor antagonist L822429 suppresses stress-induced reinstatement and escalated alcohol consumption in rats

NEURO/BEHAV/SENSYS-29 **S Steidl, H Wang, M Morales, RA Wise (NIDA)**
Effects of laterodorsal tegmental nucleus cholinergic neuron lesions on cocaine self-administration in rats

NEURO/BEHAV/SENSYS-30 **B Wang, R Wise (NIDA)**
Incubation of conditioned reward with peripheral cocaine actions as the conditioned stimulus

NEURO/BEHAV/SENSYS-31 **P Wang, B Lazarus, M Forsythe, D Love, M Krause, J Hanover (NIDDK)**
Caenorhabditis elegans O-GlcNAc cycling mutants alter the proteotoxicity of models of human neurodegenerative disorders

NEURO/BEHAV/SENSYS-32 **SJ Yu, H Shen, BK Harvey, Y Wang (NIDA)***
Suppression of endogenous proliferator-activated receptor gamma increases vulnerability to methamphetamine–induced injury in mouse nigrostriatal dopaminergic pathway

VIROL/MICRO:
Virology/Microbiology

VIROL/MICRO-2 **M Ajiro, R Jia, X Wang, ZM Zheng (NCI)**
Control of HPV16 E6 intron splicing by a principle of proximity for selection of alternative 5' and 3' splice sites and branch points

VIROL/MICRO-3 **M Arnold, J Patton (NIAID)***
Determinants of the rotavirus NSP1 protein affecting its role as an interferon antagonist

VIROL/MICRO-4 **A Battesti, P Milanesio, JR Hoskins, S Wickner, S Gottesman (NCI)***
Characterization of the interaction between RssB and the anti-adaptor proteins in Escherichia coli

VIROL/MICRO-5 **Y Chen, M Neunuebel, M Machner (NICHD)***
SidD, a novel deAMPlyase from L. pneumophila

VIROL/MICRO-6 **MW Ferenczy, AJ Makusky, EO Major (NINDS)**
Nuclear Factor I interacting partners in cells permissive and non-permissive to JC Virus replication

VIROL/MICRO-7 **GA Frank, A Bartesaghi, O Kuybeda, MJ Borgnia, TA White, G Sapiro, S Subramaniam (NCI)**
Cryo-electron tomography of trimeric SIV and HIV-1 envelope glycoproteins: computational separation of conformational heterogeneity in mixed populations

VIROL/MICRO-8 **O Genest, JR Hoskins, JL Camberg, SM Doyle, S Wickner (NCI)***
Hsp90 from E. coli collaborates with the DnaK chaperone system in client protein remodeling

VIROL/MICRO-9 **J Keffer, A Plaza, C Bewley (NIDDK)**
Antibacterial algal natural products that inhibit the bacterial cell division protein FtsZ

VIROL/MICRO-10 **P Keller, C Adamson, B Heymann, K Waki, E Freed, A Steven (NIAMS)**
Analysis of the structural effects of HIV-1 maturation inhibitors

VIROL/MICRO-12 **DM Kristensen, AR Mushegian, EV Koonin (NLM)**
Systems biology of phage proteins and new dimensions of the virus world discovered through metagenomics

VIROL/MICRO-13 **L Kuo, K Fujii, E Freed (NCI)***
Characterizing the role of HIV-1 p6-Alix binding in HIV-1 replication

VIROL/MICRO-14 **Q Li, V Pène, S Krishnamurthy, TJ Liang (NIDDK)**
Hepatitis C virus infection activates a novel NF-κB-independent function of IKKα in lipid droplet biogenesis and viral assembly

*FARE Award Winner

VIROL/MICRO-15 **T-Y Lin, KA Dowd, CJ Manhart, S Nelson, SS Whitehead, TC Pierson (NIAID)***
A novel approach for the rapid mutagenesis and directed evolution of the structural genes of West Nile virus

VIROL/MICRO-16 **AN Martins, SD Ablan, RM Brindeiro, EO Freed (NCI)***
Improved HIV-1 replication capacity mediated by late domain duplications in isolates carrying drug resistance mutations to protease inhibitors

VIROL/MICRO-17 **K Nagamine, GC Hung, SC Lo (FDA/CBER)**
Specific detection of Staphylococcus aureus by real-time PCR

