CURRICULUM VITAE

**Date of this revision: February 2022**

**Name:** Joy Hirsch, Ph.D.

**Education:**

B.S. University of Oregon (Life Sciences) Eugene and Portland, OR (1969)

M.S. Portland State University, Portland, OR (Psychology) 1971

Ph.D. Columbia University, New York, NY (Psychology) 1977

**Career/Academic Appointments:**

1979 – 1984 **Assistant Professor,** Department of Ophthalmology and Visual Science

Yale University School of Medicine, New Haven, CT

1984 – 1987 **Associate Professor,** Department of Ophthalmology and Visual Science

Yale University School of Medicine, New Haven, CT

1987 – 1992 **Associate Professor (Tenure),** Department of Ophthalmology and Visual Science

Graduate Program in Neuroscience, Yale University School of Medicine, New Haven, CT

1992 - 2002 **Member (Tenure),** Sloan-Kettering Institute of Memorial Sloan-Kettering Cancer Center, Program of Molecular Pharmacology and Therapeutics, New York, NY

1992 – 2002 **Professor of Neuroscience,** Graduate Program in Neuroscience, Weill Graduate School of Medical Sciences at Cornell University, New York, NY

1993 – 2002 **Professor of Molecular Pharmacology and Therapeutics (Tenure)**, Sloan-Kettering Division, Weill Graduate School of Medical Sciences at Cornell University, New York, NY

2002 – 2006 **Professor of Neuroscience (Adjunct)**

Graduate Program in Neuroscience, Weill Graduate School of Medical Sciences at Cornell University, New York, NY

2002 – 2013 **Professor of Functional Neuroradiology (Tenure)**, Columbia University,

New York, NY

2003 – 2013 **Professor of Psychology**, Department of Psychology, Columbia University,

New York, NY

2007 – 2013 **Professor of Neuroscience**, Department of Neuroscience, Columbia University,

New York, NY

2013 – 2014 **Adjunct Senior Research Scientist**, Department of Neuroscience, Columbia University, New York, NY

2013 – present **Senior Investigator**, Haskins Laboratories, New Haven, CT

2013 – present **Professor of Psychiatry and Neurobiology (Tenure)**, Departments of Psychiatry, Neuroscience, and Comparative Medicine, Yale School of Medicine, New Haven, CT

2015 – present **Professor of Neuroscience**, Department of Medical Physics and Biomedical Engineering, Faculty of Engineering Sciences *ex officio*, University College London, London *WC1E 6BT*, UK

2019 – present **Elizabeth Mears and House Jameson Professor** of Psychiatry, Comparative Medicine, and Neuroscience, Yale University School of Medicine, New Haven, CT

## Traineeship:

1977 - 1979 **Research Associate,** Department of Ophthalmology and Visual Science

Yale University School of Medicine, New Haven, CT

**Hospital Appointments:**

1992 – 2002 **Attending Physiological Psychologist,** Department of Neurology,

Memorial Hospital for Cancer and Allied Diseases, New York, NY

**Administrative Positions:**

2002 – 2013 **Director, functional MRI Research Center,** Departments of Radiology, Neuroscience,

And Psychology, Columbia University Medical Center

2008 – 2011 **Director, Program for Imaging and Cognitive Sciences**, Departments of Neuroscience,

Radiology and Psychology, Columbia University Medical Center and Graduate School

**Professional Honors & Recognition:**

A) International/National/Regional:

2011 Top Woman Scientist Award, World Science Festival

2009 George Gamow Distinguished Scientist Award

2006 Appreciation Award-TARDEC, US Army Research, Development & Engineering Command

B) University:

2006 Sadek K. Hilal Faculty Research Award, Department of Radiology, Columbia University

1989 Leah Lowenstein Award for teaching Medical Students, Yale University

**Grant History:**

**Active Grants:**

*Title:* Mechanisms of Interpersonal Social Communication: Dual-Brain fNIRS Investigation

Source: NIMH, R01 MH107513-01

*PI:* Joy Hirsch, Ph.D.

*Period Covered:* 07/01/15-06/30/2020

*Direct Costs/year* $250,000

*Amount*:$2,055,827 (total)

*Percent Effort:* 10%

*Role:* Principal Investigator

*Title:* Neural Mechanisms for Social Interactions and Eye Contact in ASD

*Source:* NIMH, 1R01MH111629-01

*PI:* Joy Hirsch, Ph.D.

*Period Covered:* 09/26/16-06/30/2021

*Direct Costs/year* $419,950

*Amount:* $3,197,009 (total)

*Percent Effort:* 10%

*Role:* Principal Investigator

*Title: “*Tracking neurocognitive changes during computer-aided reading instruction in

typically and atypically developing children”

*Source:* NIH R37HD090153

*PI:* Joy Hirsch, Ph.D. (neuroimaging subcontract)

*Period Covered:* 09/11/17-06/30/2022

*Direct Costs/year* $145,650

*Amount: $*728,251 (total)

*Percent Effort:* 5%

*Role:* Subcontract Principal Investigator

*Title:* Mechanisms of Dynamic Neural Coupling during Face-to-Face Expressions of Emotion

*Source:* 1R01MH119430-01

*PI:* Joy Hirsch, Ph.D.

*Period Covered*: 03/01/19-12/31/2023

*Direct Costs/year* $250,000

*Amount:* $2,033,148

*Percent Effort:* 20%

*Role:* Principal Investigator

*Title:* The Impact of Social-Cognitive Processing on Stuttering

*Source:* NIDCD - R21DC017821

*PI:* Joy Hirsch, Ph.D.

*Period Covered*: 04/01/2019 – 03/31/2022

*Direct Costs/year* $16,266

*Amount:* $84,328

*Percent Effort:* 1%

*Role:* Subcontract Principal Investigator

**Past Grants:**

*Title:* Neural Mechanisms of Behavior Change Initiation for Drinking Behavior

*Source:* NIAAA-09-07 (NIH), HHSN275200900019C

*PI:* Jon Morgenstern, Ph.D.

*PI sub contract:* Joy Hirsch, Ph.D. (neuroimaging module)

*Period Covered:* 09/30/09-2012

*Amount*:$513,394 (total)

*Percent Effort:* 10%

*Role:* Design and implementation of fMRI Investigations to test the hypothesis that hazardous drinking behaviors may be associated with dysregulation of neural mechanisms associated with top-down modulation of reward-related systems.

*Title:* Mechanisms of recovery following severe brain injury.

*PI:* Nicholas D. Schiff, MD

*PI subcontract:* Joy Hirsch, Ph.D. (neruoimaging module)

*Source:* NIH R01 HD051912-01A2

*Period:* 05/01/08 - 04/30/13

*Amount:* $368,579 (total)

*Percent Effort:* 5%

*Role:* fMRI paradigm development, experimental design, and analysis of longitudinal patient studies to test the hypothesis that emergence from states of minimal consciousness is predicted by measures of language system intactness. Paradigm development also aims to develop diagnostic indicators of consciousness in the absence of responsiveness.

*Title:* Development of fMRI applications for clinical neurology

*PI:* Joy Hirsch, Ph.D.

*Agency*: Johnson & Johnson

*Type*: Corporate sponsorship

*Period:* 09/31/99 – 12/31/11

*Amount:* $3,134,000

*Percent Effort:* 10%

*Role:* Development of translational applications of fMRI that serve drug development and clinical trials.

*Title:* Leptin in Human Energy and Neuroendocrine Homeostasis

*PI:* Rudolph L. Leibel, M.D.

*CO-PI:* Joy Hirsch, Ph.D., Michael Rosenbaum, M.D.

*Source:* R01 DK64773-05

*Period:*  05/01/08 - 04/30/13

*Amount:* $2,241,086

*Percent Effort:* 5%

*Role:* Functional Imaging studies of ingestive behaviors that test the hypothesis that neural responsiveness to food stimuli is altered depending upon leptin levels and conditions of homeostasis.

*Title:* Alcohol Dependence and Serotonin: An fMRI Study.

*Source:* NIH R01 AA016581-01

*PI:* Leo Sher, Ph.D. (NYPI)

*CO-PI:* Joy Hirsch, Ph.D.

*Period:* 12/01/06 - 11/30/11

*Amount:* $2,820,295

*Percent Effort:* 10%

*Role:* fMRI paradigm development, experimental design and analysis strategies to test the hypothesis that alcohol dependence is modulated by serotonin levels.

*Title:* Neural Plasticity in Auditory Cortex Induced By Deafness & Cochlear Implantation

*Source:* Gatsby Pilot Project Grant, Columbia University

*PI:* Jaclyn Spitzer,Ph.D. (CUMC)

*CO-PI:* Joy Hirsch, Ph.D

*Period:* 08/01/06 - 07/31/10 (no cost extension to 12/31/11)

*Amount:* $49,900

*Percent Effort:* 10%

*Role:* fMRI studies aimed to predict successful regaining of auditory function following cochlear inplant procedures.

*Title:* Investigating the Utility of Functional MRI in Assessing Cognition: Predicting Outcome & Planning Treatment of Persons Diagnosed with Minimally Conscious State

*Source:* U.S. Department of Education, National Institute of Disability Rehabilitation and Research CFDA 84.133A-5

*PI:* Giacino, JFK Medical Center, Center for HeadInjuries

*CO-PIs:* Hirsch, Schiff, Kalmar, McCagg

Date: 10/01/07 - 09/30/13

*Amount:* $365, 000

*Percent Effort:* 15%

*Role:* fMRI investigations of minimally conscious (MCS) patients to test thhypothesis that fMRI of language –specialized neural systems indicate level of cognitive capacity, awareness, and potential for emergence.

*Title:* Sleep Deprivation and Energy Balance

*Source:* NIH R21

*PI:* Marie Pierre St-Onge, Ph.D.

*CO-PI:* Joy Hirsch, Ph.D., Gary Zammit, Kathleen Rice, Peter Jones

(University of Manitoba), Blandine Laferrere

*Period:* 01/01/08 - 12/31/12

*Amount* $10,400 per year (Imaging Module)

*Percent Effort:* 5%

*Role:* fMRI paradigm development, experimental design and image analysis aimed to test the hypothesis that sleep restriction alters neural mechanisms associated with regulation of food-related neural systems.

*Title:* Functional magnetic resonance imaging research methods for visual search

*PI:* Joy Hirsch, Ph.D.

*Source:* Department of Defense (DOD) TARDEC W56HZV-04-P-L

*Period:*  12/09/03-6/30/13

*Amount:* $103,000

*Percent Effort:* 5%

*Role:* Functional Imaging paradigm development and analysis strategies for studies of visual search that test the hypothesis that neural system connectivity is altered during variations of object recognition difficulty

*Title:* Alcohol, Decision-Making, and Adolescent Brain Development

*PI:* Christina Hoven, MD

*Co-*PI Joy Hirsch, Ph.D.

*Source:* 1 R21 DAO331975-01 (NIDA)

*Period:*  07/01/11 – 06/30/13

*Amount:* $131,672

*Percent Effort:* 10%

*Role:* Design and implementation of fMRI paradigms to determine the feasibility for a full-scale study that investigates the behavioral and neural correlates of cognitive control in pediatric populations at risk for substance abuse disorders

**K, NRSA, and other training awards:**

*Title: Functional MRI Studies of Language Acquisition*

*Source: NIH: NRSA*

*PI: John Carton*

*Mentor: Joy Hirsch, Ph.D., Cornell University Medical School*

*Date: 07/01/99 - 06/30/00*

*Amount: $142,000*

*Title* Social Neuroscience of Borderline Personality Disorder

*Source:* NIH (K23MHO77044-01A2) (K23 Training Grant)

*PI:* Eric Fertuck

*Mentor:* Joy Hirsch, Barbara Stanly, John Mann

*Period:* 02/15/07 - 01/31/13

*Amount:* $820,600

*Title:* NRSA Training Program

Neurophysiological Correlates of Emotional Modulation of Visual Perception

*Source:* NIH (1F31MH082612-01)

*PI:* Michelle Umali (Graduate Student)

*Mentor:* Joy Hirsch

*Period:* 07/01/08 - 06/30/11

*Amount:* $113,820

*Title:* NRSA Training Program

Pattern analysis of large-scale functional connectivity to predict implicit emotions

*Source:* NIH (1F31MH088104-01A1)

*PI:* Spiro Pantazatos (Graduate Student)

*Mentor:* Joy Hirsch

*Period:* 11/01/11 - 06/30/13

*Amount:* $110,950

*Title:* K08 Training Grant

An fMRI study of the brain circuitry of sad emotion in bereavement

*Source:* 1K08MH080377-01A2

*PI:* Peter Freed, M.D.

*Mentor:* J. John Mann, M.D., Joy Hirsch, Ph.D.

*Period:* 12/1/2008-11/30/2013

*Amount:* $821,950

*Title:* Neural systems for language and music in autism spectrum disorder

*Source:* Gatsby Initiative in Brain Circuitry Studentship

*PI:* Grace Lai (Graduate Student)

*Mentor:* Joy Hirsch

*Period:* 07/01/09 - 07/01/11

*Amount:* $10,000 for tuition, graduate stipend ($28,000) $1,000 for travel as well as health fees.

*Title:* Neural systems for cognitive control and ingestive behavior

*Source:* National Science Foundation Predoctoral Fellowship

*PI:* Hal Hinkle (Graduate Student)

*Mentor:* Joy Hirsch

*Period:* 09/01/08 - 07/01/13

*Amount:* $10,000 for tuition, graduate stipend ($28,000) $1,000 for travel as well as health fees.

*Title:* Joint Attention in ASD

*Source:* NIH: NRSA 1F30MH116626-01

*PI:* Swethasri Dravida

*Mentor:* Joy Hirsch, Ph.D., Yale School of Medicine

*Date:* 4/1/2018 – 6/30/2020

*Amount:* $124,020

**Institutes:**

*Title:* Kavli Institute for Neural Circuitry at Columbia University

*Director:* Eric Kandel

*Co-Directors:* Tom Jessell and Rafa Yuste

*Faculty:* Joy Hirsch, Richard Axel, Craig Bailey, Gerald Fischbach, Steven Siegelbaum, Rene Hen, Scott Small, Michael Goldberg, Daniel Salzman

*Source:*  The Kavli Foundation

*Start Date:* March 2004

*Total Amount:* 7.5 million

*Role:* Investigations of Neural Circuitry Using fMRI: Human and Monkey

*Title:* Pattern Recognition Mechanisms in Human Vision

*Source:* NIH NEI 5 K07 EY00167 01/02/03

*PI:* Joy Hirsch

*Date:* 12/01/79 - 11/30/82

*Amount:* $242,894

*Percent Effort:* 95% (Maximum Total Effort at Yale)

*Role:* Psychophysical investigations of human pattern recognition

*Title:* Limits of Pattern Discrimination in Human Vision

*Source:* USAF (United States Air Force)

Office of Scientific Research: F49620-83-C-0026

*PI:* Joy Hirsch

*Date:* 01/01/83 - 12/31/85

*Amount:* $351,744

*Percent Effort:* 95% (Maximum Total Effort at Yale)

*Role:* Psychophysical investigations of human vision and models of discrimination

*Title:* What Governs the Precision of Neural Computation Responsible for Human Spatial Discriminations?