VIROL/MICRO-18 **F Nawaz, C Cicala, M Pasuccio, D Wei, D Van Ryk, S Shrestha, J Knox, K Jelicic, A Fauci, J Arthos (NIAID)**
The molecular determinants of HIV envelope protein gp120 binding Integrin-α4β7

VIROL/MICRO-19 **AP Pomerantsev, OM Pomerantseva, M Moayeri, R Fattah, C Tallant, SH Leppla (NIAID)**
A Bacillus anthracis strain deleted for six proteases serves as an effective host for production of recombinant proteins

VIROL/MICRO-20 **RM Schowalter, DV Pastrana, CB Buck (NCI)***
Glycosaminoglycans and sialylated glycans sequentially facilitate Merkel cell polyomavirus infectious entry

VIROL/MICRO-21 **P Tedbury, A Joshi, E Freed (NCI)**
HIV-1 matrix-envelope interaction in virus infectivity

VIROL/MICRO-22 **A Waheed, N Kuruppu, K Felton, E Freed (NCI)**
Vpu-mediated tetherin antagonism and degradation are separable functions

VIROL/MICRO-23 **K Waki, A Kamata, F Soheilian, K Nagashima, S Butler, E O. Freed (NCI)***
A tale of two HIV-1 maturation inhibitors, bevirimat and PF-46396: insights into Gag assembly and virion maturation

VIROL/MICRO-24 **Z Xu, J Tian, Q Qiu, AP Byrnes (FDA/CBER)***
Coagulation factor X shields adenovirus vectors from natural antibodies and complement: impact on liver transduction

VIROL/MICRO-25 **J Yuan, KC Cheng, RL Johnson, R Huang, S Pattaradilokrat, A Liu, R Guha, D Fidock, J Inglese, TE Wellems, CP Austin, XZ Su (NIAID)**
Chemical genomic profiling for antimalarial therapies, response signatures, and molecular targets

VIROL/MICRO-26 **D Zhang, L Iyer, L Aravind (NLM)**
Discovery of a novel immunity system against diverse bacterial nucleic acid degrading toxins

*FARE Award Winner

Special Exhibits on Resources for Intramural Research

Monday, October 24, 2011
Noon–2:00 p.m.

Tuesday, October 25, 2011
Noon–2:00 p.m.

Wednesday, October 26, 2011
10:00 a.m.–Noon; 2:00 p.m.–4:00 p.m.

Cancer Biomedical Informatics Grid® (caBIG®) Molecular Analysis Tools Knowledge Center
https://cabig.nci.nih.gov/esn/knowledge_centers
Translational research is enhanced when there is access to a wealth of genomic and clinical data. The collection, management and analysis of those data frequently present daunting challenges for researchers. The Cancer Biomedical Informatics Grid® (caBIG®) program, an NCI-sponsored initiative, aims to create a voluntary network of cancer centers and other biomedical research institutions, powered by an extensible interoperable informatics platform that helps researchers collect, manage, and analyze large, diverse data collections in support of information sharing and collaborative studies. Through its Knowledge Centers, led by leading academic centers, caBIG® provides multifaceted support for basic and clinical researchers, biobank managers, and those working with biomedical images. As a part of the caBIG® program, the Molecular Analysis Tools Knowledge Center (MATKC), led by Columbia University Herbert Irving Comprehensive Cancer Center with the Broad Institute of MIT and Harvard, provides comprehensive information resources, expertise, and online support for the open-source caBIG® scientific applications of interest to basic researchers. The caBIG® staff including the members from the MATKC will be in the caBIG® booth to demonstrate applications and answer questions about informatics resources for basic researchers. Visit our booth for a list of tools and capabilities, or contact caBIGinfo@cancer.gov, or visit the caBIG® Web site at https://cabig.nci.nih.gov.

Center for Information Technology
http://cit.nih.gov
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, collaboration, 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 Web site at http://cit.nih.gov.