*Source:* USAF- Office of Scientific Research AFOSR-86-0077

*PI:* Joy Hirsch

*Date:* 01/01/86 - 12/31/88

*Amount:* $242,286

*Percent Effort:* 95% (Maximum Total Effort at Yale)

*Role:* Psychophysical investigation and computational models of spatial discrimination in human vision

*Title:* Limits of the Neural Computations for Human Spatial Discrimination

*Source:* USAF Office of Scientific Research AFOSR-88-C-0025

*PI:* Joy Hirsch

*Date:* 01/01/89 - 12/31/90

*Amount:* $152,689

*Percent Effort:* 95% (Maximum Total Effort at Yale)

*Role:* Psychophysical studies of human spatial discrimination and biological limitations to spatial resolution including the spatial metric of the photoreceptor lattice

*Title:* Identification of the Cortical Pathways that Participate in the Relief of Chronic Pain Using fMRI

*Source:* Dana Clinical Hypothesis in Neuroscience

*PI:* Joy Hirsch

*Date:* 1995 - 1998

*Amount:* $100,000

*Percent Effort:* 35% (Out of 100% Total Allowable at MSKCC)

*Role:* Functional MRI studies of chronic pain mechanisms

*Title:* Cortical Localization of Relief of Pain

*Source:* Johnson & Johnson Focused Giving Program

*PI:* Joy Hirsch

*Date:* 1996 - 1999

*Amount:* $195,000

*Percent Effort:* 35% (Out of 100% Total Allowable at MSKCC)

*Role:* Functional MRI studies of chronic pain mechanisms and the treatment effects of Topiramate

*Title:* Investigation of Human Visual Perception using fMRI

*Source:* Mary L. Ralph Designated Fund

*PI:* Joy Hirsch and Rafael Maloch (Wietzman Institute)

*Date:* 1997 - 2000

*Amount:* $90,000

*Percent Effort:* 25% (Out of 100% Total Allowable at MSKCC)

*Role:* fMRI Studies of Object Recognition/Cross Co-PI Lab Student Exchange

*Title:* fMRI Investigations of Treatments for Chronic Pain

*Source:* The Perkin Fund

*PI:* Joy Hirsch

*Date:* 1998 - 1999

*Amount:* $25,000

*Percent Effort:* 15% (Out of 100% Total Allowable at MSKCC)

*Role:* Functional imaging investigations to test the hypotheses that neural responses in chronic pain syndromes involve a persistent signal and failure of a mechanism to terminate the effects of stimulation

*Title:* An Investigation of the Specific CNS Effects of Topiramate in the Treatment of Sympathetically Maintained Pain Using fMRI

*Source:* R. W. Johnson Pharmaceutical Research Institute

*PI:* Joy Hirsch

*Date:* 1998 - 2001

*Amount:* $447,000

*Percent Effort:* 50% (Out of 100% Total Allowable at MSKCC)

*Role:* Clinical trial treatment study for chronic pain using Topiramate

*Title:* Functional Maps to Aid Neurosurgical Planning using fMRI: Adults & Children

*Source:* DeWitt Research Foundation

*PI:* Joy Hirsch

*Date:* 07/01/99 – 07/01/01

*Amount:* $100,000

*Percent Effort:* 30% (Out of 100% Total Allowable at MSKCC)

*Role:* Evaluations of fMRI brain maps applied to neurosurgical planning

*Title:* Plasticity in the Mature Brain: Patterns of Cortical Organization after Brain Lesion Removal

*Source:* The Charles A. Dana Foundation

*PI:* Guy M. McKahn II, M.D. (CUMC)  
*CO-PI:* Joy Hirsch, Ph.D.

*Date:* 07/01/01 - 10/30/05

*Amount:* $150,000

*Percent Effort:* 20%

*Role:* Faculty Mentor: fMRI Investigations of neural reorganization and language recovery

*Title:* Uncovering the Neuromuscular Biomechanics of Dexterous Manipulation

*Source:* NSF 01-84B

*PI:* Francisco Valero-Cuevas, Ph.D., Sibley School of Mechanical and Aerospace Engineering, College of Engineering, Cornell University

*CO-PIs:* Joy Hirsch, Ph.D., Columbia University, Kelly Cole, Ph.D., University of Iowa, John Guckenheimer, Cornell University, Robert Hotchkiss, M.D., The Hospital for Special Surgery, Ron Hoy, Chairman, Dept of Neurology & Behavior, Cornell University, Gerald Loeb, M.D., A.E. Mann Institute for Biomedical Engineering, University of Southern California, Carolyn F. Small, Ph.D., Queen’s University,

Scott Wolf, M.D., The Hospital for Special Surgery, Timothy M. Wright, Ph.D., The Hospital for Special Surgery

*Start Date*: 04/01/03 - 03/31/08

*Amount:* $374,999

*Percent Effort:* 15%

*Role:* Design and Implementation of all fMRI Investigations to test models of neural guidance mechanisms related to fine hand-eye motor coordination

*Title:* fMRI for Development and Testing CNS Compounds

*Source:* Johnson & Johnson

*PI:* Joy Hirsch, Ph.D.

*Period:* 06/02/02 - 05/31/08

*Amount:* $2,500,000

*Percent Effort:* 30%

*Role:* fMRI Paradigm Development, Experimental Design and Analyzes aimed to develop fMRI tools for drug development and testing

*Title:* An fMRI Study Of the Evolution of The Grief Process in Suicide Survivors: Correlation between Genetic Predisposition towards Depression, Psychological Grief “Style”, And the Functional Neuroanatomy of Grief in Survivors of a Loved One’s Suicide.

*Source:* American Foundation for Suicide Prevention

*PI:* Peter Freed, M.D. (NYPI)

*CO-PI:* Joy Hirsch, Ph.D., John Mann, M.D.

*Period:* 07/01/06 - 06/30/08

*Amount:* $70,000

*Percent Effort:* 5%

*Role:* fMRI Paradigm Development of a model to investigate neural correlates of grief and its resolution.

*Title:* Neural Codes for Predicting Vehicle-Object Detection

*Source:* U.S. Army Research AM SRD-R0-RI

*PI:* Joy Hirsch, Ph.D.

*Period:* 06/01/06 - 05/31/08

*Amount:* $108,000

*Percent Effort:* 5%

*Role:* fMRI Paradigm Development, Experimental Design and Analysis for investigations of visual search under conditions of varying certainty

*Title:* Neural Circuitry of Submissive Behavior & Treatment Response in Social Anxiety.

*Source:* NIH R21MH077

*PI:* Franklin Schneier, M.D. (NYPI)

*CO-PI:* Joy Hirsch, Ph.D.

*Period:* 04/01/07 - 03/31/09

*Amount:* $120,854

*Percent Effort:* 10%

*Role:* Before and after treatment fMRI paradigm development, experimental design and analysis. Aimed to understand neural mechanisms associated with treatment of anxiety disorders

*Title:* Decision-Making Neural Circuitry in Humans and Monkeys

*Source:* Gatsby Pilot Project Grant, Columbia University

*PI:* Vincent P. Ferrera, Ph.D. (NYPI)

*CO-PI:* Joy Hirsch, Ph.D.

*Period:* 08/01/06 - 07/31/07

*Amount:* $50,000

*Percent Effort:* 10%

*Role:* fMRI Studies of non-human awake and behaving primates. Investigations of decisions making under varying conditions of certainty

*Title:* Neurocircuitry of Obesity.

*PI:* Allan Geliebter, Ph.D. (St. Luke’s Hospital)

*CO-PI:* Joy Hirsch, Ph.D., Sami Hashim, MD, Marci Gluck, MD

*Source:* NIH 1R03 DK068603

*Period:* 12/01/06 - 11/30/08

*Amount:* $100,000

*Percent Effort:* 10%

*Role:* Design, development, and implementation of fMRI studies aimed at testing the hypothesis that neural responses to food stimuli in chronic obesity involved upregulation of reward systems.

*Title:* Audio-Visual Integration in Speech Processing and Learning

*Source:* 410-2006-1034, Social Sciences and Humanities Research Council of Canada

*PI:* Yue Wang (Simon Fraser University, British Columbia)

*CO-PI:* Joy Hirsch (Columbia University), Dawn Behne (Norwegian University of

Science and Technology)

*Period:* 09/01/06 - 08/31/09

*Amount:* $98,819

*Percent Effort:* 10%

*Role:* fMRI paradigm development, experimental design, and analysis aimed to test the hypothesis that neural circuitry associated with the acquisition of a second language involves cognitive processes not engaged for the native language

*Title:* Neurochemical Challenge in Human Stroke Recovery.

*Source:* National Institute of Child Health and Human Development

1R01 HD 043249-01A2

*PI:* Ronald M. Lazar, Ph.D., Columbia University

*CO-PIs:*  Hirsch, Berman, Heitjan, Krakauer, Lennihan, Marshall, Mohr

*Start Date*: 02/01/2004 - 01/31/2010

*Amount:* $1,962,000 (Total Cost)

*Percent Effort:* 10%

*Role:* fMRI patient-based studies aimed to test models of neural recovery from stroke

*Title:* The Neural Bases of Affect Regulation in Drug Abuse.

*Source:* NIH RFA-DA-06-006

*PI:* Kevin Ochsner, Ph.D. (Psychology)

*CO-PI:* Joy Hirsch, Ph.D.

*Period:* 09/01/06 - 08/31/11

*Amount:* $1,982,774

*Percent Effort:* 10%

*Role:* fMRI studies aimed to evaluate neural responses associated with various self appraisal models

*Title:* Super-Selective Wada Testing and Neuroplasticity in AVM Patients: Initial Human Investigations using MRI Fluoroscopy

*PI:* Phillip M. Meyers, M.D.

*CO-PIs*: Joy Hirsch, Ph.D., John Pile Spellman, M.D.,

*Agency*: Charles A. Dana Foundation

*Type*: Research Grant

*Period:* 05/01/07 - 04/30/10

*Amount:* $100,000

*Percent Effort:* 10%

*Role:* Exploratory fMRI investigations of neural plasticity in arterial venous Malformations (AVM)

*Title:* Multilevel Mediation Techniques for fMRI

*Source:* NSF 06-531

*PI:* Tor Wager, Ph.D. (Psychology)

*CO-PI:* Niall Bolger, Ph.D., Martin Linquist, Ph.D.

Joy Hirsch, Ph.D.

*Period:* 12/01/06 - 11/30/10

*Amount:* $637,304

*Percent Effort:* 10%

*Role:* Image quality assurance, explorations of computational approaches

*Title:* Functional Imaging of Categorical Decision Processes.

*Source:* NIH: R01 MH 072984

*PI:* Vincent Ferrera (NYPI)

*CO-PI:* Joy Hirsch, Ph.D.

*Period:* 01/01/06 - 12/31/10

*Amount:* $2,043,750

*Percent Effort:* 10%

*Role:* fMRI paradigm Development, experimental design and analysis aimed to test hypotheses related to neural circuitry specialized for decisions under various conditions of uncertainty.

**Training Grants:**

*Title:* Vision Sciences Training Grant: Columbia University

*Source :* National Eye Institute, 5T32EY013933-04

*PI:* Carol Mason, Ph.D. (Imaging module PI: Joy Hirsch, Ph.D.)

*Role:* Training Faculty: Functional Neuroimaging and Visual Science Module

*Period:* 09/30/01 - 08/31/06, 10/01/11

*Title:* Translational Neuroscience Training Program

*Source:*NIH 5 T32 MH15174-33

*PI:* Rene Hen, Ph.D., (Imaging module PI: Joy Hirsch, Ph.D.)

*Role:* Training Faculty: Functional Neuroimaging and Behavioral Neuroscience

*Period:* 07/01/01 - 06/30/06; 07/01/06 - 06/30/11

*Title:* Multidisciplinary Clinical Research Career Development Program

*Source:* NIH 5K2RR017648-03

*PI:* Henry Ginsberg (Imaging module PI: Joy Hirsch, Ph.D. and other faculty)

*Role:* Mentor (1 of 46)

*Period:* 07/01/07 – 2/01/13

*Amount:* $15,664,288

*Title:* NY Obesity Research Center Training Grant

*Source:* NIH T32DK007559-20

*PI:* Sunyer, Gallagher (Associate Director) (Imaging module Joy Hirsch)

*Period:* 08/09 – 07/10

*Amount:* $293,133 –Direct Cost for budget period

*Title:* Visual Science Training Program, Yale University

*Source:* NIH

*PI:* Colin J. Barnstable, Ph.D.

*Role:* Training Faculty: Visual Psychophysics Module

*Period:* 12/01/89 – 11/30/94

*Amount:* $1,557,631

*Title:* Vision Training Grant: Cornell University Medical College

*Source:* National Eye Institute Tri-Institutional Core Grant for Vision Research

*PI:* Enrique J. Rodriguez-Boulan, M.D.

*Role:* Training Faculty: Functional Neuroimaging and Visual Science Module

*Period:* 04/01/97 – 03/31/02

*Amount:* $1,605,866

**Selected Invited Lectures:**

Lecture: European Brain and Behaviour Society’s (EBBS)

Title:

Location: Lausanne, Switzerland

Date: September 4-7, 2021

Lecture: University of Montreal, Neuropsychology and Cognitive and Computational Neuroscience

Title: Emerging advances in "two-person" neuroscience: Evidence and a theoretical framework from fNIRS hyperscanning

Location: Montreal, Canada (Virtual format)

Date: May 19, 2021

Lecture: Dartmouth College, Department of Psychological and Brain Sciences

Title: Emerging Advances in Two-Person Neuroscience

Location: Hanover, NH (Virtual format)

Date: March 18, 2021

Lecture: 4th Annual Boston University Neurophotonics Symposium

Title: Hyperscanning with fNIRS: Mechanisms of Two-Brain Interactions

Location: Boston, MA (Virtual format)

Date: January 12, 2021

Lecture: 2020 OSA Biophotonics Congress: Biomedical Optics

Title: An fNIRS Approach to Two-Person Neuroscience

Location: Virtual Format

Date: April 20, 2020

Lecture: NIH Center for Multimodal Neuroimaging: 1st Multimodal Neuroimaging Workshop

Title: A Multimodal Approach to Two-Person Neuroscience: Neural Mechanisms for Sharing Social Cues During Real Eye-Contact

Location: Bethesda, MD

Date: November 1, 2019

Lecture: 50th Annual meeting of the Society for Neuroscience

Nanosymposium (chair), Social Cognition: Behavior and Neural Mechanisms I

Title: A two-person neural mechanism for sharing social cues during real eye contact

Location: Chicago, IL

Date: October 19, 2019

Lecture: 2nd Shimadzu Global Innovation Summit 2019

Title: Neuroimaging of two interacting individuals with fNIRS

Location: Kyoto, Japan

Date: July 10, 2019

Lecture: Yale School of Medicine Department of Psychiatry Grand Rounds

Title: “The New Neuroscience of Two” Neural Dynamics of Communicating Brains:

Hyperscanning with fNIRS

Location: New Haven, CT

Date: January 11, 2019

Lecture: Keynote Address: Society for fNIRS

Title: The New Neuroscience of Two: Hyperscanning with fNIRS to Understand Communicating Brains

Location: Tokyo, Japan

Date: October, 2018

Lecture: Launch of the Boston University fNIRS Center

Title: The New Neuroscience of Two: Hyperscanning with fNIRS

Location: Boston University

Date: January 16, 2018

Lecture: University of Southern Maine, College of Science, Technology, and Health Southworth Science Lecture Series

Title: When Two Brains Come Together

Location: Portland, ME

Date: May 5, 2017

Lecture: International Conference on Psychological Science Lecture

Title: Identification of Neural Systems Involved in Interpersonal Eye-to-Eye Contact: An fNIRS Hyperscanning Investigation

Location: Vienna, Austria

Date: March 24, 2017

Lecture: Gallaudet University: PEN Distinguished Lecture Series

Title: The new neuroscience of “two”: Communicating Eye-to-Eye

Location: Washington, D.C.

Date: February 23, 2017

Lecture: Yale School of Medicine Clinical Neuroscience Grand Rounds

Title: The new two-person neuroscience: Overlapping neural systems and a common model for eye-to-eye contact and dialogue

Location: New Haven, CT

Date: February 22, 2017

Lecture: The 24th Jerusalem School in Life Sciences: Frontiers in Cell Biology

Title: The New Neuroscience of Interacting Brains: Dual-Brain imaging with fNIRS reveals novel events during natural interpersonal interaction

Location: Jerusalem, Israel

Date: December 14, 2016

Lecture: Yale School of Medicine MRI Lecture Series

Title: The Neuroscience of Two: Dual-Brain hyperscanning with fNIRS reveals neural events during natural interpersonal interaction

Location: New Haven, CT

Date: December 8, 2016

*Lecture:* Mind Science Foundation

*Title:* The Magic of a Glance

*Location:* San Antonio, TX

*Date:* November 1, 2016

*Lecture:* GE Global Research - AMPET Symposium

*Title:* What Happens When Two Brains Interact?