Conserved Domain Database (CDD), NCBI
http://www.ncbi.nlm.nih.gov/Structure/cdd/cdd.shtml
The CDD database assembles representations of protein- and protein domain-families that originate from a variety of sources, curated in-house as well as imported from external contributors, such as Pfam, COG, or TIGRFAM. Protein domain models curated by NCBI are unique in that we make explicit use of 3-D-structure information to define domain boundaries, identify evolutionarily conserved segments, and guide the alignment between distantly related families. We also annotate conserved functional features and sites, such as catalytic residues and binding sites, and provide concise summaries and links to electronic literature resources. NCBI-curated models that describe protein domains related by common descent are organized into hierarchies, which reflect major evolutionary events. Such hierarchies are grouped into superfamily clusters together with alternative single models, by mostly automated clustering, with limited intervention by manual curation that examines common three-dimensional structure and the conservation of functional sites. We will provide an introduction to the CDD database and highlight its strengths as a protein classification and annotation resource. We will demonstrate how the database and its curation tools, including CDTree and Cn3D, which are publicly-available programs, can be used in the characterization of protein and domain families. The CDD collection of domain models can be accessed at http://www.ncbi.nlm.nih.gov/Structure/cdd/cdd.shtml.

Special Exhibits on Resources for Intramural Research

Learning Ally

http://www.learningally.org

Learning Ally (formerly Recording for the Blind and Dyslexic) is a non-profit organization that provides recorded textbooks for students with print disabilities. With headquarters in Princeton, N.J., Learning Ally 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 week 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, Learning Ally established a recording space at NIH for the convenience of scientists and medical experts who can record college and post-graduate 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 Bethesda campus, offering an exciting volunteer opportunity for NIH employees. For more information or to volunteer, contact Kathryn Sparks at ksparks@learningally.org or 202-244-8990.

NIH Blood Bank

http://bloodbank.nih.gov

The NIH Blood Bank will provide educational material for the various types of donations available (whole blood, platelets, plasma, or research). Eligibility questions will be answered and confirmed appointments can be made.

NIH Federal Credit Union

http://nihfcu.org

The National Institutes of Health Federal Credit Union (NIHFCU)—the nation's largest credit union serving the biomedical industry—is dedicated to delivering affordable loans and banking solutions that save its members both time and money. This includes small-business loans and lines, mortgages and home-equity programs, auto and other consumer loans, checking with free worldwide ATM use, a range of free mobile and online services and more. All employees, independent contractors, and self-employed persons who regularly work in the biomedical and health-care industries in Washington, D.C., Maryland, Virginia, and West Virginia are welcome. Visit nihfcu.org to learn more about the NIHFCU Advantage.

NIH Helix Systems
http://helix.nih.gov
Applied Biomedical Supercomputing on the NIH Helix Systems, CIT. The NIH Helix Systems (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 over 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.

NIH Oxford Cambridge Scholars Program
http://oxcam.gpp.nih.gov
The National Institutes of Health Oxford-Cambridge Scholars Program is an accelerated, individualized doctoral training program for outstanding science students committed to biomedical research careers. The program is based on the British system in which students perform doctoral research without required formal courses other than those which students choose to take in relationship to their own interests. Students selected for admission to the program have already developed a sophisticated scientific background by having engaged in research as undergraduates.

NIH Supply Center
http://nihsc.od.nih.gov
The NIH Supply Center (NIHSC) is the agency's internal, not-for-profit, and FAR-approved first source for research and office supplies. We operate a warehouse and two campus stores. Our Mission is to provide the highest quality of products and services that reduce costs to NIH and its institutes.

Special Exhibits on Resources for Intramural Research

NIH Training Center
http://trainingcenter.nih.gov
The NIH Training Center is your dedicated resource for NIH-specific training, professional development programs, and customized solutions. We exist to advance the NIH's research mission by supporting and developing employees across NIH's 27 institutes and centers. As partners in science, the NIH Training Center helps the NIH community meet present and future challenges by offering valuable learning experiences that empower employees to maximize performance and achieve their full potential.

The New NIH Transfer Agreement Dashboard (TAD) System
A Material Transfer Agreement (MTA) is a contract that governs the transfer of tangible research materials between two organizations. In October 2011, the NIH Office of Intramural Research, in conjunction with the NIH Center for Information Technology (CIT) and the NIH technology transfer community, will launch an initial version of an enterprise-wide web-based MTA management system that will that will accomplish the following: improve the processing of MTAs within the NIH through automation; reduce the paperwork burden of intramural and extramural researchers; allow the IC's Technology Development Coordinators to ensure that MTAs are being executed in accordance with internal NIH policy guidelines; provide NIH-leadership with key metrics concerning the use of NIH research materials by both intramural and extramural laboratories The new system will have a broad array of beneficiaries including NIH intramural and extramural researchers, NIH Technology Development Coordinators (TDCs) and their ICs, NIH's Office of Technology Transfer along with offices of technology transfer at universities and non-profit research institutions. With the support of the NIH Office of Intramural Research, we will showcase and demo the new NIH Transfer Agreement Dashboard (TAD) system to the NIH community.

NIMH Schizophrenia Research
http://cbdb.nimh.nih.gov/sibstudy/index.html
The National Institute of Mental Health Schizophrenia Research Program is seeking healthy volunteers to help understand the genetic and non-genetic factors that increase risk for schizophrenia. For details, call 1-888-674-6464. Applications are currently being accepted.

National Institute of Allergy and Infectious Diseases, New Media and Web Policy Branch
www.niaid.nih.gov
NIAID is redesigning the "Resources for Researchers" section on our Web site! We are looking for volunteers to stop by our booth and give us feedback on our new Web site. It's a great opportunity to give input and we'd love to hear from you!

OCICB/Bioinformatics and Computational Biosciences Branch
http://inside.niaid.nih.gov/topic/IT/bioinformatics/Pages/default.aspx
The Bioinformatics and Computational Biosciences Brach (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 e-mailing ScienceApps@niaid.nih.gov.

Special Exhibits on Resources for Intramural Research

OD/NITAAC

www.nitaac.nih.gov

What NIH can buy through NITAAC GWACs provides you with both general and heath IT products and services from a group of pre-screened, highly qualified companies that have already been verified for integrity and expertise. Intramural and extramural employees will find our contract holders were selected to meet research and health-related IT needs including: computers, servers, and IT-related products for the lab or office; software for routine or customized purposes in the lab or office; customized health IT solutions for lab, extramural programs, CIO-specific functions, and other internal NIH activities. From the Chief Information Officer (CIO) to the Primary Investigator (PI), customers can count on NITAAC for faster procurement of IT products, services, and solutions.

Office of Intramural Training and Education

http://www.training.nih.gov

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 (IRP) develop scientific and professional skills that will enable them to become leaders in the biomedical research community. The Intramural Research Program is the sum of all the research projects carried out by NIH investigators and trainees in NIH facilities. We provide services to multiple groups: current trainees in programs in the NIH IRP; potential appliants to training programs at the NIH; investigators and staff at the NIH; trainees and investigators outside the NIH (in the extramural community).

Office of Research Services

http://www.ors.od.nih.gov

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, the NIH Library, events management, travel and transportation, visual arts and multimedia, relevant services for foreign scientists, and many more programs and employee services to enrich and enhance the NIH worksite.

Office of Science Education

http://science.education.nih.gov/LifeWorks/Speakers

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 efforts of the NIH 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 to students via e-mail;
- LifeWorks (Career Exploration) – http://science.education.nih.gov/LifeWorks/Careers, share your career story or become a video star at this career exploration Web site for middle- and high-school students.

SAIC-Frederick

http://www.saic-frederick.com/advanced-technologies

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 molecular technologies and model development, animal imaging, and conventional and molecular pathologic analysis. It provides complete, high-quality animal care and support services. 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, Dr. Bruce Crise (criseb@mail.nih.gov); BDP, Dr. John Gilly (gillyj@mail.nih.gov); LASP, Dr. Lionel Feigenbaum (feigenbl@mail.nih.gov); ABCC, Dr. Jack Collins (collinja@mail.nih.gov).

Special Exhibits on Resources for Intramural Research

Technology Transfer Center
http://ttc.nci.nih.gov
The National Cancer Institute's Technology Transfer Center (TTC) provides technology transfer services to scientists from NCI and nine other institutes and centers. TTC supports the scientists' research collaborations and helps them obtain research materials unavailable at NIH. TTC negotiates agreements between the institutes we serve and the outside organizations, that satisfy both the scientific research objective and NIH policy. TTC handles all aspects of the agreement process so the scientist spends less time on paperwork and more time advancing their research goals. In addition, TTC has a CRTA fellowship program for scientists interested in a career change. Stop by the booth to learn more.