*Location:* Schenectady, NY

*Date:* April 20, 2016

*Lecture:* III Yale-Cajal Joint Symposium on Neurobiology

*Title:* The Neuroscience of Interacting Brains: Near Infrared Spectroscopy Investigations of Human-to-Human Dialogue

*Location:* Cajal Institute, Madrid, Spain

*Date:* October 6, 2015 

*Lecture:* Yale Club of London Speaker Series

*Title:* When Two Brains Work as One: A Neuroimaging Investigation of Communication between two individuals

*Location:* Athenaeum Club, London UK            

*Date:* June 10, 2015

*Lecture:* Institute of Neuroscience

*Title:* Neural Mechanisms for human communication: An Investigation of synchrony between two brains using near-infrared spectroscopy

*Location:* Chinese Academy of Science,Shanghai, China            

*Date:* May 21, 2015

*Lecture:* Institute of Cognitive Neuroscience

*Title:* Neural Mechanisms for human communication: An Investigation of synchrony between two brains using near-infrared spectroscopy

*Location:* East Shanghai Normal University,Shanghai, China            

*Date:* May 20, 2015

*Lecture:* International Forum on Consciousness

*Title:* Is there a Neurobiology for Collective Consciousness?

*Location:* Madison, WI            

*Date:* May 8, 2015

*Lecture:* Current Works in Behavior, Genetics and Neuroscience

*Title:* "Wireless" Communication between humans

*Location:* Kirtland Hall, Yale School of Medicine

*Date:* April 17, 2015

*Lecture:* Integrative Cell Signaling and Neurobiology of Metabolism - Seminar Series

*Title:* What are the Neural Mechanisms of Conversation? A Near-Infrared Spectroscopy Investigation of Two Brains

*Location:* Yale School of Medicine, Fitkin Amphitheatre, New Haven, CT

*Date:* September 23, 2014

*Lecture:* Gold Symposium

*Title:* From the Autistic Brain to the Autistic Mind and Beyond

*Location:* Boulder, CO

*Date:* May 16-17, 2014

*Lecture:* General Electric Global Research

*Title:* Social Interaction in the Brain

*Location:* Nyskyuna, NY

*Date:* March 24, 2014

*Lecture:* Yale Program in Integrative Cell Signaling and Neurobiology of Metabolism: Cajal at Yale

*Title:* Anti-correlated global mechanisms: Fundamental neural correlates of perception and cognition

*Location:* The New Haven Lawn Club, New Haven CT

*Date:* November 5-6, 2013

*Lecture:* Genetic and Neural Complexity of Psychiatry

*Title:* Approaches for Determining Circuits and Connectivity in the Human Brain

*Location: Santorini, Greece*

*Date:* June 15-18, 2013

*Lecture:* International Conference on Cognitive and Neural Systems

*Title:* Neural Circuits for Conflict Resolution: Insights from Visual Perception

*Location:* Boston University, Boston MA

*Date:* June 4-7, 2013

*Lecture:* Skoll World Forum: Neuroscience Panel

*Title:* Brain mechanisms and international conflict resolution

*Location:* Oxford University, Oxford UK

*Date:* March 28-30, 2012

*Lecture:* Insights into Autism Conference

*Title:* Functional Images to Detect the Autistic Brain: What is Different?

*Location:* Eastern Virginia Medical School, Norfolk, VA

*Date:* February 17, 2012

*Lecture:* IBM 100th Anniversary Technology Symposium

*Title:* Functional Images and Computations to Detect the Autistic Brain

*Location:* IBM Systems & Technology R & D, Watson, NY

*Date:* November 30, 2011

*Lecture:* 2011 Second Circuit Judicial Conference

*Title:* An Overview of Brain Imaging as Evidence for Chronic Pain

*Location:* The Sagamore Resort on Lake George, Bolton Landing, NY

*Date:* June 10, 2011

*Lecture:* World Science Festival

*Title:* A Photon through Time and Mind

*Location:* Planetarium, American Museum of Natural History, New York, NY

*Date:* June 4, 2011

*Lecture:* World Science Festival

*Title:* Frontiers in Brain and Mind: The Inside Story

*Location:* Galapagos Auditorium, New York, NY

*Date:* June 2, 2011

*Lecture:* American Society for Neuro Radiologists

*Title:* Challenges and New Directions for Clinical Functional Imaging Studies

*Location:* Phoenix, AZ

*Date:* March 3, 2011

*Lecture:* Brain Institute

*Title:* Frontiers in Neural Trafficking

*Location:* American Museum of Natural History, New York, NY

*Date:* February 25, 2011

*Lecture:* American Museum of Natural History Master Class Lecture

*Title:* Frontiers in Neural Trafficking: The Inside Story

*Location:* American Museum of Natural History, New York, NY

*Date:* December 16, 2010

*Lecture:* Women’s Leadership Conference - UBS

*Title:* Working with Your Brain: Brain Basics and Operating Principles

*Location:* New York, NY

*Date:* October 6, 2010

*Lecture:* A\*STAR-Agency for Science, Technology and Research

*Title:* Advances in Translational Neural Imaging and Future Directions in Neural Treatments

*Location:* Singapore

*Date:* February 11, 2010

*Lecture:* The Engineering in Medicine & Biology Society (New York Chapter)

*Title:* The Discovery of Principles of Brain/Mind Operations

*Location:* Program for Imaging & Cognitive Sciences, Columbia University, New York, NY

*Date:* December 16, 2009

*Lecture:* 3rd Annual Radiology for the Non-Radiologist Conference

*Title:* Brain to Mind

*Location:* The Harlem Hospital Center, New York, NY

*Date:* November 5, 2009

*Lecture:* The Obesity Society 27th Annual Meeting

*Title:* Food and the Brain

*Location:* Washington, DC

*Date:* October 27, 2009

*Lecture:* American Diabetes Association 69th Annual Meeting

*Title:* Imaging the “Food Seeking” Brain

*Location:* New Orleans, LA

*Date:* June 6, 2009

*Lecture:* George Gamow Memorial Lecture

*Title:* Dialogues within the Specialized Brain

*Location:* University of Colorado at Boulder, Boulder, CO

*Date:* April 2, 2009

*Lecture:* John Theurer Cancer Center’s Fifth Annual Neurooncology Symposium

*Title:* Functional MRI and the Management of Brain Tumors: Techniques and Limitations

*Location:* David Joseph Juris Research Center for Tomorrows Children, Hackensack, NJ

*Date:* March 27, 2009

*Lecture:* Neuroimaging in Traumatic Brain Injury Symposium

*Title:* Seeking Consciousness: An fMRI Study of Command Following in Nonresponsive Patients

*Location:* Cleveland Clinic, Cleveland, OH

*Date:* October 31, 2008

*Lecture:* NIDDK Neuroimaging in Obesity Research

*Title:* Leptin, Hypothalamus, and Human Cortex before and after weight loss

*Location:* National Institute of Health, Bethesda, MD

*Date:* October 28, 2008

*Lecture:* 12th International Conference on Cognitive and Neural Systems

*Title:* Functional Specificity and Cortical Mechanisms That Regulate Emotion and Cognition:

What The Human Face Tells The Human Brain.

*Location:* Boston University, Boston, MA

*Date:* May 16, 2008

*Lecture:* American Academy of Psychiatry and the Law

*Title:* Is the Anatomy of a Lie a Matter of the Law?