The NEMS Sustainable Lab Practices Working Group
http://www.nems.nih.gov
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 consider the environmental impacts of our day-to-day activities. The NIH Environmental Management System (NEMS) is a management tool that helps identify the most pressing environmental issues at NIH, 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, fellows, and contractors to conduct their activities in a more environmentally sound manner. The NIH Green Teams are working toward greening each NIH IC. The NEMS Sustainable Laboratory Practices Working Group is developing procedures and tools on how to green laboratory activities. The group has focused on efforts to promote recycling, energy reduction activities in the laboratory, and the reduction of toxic chemicals and reagents. Special emphasis is placed on chemicals that lead to the release of greenhouse gases or are endocrine-disrupting chemicals. The Working Group's current activities include organizing Green Labs Fairs and providing information on lab-greening activities through participation in events such as NIH Research Festival. Future efforts include the development of a Web site tool where researchers can share their success stories and the promotion of programs to encourage adoption of greener technologies.

nih research festival
parking lot 10H

Technical Sales Association Exhibit Tent Show

Thursday, October 27, 2011
9:30 a.m.–3:30 p.m.

Friday, October 28, 2011
9:30 a.m.–2:30 p.m.

The Technical Sales Association (TSA) sponsors the popular Research Festival Exhibit Tent show. 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 recommended that you pre-register online to avoid the long on-site registration lines. To register and to obtain a listing of exhibitors, please visit http://www.gtpmgt.com.

CORE:
Core

CORE-1 **S Anderson (NHLBI)**
NHLBI Animal MRI Core

CORE-2 **A Aponte, Y Chen, S Patel, S Swatkoski, G Wang, M Gucek (NHLBI)**
NHLBI Proteomics Core Facility

CORE-3 **M Bhagwat, L Young, R Robison (OD)**
The NIH Library Bioinformatics Support Program

CORE-4 **JA Brzostowski, X Xu, T Meckel, P Tolar, HW Sohn, W Liu, D Liu, CC Gross, E Martinez, EO Long, T Jin, SK Pierce (NIAID)**
Imaging signaling protein complexes in live immune cells at the single-molecule level using total internal reflection fluorescence microscopy

CORE-5 **R Cachau, I Topol, S Ravachandran, J Ivanic, B Luke (NCI)**
Simulation, Analysis, and Modeling Group

CORE-6 **P Connelly, S Esfahani, M Daniels (NHLBI)**
NHLBI Electron Microscopy Core Facility

CORE-7 **N Deiuliis, K Lamberton, D Opishinski, J Michelotti (NIAID)**
Standardization and optimization of cell-plating densities

CORE-8 **R Fariss, C Gao, M Campos (NEI)**
High-resolution imaging applications for vision research

CORE-9 **S Garfield, P Mannan, L Lim (NCI)**
The CCR Confocal Microscopy Core provides new “dimensions” in imaging

CORE-10 **K Hartman, P Johnson, S Shema, S Thorgeirsson (NCI)**
The DNA Sequencing and Digital Gene Expression Core

CORE-11 **C Heger, J Chen, C McAndrew, M Herrmann, P Goldsmith (NCI)**
Antibody and Protein Purification Unit

CORE-12 **T Holroyd, S Robinson, F Carver, J Mitchell-Francis, R Coppola (NIMH)**
MEG Core Facility: Magnetoencephalography Imaging Resource, IRp, NIMH/NINDS

CORE-13 **B Kessing (NCI)**
The BCGC in Frederick: a small agile genetics core working with NCI researchers from carbon to silicon

CORE-14 **M Kruhlak (NCI)**
Microscopy and digital imaging in the Experimental Immunology Branch

CORE-15 **R Levin, D Hines, J Plum (CC)**
ResearchPACS

CORE-16 **S Lockett, P Gudla, K Nandy, T Turbyville, K Peifley, D Chen, A Brafman (NCI)**
Optical Microscopy and Analysis Laboratory (OMAL)

CORE-17 **S Martin, R Guha, P Tuzmen, Y Chen, C Klumpp, N Caplen, C Austin (NHGRI)**
Genome-wide RNAi screening at the NIH through the Trans-NIH RNAi Initiative

CORE-18 **P Noble, K Vaughan, A Cummins, J Fellows, C Waters (NIMH)**
The NIMH DIRP Neurobiology Non-human Primate Core

CORE-19 **H Qian, Y Li (NEI)**
Visual Function Core at National Eye Institute

CORE-20 **S Tarasov, M Dyba, RA Byrd (NCI)**
Biophysics Resource in the Structural Biophysics Laboratory

CORE-21 **R Villasmil, W Cook, R Caspi (NEI)**
Use of the Technical Intramural Research Training Award (Tech IRTA) as a paradigm of training junior Flow Cytometry Core personnel

CORE-22 **P Walter, M Shrestha (NIDDK)**
Stable isotopes in clinical studies—advancements in doubly labeled water and labeled glucose and free fatty acids analyses

CORE-23 **G Zhang, V Speransky (NIBIB)**
Trans-NIH Electron Microscopy Facility

CORE-24 **NIBIB**
Atomic Force Microscopy Resource

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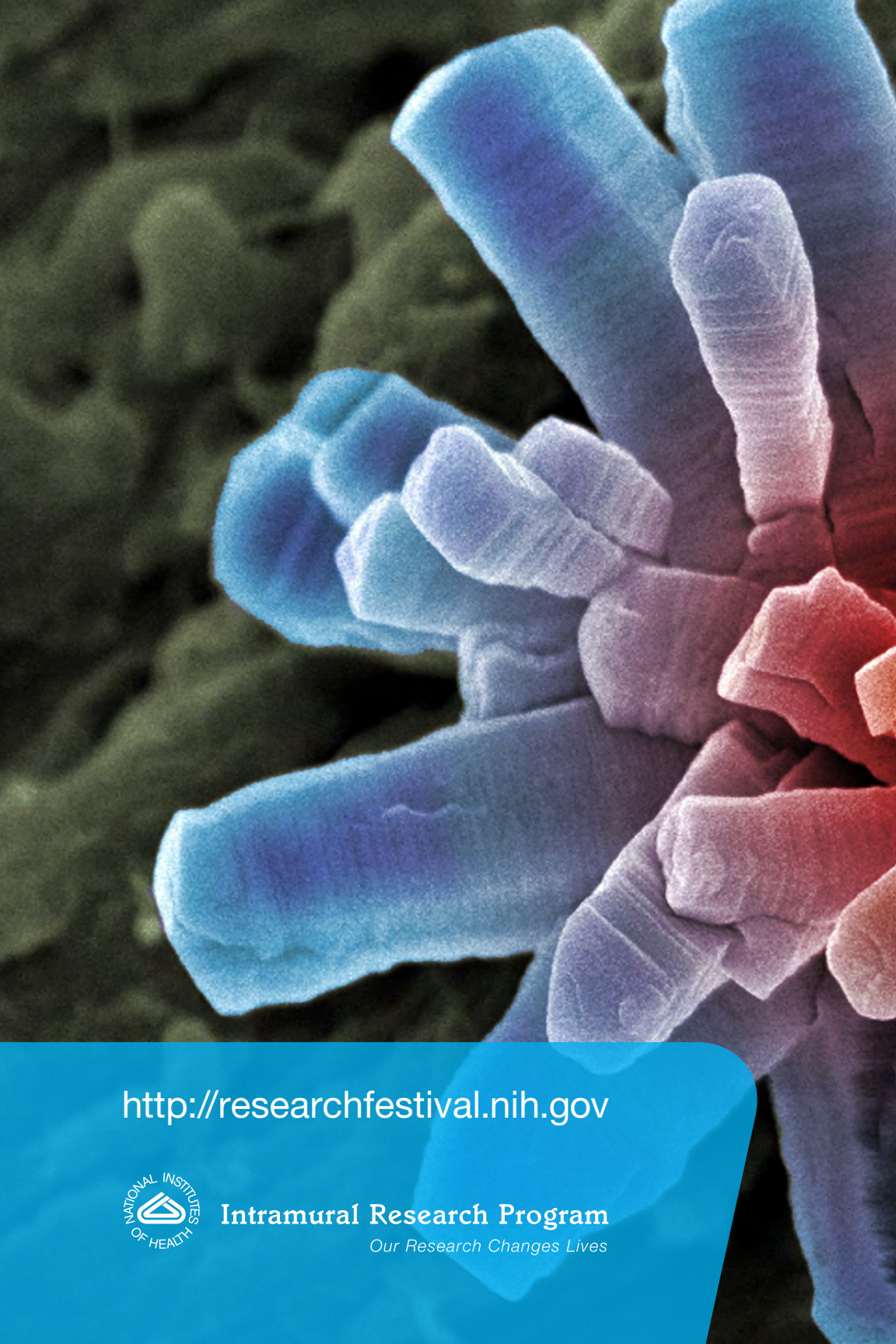

http://researchfestival.nih.gov

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Intramural Research Program

Our Research Changes Lives