*Location:* Miami, FL

*Date:* October 18, 2007

*Lecture:* GadgetOff 2007

*Title:* The Brain: The Neatest Gizmo on Earth

*Location:* Liberty Science Center, Jersey City, NJ

*Date:* September 28, 2007

*Lecture:* Gordon Research Conferences - Amygdala in Health and Disease

*Title:* Amygdala-frontal interactions and reward expectations

*Location:* Bates College, Lewiston, ME

*Date:* August 3, 2007

*Lecture:* Ethics, Imaging and Limited States of Consciousness

*Title:* Considerations for Clinical Ethics

*Location* Stanford University Center for Biomedical Ethics

*Date:* June 28, 2007

*Lecture:* Gordon Research Conferences - Neural Circuits and Plasticity

*Title:* Human Cognition

*Location:* Salve Regina University, Newport, RI

*Date:* July 5, 2007

*Lecture:* Transrobotism Conference: Of Human-Robot Bonds

*Title:* Facial and Emotional Processing: Topics in Neuroimaging

*Location:* Massachusetts Institute of Technology, Cambridge, MA

*Date:* April 24, 2007

*Lecture:* Emerging Issues in Modern Medicine Series

*Title:* Advances in Functional Imaging of the Brain and the New Science of Mind

*Location:* SUNY-Downstate Medical Center, Brooklyn, NY

*Date:* March 2, 2007

*Lecture:* Neuro-Psychoanalysis Lecture Series

*Title:* Neural Circuits That Underlie Emotion and Cognition

*Location:* New York Psychoanalytic Institute, New York, NY

*Date:* November 4, 2006

*Lecture:* Annual Meeting: Association for Aging Research -“Imaging & the Aging Brain”

*Title:* Assessment of Brain Function in Patients with Traumatic Brain Injury & Altered States of Consciousness: Using Functional MRI

*Location:* New York University Kimmel Center, New York, NY

*Date:* May 17, 2006

*Lecture:* GE Whitney Symposium

*Title:* Imaging Brain and Imaging the Inner World of Mind

*Location:* GE Global Research Center, Niskayuna, NY

*Date:* March 20, 2006

*Lecture:* Instituto Gulbenkian de Ciencia

*Title:* Neuroimaging: A new view of brain and mind

*Location:* Instituto Gulbenkian de Ciencia, Lisbon, Portugal

*Date:* December 12, 2005

*Lecture:* Tongji University

*Title:* From Brain to Mind: Neuroimaging and a New View of Cognition

*Location:* Tonghi University, Shanghai, China

*Date:* October 20, 2005

*Lecture:* Peking Union Medical College

*Title:* From Brain to Mind: Neuroimaging and a New View of Cognition

*Location:* Peking Union Medical College, Beijing, China

*Date:* October 17, 2005

*Lecture:* Hard Science Hard Choices

*Title:* fMRI and Disorders of Consciousness

*Location:* Library of Congress, Washington, DC

*Date:* May 10, 2005

*Lecture:* Grand Rounds

*Title:* Frontiers in Neuroradiology

*Location:* Harlem Hospital Center, New York, NY

*Date:* February 7, 2005

*Lecture:* Association for the Scientific Study of Consciousness

*Title:* The Imaging of Brain and Mind During Conscious and Unconscious States

*Location:* Antwerp, Belgium

*Date:* June 26, 2004

*Lecture:* United Cerebral Palsy Research and Education Foundation: Annual Meeting

*Title:* Functional Brain Mapping and Frontiers in Cerebral Palsy Research

*Location:* The Light House, New York, NY

*Date:* June 23, 2004

*Lecture:* American Association of Physicists in Medicine

*Title:* Functional MRI for Clinical Applications

*Location:* Thomas Jefferson University, Philadelphia, PA

*Date:* April 14, 2004

*Lecture:* Language and Cognition Seminar Series

*Title:* The Anatomy of Second Language Acquisition: fMRI Investigations

*Location:* Northwestern University, Evanston, IL

*Date:* November 24, 2003

*Lecture:* Columbia West Program, Southern California Alumni

*Title:* The Geography of Mind: Mapping Brain and Behavior with fMRI

*Location:* Skirball Center, Los Angeles, CA

*Date:* November 9, 2003

*Lecture:* 15th Annual Conference on Rebuilding Shattered Lives: Functional Neuroimaging Applications in Disorders of Consciousness

*Title:* Functional Neuroimaging of Cognition

*Location:* JFK Conference Center, Edison, NJ

*Date:* November 5, 2003

*Lecture:* International Conference on Pain and Chemical Dependency

*Title:* Views on Neuroimaging: Pain and Analgesia

*Location:* New York, NY

*Date:* June 6, 2002

*Lecture:* 14th. Annual NYS Office of Mental Health Research Conference, New York State Office of Mental Health

*Title:* Imaging Cognitive Processes: The Revolutionary Advantages of fMRI in Medicine

*Location:* Albany, NY

*Date:* December 4, 2001

*Lecture:* New York County Medical Society

*Title:* The Brain at Work: Functional MRI

*Location:* The Rockefeller University, New York, NY

*Date:* October 2, 2001

*Lecture:* IBM Research-Thomas J. Watson Center

*Title:* Imaging the Mind at Work: New Computational Challenges

*Location:* Yorktown Heights, NY

*Date:* June 20, 2001

*Lecture:* Royal Society of Medicine: Invited lecture

*Title:* Overview: fMRI In Drug Evaluation of CNS Compounds fMRI to Evaluate Effectiveness in Neuropathic Pain fMRI In Healthy Subjects to Evaluate Anxiolytic Drugs

*Location:* London, UK

*Date:* June 7, 2001

*Lecture:* New York Hall of Science

*Title:* Imaging the mind at work

*Location:* Corona Park, NY

*Date:* January 18, 2001

*Lecture:* American Pain Society 19th Annual Scientific Meeting

*Title:* Novel Approaches to the Understanding and Treatment of Neuropathic Pain

*Location:* Atlanta, GA

*Date:* November 3, 2000

*Lecture:* Fourth Annual W. S. Battersby Memorial Lecture

*Title:* The Neurobiology of Fundamental Cognitive Tasks: Insight for fMRI studies

*Location:* Queens College, CUNY, Flushing, NY

*Date:* October 11, 2000

*Lecture:* Brain Awareness Annual Lecture

*Title:* Long-Range Networks for Cognition: fMRI Investigations

*Location:* Dalhousie University: Neuroscience Institute, Halifax, Canada

*Date:* March 27, 2000

*Lecture:* Gordon Research Conference

*Title:* Functional Plasticity for Language Acquisition: Evidence from fMRI

*Location:* Newport, RI

*Date:* July 23, 1999

*Lecture:* Deutsche Gesellschaft für Neurochirurgie Conference

*Title:* Functional Magnetic Resonance Imaging for “Neurosurgical Planning: Sensitivity and Specificity using fMRI”

*Location:* Munich, Germany

*Date:* June 8, 1999

*Lecture:* Charles A. Dana Foundation Symposium

*Title:* Identification of Cortical Pathways participating in pain relief using fMRI

*Location:* Los Angeles, CA

*Date:* November 12, 1998

*Lecture:* College de France: Neuroscience Colloquium: Invited lecture

*Title:* Core Networks for Cognition Evidence from fMRI

*Location:* Paris, France

*Date:* October 5, 1998

*Lecture:* Neurobiology Program Seminar: Invited lecture

*Title:* Assemblies of Core Networks for Human Cognition

*Location:* California Institute of Technology, Pasadena, CA

*Date:* June 4, 1998

*Lecture:* National Institute of Bioscience and Human-Technology: Invited symposium lecture

*Title:* fMRI reveals ‘Top-Down’ Influences on Human Primary Visual Cortex

*Location:* Tsukuba, Japan

*Date:* December 8, 1997

*Lecture:* New York Hall of Science: Keynote speaker

*Title:* Mapping the Mysteries of the Brain

*Location:* New York, NY

*Date:* October 19, 1997

*Lecture:* Neurobiology Seminar: Invited lecture

*Title:* Partitioning Cognitive Events with fMRI

*Location:* Weizmann Institute, Rehovat, Israel

*Date:* December 16, 1996

*Lecture:* Gordon Conference on the Chemical Senses: invited lecture

*Title:* Localization of cortical taste areas with fMRI

*Location:* Newport, RI

*Date:* August 21, 1996

# Lectures, Courses, Web-based Education:

# 

# 2004 – 2011 Basic and Clinical Neuroscience (CME), Functional Brain Imaging, Columbia University

# 2000 – 2011 Neural Science (Columbia Medical School) (ANPH M5105.081), Functional Neuroimaging, Columbia University Medical Center

# 2006 – 2008 Basic Laboratory Methods: Tools for Translational Research, PS159 Clinical Applications of fMRI Columbia University Medical Center

2007 – 2010 Frontiers of Science, Core Curriculum Columbia University

# 2008 Future Directions for Translational Neuroimaging, Ethics and Experimentation BEPS W4090, Columbia University

2008 – 2010 TPC: Crossroads in Bioethics (20101BIOL3995W001, W3995), Columbia University, (Course Director: John Loike)

# 2004 – 2008 Frontiers of Science: (BIOL G9302.001.2002.1), Neural Correlates of Consciousness: From Brain to Mind, Columbia University

# 2007 Frontiers of the Mind I: Frontiers of Science (BIOL G9302.001.2002.1), Columbia University

# 2007 Neural Science, Columbia University Medical School (ANPH M5105.081), Neural Correlates of Consciousness, Columbia University Medical Center

2006 The Neurosystem at Work, Proseminar I (PSYC G6001.001), Columbia University

# 2003 – 2005 Clinical Applications: fMRI in Practice MRI Fellowship Program at Massachusetts General Hospital/ Robert Savoy, Director, Harvard University

# 2001 – 2003 Mapping Human Language: What We Learn from fMRI, Language Development

# (Cornell Linguistics Department, Barbara Lust, Professor), Cornell University, (Ithaca)

2001 – 2003 Functional Imaging of The Brain, Engineering in Medicine, (BMEN E1001)

(Columbia Biomedical Engineering Al Wald, Professor), Columbia University

**Teaching Experience and Responsibilities:**

2020 – PhD Directed Readings Seminar, Yale University School of Medicine (Interdepartmental Neuroscience Program, INP519a)

2018 – PhD Graduate Thesis Mentorship, Gallaudet University, PhD in Educational Neuroscience (PEN) program

2018 – PhD Graduate Research Mentorship, Yale University School of Medicine, Interdepartmental Neuroscience Program

2017 – 2019 PhD Graduate Thesis Mentorships, University College London, Institute for Cognitive Neuroscience, Department of Medical Physics and Biomedical Engineering, UK

2017 – 2019 MD Graduate Research Mentorship, Yale University School of Medicine

2016 – 2019 MD/PhD Graduate Research Mentorship, Yale University School of Medicine, Interdepartmental Neuroscience Program

2017 – Undergraduate Senior Thesis Mentorships, Yale University (CGSC491, MCDB485, PSY495, PSY499, NS490)

2016 – Graduate Research Rotations, Yale University School of Medicine, Interdepartmental Neuroscience Program

2015 – 2017 Undergraduate Independent Research, Yale University (BENG472, PSY495)

2009 – 2010 Ethics for Biomedical Engineers (1BMEN4010E001), Columbia University, Department of Biomedical Engineering

2003 – 2011 Issues in Brain and Behavior (W3440x), Columbia University, Department of Psychology (Course Directors: Don Hood & Joy Hirsch)

2002 – 2010 Imaging Brain and Cognition (57850 NBH, G4320, NBIO030), Columbia University, Graduate Center for Neurobiology and Behavior (Course Director: Joy Hirsch)

1995 – 1998 Functional Neuroimaging of the Human Brain, Weill Graduate School of Medical Sciences at Cornell University

1993 – 1987 Automated and Semi-Automated Visual Fields, American Academy of Ophthalmology

1982 – 1987 Data Analysis and Research Methods for Medical Sciences, Yale University School of Medicine

1979 – 1984 Introduction to Biomedical Statistics, Yale University School of Medicine

**Peer Review Groups/Grant Study Sections**:

2022 National Institute of Neurological Disorders and Stroke (NINDS) Special Emphasis Panel, BRAIN Initiative: Research Opportunities Using Invasive Neural Recording and Stimulating Technologies in the Human Brain (RFA-NS-19-001)

2020 National Institute of Biomedical Imaging and Bioengineering Special Emphasis Panel, ZEB1 OSR-D (M1), Brain Initiative RFA (EB-19-001; EB-19-002)

2019 NIH Center for Scientific Review Study Section

2018 NIH Scientific Review and Evaluation Activities, Center for Scientific Review Study Section

2014 NIH Special Emphasis Panel, PA-13-313, Academic Research Enhancement Awards, (R-15)2006 Special Emphasis Panel Cognition and Imaging, NINDS

2002-2005 NIH Study Section, Sensorimotor Integration, NINDS

**Journal Service:**

2003-2008 Section Editor (NeuroImaging), *Journal of Clinical Investigation*

**Professional Organizations:**

2020-present The Optical Society

2016-present Society for functional Near-Infrared Spectroscopy

2000- present Human Brain Mapping

1995-present Society for Neuroscience

2005-present Cognitive Neuroscience Society

2006-present International Society for Magnetic Resonance Imaging

1998-present New York Academy of Sciences

1980-present American Association for the Advancement of Science

2006-present Association for the Scientific Study of Consciousness

2004-present Radiological Society of North America

2008-present International Society for Magnetic Resonance in Medicine

1998-present Vision Sciences Society

1998-2005 Association for Research in Vision and Ophthalmology

# Professional Service:

# 2016 – present Board of Directors, Society for Near-Infrared Spectroscopy (SfNIRS) 2014 – present Member, Joint Wellcome Trust/Arts and Humanities Research Council Planning Committee: Frontiers in Interdisciplinary Science and Society

2009 – 2011 Co-chair of the fMRI subcommittee of Quantitative Imaging Biomarkers

Alliance (QIBA), a subcommittee of RSNA

2009 – 2011 Science and Engineering Research Council (SERC) Selection Panel Member for the A\*STAR Investigatorship, Singapore

2007 – 2008 Member Advisory Committee, Eyeforpharma - CNS Drugs, Philadelphia, PA

2006 – 2009 Member, Academic Advisory Committee, The Wellcome Trust, London, UK

2002 – 2005 fMRI CPT Code Support, USA

1999 – 2011 Advisory Board, NY Hall of Science, NY

1982 – 1986 Consult: Medical Devices, Interzeag A.G., Zurich, Switzerland

1985 – 1987 CooperVision, Consult: Medical Devices, Irvine, CA

1985 – 1987 Bio-Rad Laboratories, Consult: Medical Devices, Hercules, CA

1987 – 1990 Randwal Instrument Company, Consult: Medical Devices, Sturbridge, MA

**Meeting Planning:**

2019 – 2020 Society for fNIRS, Program Committee, Sixth Biennial Conference (SfNIRS 2020), Chicago

2006 – 2007 American Federation for Aging Research, Organizing Committee, Imaging & the Aging Brain Conference/ NY Academy of Sciences, NY

2002 – 2003 Human Brain Mapping Organization, Local Organizing Committee (Annual International Meeting), NY

**Yale University Service**:

2013-present Resident Fellow, Branford College, Yale University

1986 – 1991 Medical School Council (elected), Yale University School of Medicine

1984 – 1987 Curriculum Committee, Yale University School of Medicine

1989 – 1991 Adjunct, Status of Women Committee, Yale University School of Medicine

1982 – 1989 Chair, Status of Women Committee, Yale University School of Medicine

1984 – 1988 Well-Being of Students Committee, Yale University School of Medicine

1985 – 1989 Affirmative Action Committee, Yale University

1985 – 1991 Fellow, Calhoun College, Yale University

**Other University and Medical School Committees** (Selected):

2020 – Advisory Board for Brain Initiative 1U01EB028660-01

2008 – 2011 Advisory Board for Masters of Bioethics Program, Columbia University

2007 – 2008 Dean’s Advisory Committee for Development (Thematic Priorities Subcommittee) Columbia University Medical School

2007 – 2011 Curriculum Committee, Department of Neuroscience, Columbia University

2006 – 2008 Chair, Neuroimaging Advisory Committee, Columbia University Medical Center

1997 – 1998 Graduate School Planning Task Force, Weill Graduate School of Medical Sciences at Cornell University

1995 – 1998 Chairman of Graduate School Admissions Committee, Neuroscience, Weill Graduate School of Medical Sciences at Cornell University

1993 – 1997 Executive, Tri-Institutional Vision Training Program, Weill Graduate School of Medical Sciences at Cornell University

1. - 1997 Admissions Committee, Tri-Institutional MSTP Program: Weill, Rockefeller, MSKCC

### Hospital Boards & Committees:

N/A

**Public Service:**

2009 – 2011 Neuroscience Advisor and Curator for the American Museum of Natural History Exhibit, “BRAIN: The Inside Story”

2000 – 2013 Director, High School Summer Research Program: Neuroimaging Brain and Mind.

1995 – 2013 Faculty for Summer Research Program for NYC Underrepresented Minorities

1995 – 2008 Faculty for Gateways Medical School Research Program for underrepresented Minorities (Tri-Institutional Program and Columbia University

2002 – 2012 Faculty mentor for SPURS (Summer Program for Under Represented Students) (Columbia University program, Directed by Andrew Marks)

**BIBLIOGRAPHY:**

1. Manuscripts (earliest to most recent):

1. Murch, G., & Hirsch, J. (1972). The McCullough effect created by complementary afterimages. *American* *Journal of* *Psychology*, *85,* 241‑247.
2. Hirsch, J., & Murch, G. (1972). Variations in hue of a contouring‑contingent after‑effect due to color adaptation during inspection of the stimulus patterns. *Perception and Psychophysics*, *11,* 406‑408.
3. Hirsch, J., Schneider, B., & Vitiello, M. (1974). The effects of adaptation to square wave gratings as a function of grating orientation. *Perception* *and* *Psychophysics*, *15,* 475‑478.
4. Hirsch, J., Hylton, R., & Graham, N. (1982). Simultaneous recognition of two spatial‑frequency components. *Vision* *Research*, *22,* 365‑375.
5. Poynter, H. L., Schor, C., Haynes, H., & Hirsch, J. (1982). Oculomotor functions in reading disability. *American* *Journal of* *Optometry* *&* *Physiological* *Optics*, *59,* 116‑127.
6. Hirsch, J., & Hylton, R. (1982). Limits of spatial‑frequency discrimination as evidence of neural interpolation. *Journal of the Optical Society of America,* *72,* 1367‑1374.
7. Hirsch, J. (1982). Falcon visual sensitivity to grating contrast. *Nature*, *300,* 57‑58.
8. Hirsch, J. (1983). Falcon visual resolution is equal to human. *Nature*, *303,* 729‑730.
9. Hirsch, J., & Hylton, R. (1984). Quality of the primate photoreceptor lattice and limits of spatial vision. *Vision* *Research*, *24,* 347‑355.
10. Hirsch, J., & Hylton, R. (1984). Orientation dependence of visual hyperacuity contains components with hexagonal symmetry. *Journal of the Optical Society of America*, *1,* 300‑308.
11. Hirsch, J., & Hylton, R. (1985). Spatial frequency discrimination at low frequencies: Evidence for position quantization by receptive fields. *Journal of the Optical Society of America*, *2,* 128‑135.
12. Hirsch, J. (1985). Line‑separation discrimination curve in the human fovea: smooth or segmented: A reply to Gerald Westheimer. *Journal of the Optical Society of America,* *2,* 477‑478.
13. Groll, S. L., & Hirsch, J. (1987). Two‑dot vernier discrimination within 2.0 degrees of retinal fovea. *Journal of the Optical Society of America*, *4,* 1535‑1542.
14. Hirsch, J., & Miller, W. H. (1987). Does cone positional disorder limit near‑foveal acuity? *Journal of*

*the Optical Society of America, 4,* 1481‑1492.

1. Jankelovits, E. R., Lichtenstein, S. J., Groll, S. L., Remijan, P. W., & Hirsch, J. (1998). Assessment of retinal function in cataract patients using laser interferometry to measure contrast sensitivity. *Applied* *Optics*, *27,* 1057‑1063.
2. Liao, P. M., Gollamudi, S. R., & Hirsch, J. (1998). Evaluation of corrected loss variance as a field index: Part I. Corrected loss variance can discriminate between glaucoma suspect patients with no loss of visual sensitivity and control observers. *Ophthalmologica*, *197,* 136‑143.
3. Gollamudi, S. R., Liao, P. M., & Hirsch, J. (1998). Evaluation of corrected loss variance as a field index: Part II. Corrected loss variance in conjunction with mean defect can identify stages of glaucoma. *Ophthalmologica, 197,* 144-150.
4. Samy, C. N., & Hirsch, J. (1989). Differences between human and monkey retinal sampling mosaics suggest a strategy that enhances human visual sensitivity and resolution. *Visual* *Neuroscience*, *3*, 281‑285.
5. Hirsch, J., & Curcio, C.A. (1989). The spatial resolution capacity of human foveal retina. *Vision* *Research*, *29,* 1095‑1101.
6. Sims, L. M., Stoessel, K., Thompson, J. T., & Hirsch, J. (1990). An assessment of visual field changes before and after focal photocoagulation for clinically significant diabetic macular edema. *Ophthalmologica*, *200,* 133‑141.
7. Costaridou, L., Stefanou, S., Hirsch, J., & Orphanoudakis, S. (1990). Image reconstructions based on the human and monkey cone mosaics: Cone‑positions‑known and cone‑positions‑ignored models of retinocortical mapping. *Visual* *Communication* *and* *Image* *Representation*, *1*(2), 137‑152.
8. Morris, M., Klett, Z., Gieser, S. C., Couch, J. M., & Hirsch, J. (1991). Assessment of potential contrast sensitivity. Part I: Preoperative prediction of contrast sensitivity following IOL implantation. *Journal of Cataract & Refractive Surgery, 17,* 37-44.
9. Klett, Z., Morris, M., Gieser, S. C., Couch, J. M., & Hirsch, J. (1991). Assessment of potential contrast sensitivity. Part II: The relationship between objective lens opacity and laser interferometric contrast sensitivity in the cataract patient. *Journal of Cataract & Refractive Surgery, 17*, 45‑57.
10. Hirsch, J., & Mjolsness, E. (1992). A center‑of‑mass computation describes the precision of random dot displacement discrimination. *Vision* *Research*, *32*, 335‑346.
11. Hirsch, J., DeLaPaz, R. L., Relkin, N. R., Victor, J., Kim, K., Li, T., Rubin, N., & Shapley, R. (1995). Illusory contours activate specific regions in human visual cortex: Evidence from functional magnetic resonance imaging. *Proceedings* *of* *the* *National* *Academy* *of* *Sciences*, *92,* 6469-6473.
12. Meyer, K. L., Kim, K., Li, T., Tulipano, P. K., Lee, K-M., DeLaPaz, R., Hirsch, J., & Ballon, D. (1996). Sensitivity-enhanced echo-planar MRI at 1.5T using a 5x5 mesh dome resonator. *Magnetic Resonance Imaging*, *36,* 606-612.
13. Lee, K-M., & Hirsch, J. (1997). Perception of an iso-luminant border defined by a rapidly reversing luminance contrast. *Perceptual and Motor Skills*, *84,* 739-746.
14. Gratton, G., Fabiani, M., Corballis, P. M., Hood, D. C., Goodman, M., Hirsch, J., Kim. K., Friedman, D., & Gratton, E. (1997). Fast and localized event-related optical signals (EROS) in the human occipital cortex: Comparisons with the visual evoked potential and fMRI. *NeuroImage, 6*(3), 168-180.
15. Kim, K. H. S., Relkin, N. R., Lee, K-M., & Hirsch, J. (1997). Distinct cortical areas associated with native and second languages. *Nature,* *388,* 171-174.
16. Berman, H. H., Kim, K. H. S., Talati, A., & Hirsch, J. (1998). Representation of nociceptive stimuli in primary sensory cortex. *NeuroReport,* *9,* 4179-4187.
17. Lieberman, F. S., Odel, J., Hirsch, J., Heinemann, M., Michaeli, J., & Posner, J. B. (1999). Paraneoplastic optic neuropathy associated with IgGκ multiple myeloma: Visual recovery after myeloablative chemotherapy. *Neurology, 52*, 414-416.
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