



**Mount  
Sinai**

The Mindich Child Health  
and Development Institute

# Annual Report *2014*



## **The Mindich Child Health and Development Institute (MCHDI)**

is a translational research enterprise with the mission of advancing knowledge and therapies for diseases affecting infants, children, and adolescents. Led by Bruce D. Gelb, MD, the MCHDI provides an intellectually rich and supportive environment for fostering collaborative scientific investigation and Mount Sinai's "bench to bedside" philosophy, as well as training the next generation of scientific leaders in pediatric medicine.

Physician-scientists and scientists at the MCHDI work in a multidisciplinary manner with researchers and physicians in various departments and institutes at Mount Sinai. Together, we strive toward the objectives of developing robust paradigms for understanding the effects of genetics and environment on the health of infants, children and adolescents, and personalizing pediatric medicine through genetics and genomics.

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# Message from the Director

**For the MCHDI, 2014 has been a year marked by major growth and development,** driven by a vision of encompassing all of children's health research at Mount Sinai. Our expanding group of talented scientists and physician-scientists are subject matter experts in diverse areas of multi-disciplinary research, ranging from Allergy & Asthma, Cardiovascular Disease, Neurodevelopmental Disorders, Obesity & Diabetes, and more. In the past year, the MCHDI nearly doubled in size with 24 new Mount Sinai faculty recruits from the Departments of Pediatrics, Regenerative and Developmental Biology, and Psychiatry, who significantly expanded the breadth of our children's health research enterprise. We are continuing to recruit new faculty to Mount Sinai, most recently Chris Gennings, and have opened a state-of-the-art environmental chemistry laboratory in collaboration with the Children's Environmental Health Center.

Our faculty members have made great contributions in the field of child health research with over 350 publications, \$8.6 million of funding in new grants, and numerous awards and honors claimed last year. In addition to offering valuable programs such as the pilot grant program, grant review program, and incubator lunch series, the MCHDI has also focused on expanding our marketing and communication efforts both internally and externally. The first issue of our bi-annual MCHDI newsletter was distributed during the fall of 2014 to highlight important scientific studies within our institute and promote advancements in child health research through collaborative efforts. Furthermore, we have launched an official MCHDI Facebook page and live Twitter feed on our website, which allows us to share important research updates and news about our institute and faculty with the public.

Our 2014 annual report documents the tremendous progress we have made in the area of translational research. The MCHDI is committed to our mission of creating a collaborative environment where clinical and basic scientists can thrive.



A handwritten signature in black ink, which appears to read "B. Gelb".

Bruce D. Gelb, Director

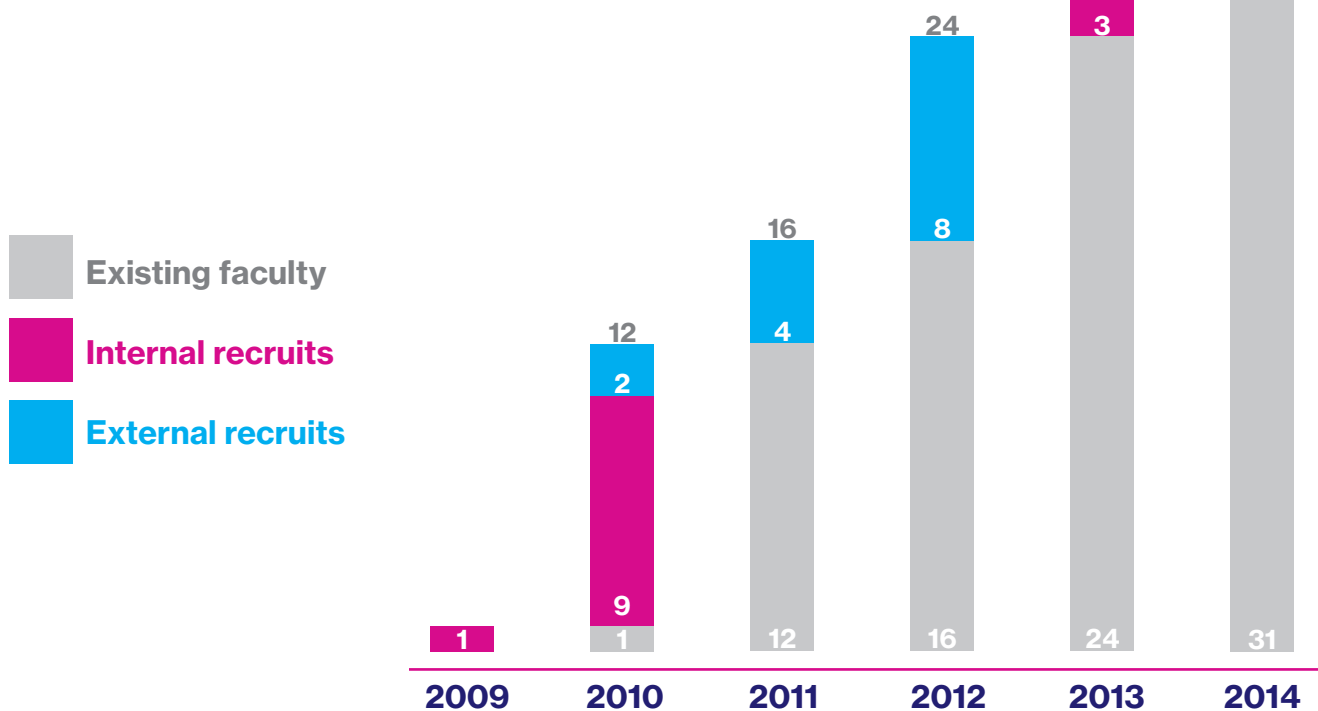
*“In the past year, the MCHDI nearly doubled in size with 24 new Mount Sinai faculty recruits from the Departments of Pediatrics, Regenerative and Developmental Biology, and Psychiatry, who significantly expanded the breadth of our children's health research enterprise.”*

# Faculty Growth

Our MCHDI faculty team has grown substantially this past year. As of December 2014, our institute is the home of 55 scientists and physician-scientists across the disciplines of Allergy & Asthma, Cardiovascular Disease, Neurodevelopmental Disorders, Obesity & Diabetes, and more.



MCHDI faculty members. First Row L-R: David Dunkin, MD; Jaime Chu, MD; Shanna H. Swan, PhD, MS; Bruce D. Gelb, MD; Rosalind J. Wright, MD, MPH; Supinda Bunyavanich, MD, MPH; Annemarie Stroustrup, MD, MPH; Dalila Pinto, PhD; Lisa M. Satlin, MD; Second Row L-R: M. Cecilia Berin, PhD; Rupangi Vasavada, PhD; Ruth J.F. Loos, PhD; Martin J. Walsh, PhD; Yong Zhao, MD, PhD; Robert S. Krauss, PhD; Andrew J. Sharp, PhD; Nicole C. Dubois, PhD; Michael Rendl, MD; Adolfo Garcia-Ocana, PhD



Breakdown of new faculty recruits since the MCHDI's inception in 2009. In 2014, our institute recruited a total of 1 new external faculty and 24 new internal faculty members.

# New Faculty and Staff

## *External Faculty Recruit*

▲ **Chris Gennings, PhD** is a Professor of Preventive Medicine and Population Health Science & Policy, and the Vice Chair of Research Design and Methodology in the Department of Preventive Medicine. Dr. Gennings was previously a Professor of Biostatistics and Director of the Research Incubator for the Center for Clinical and Translational Research at Virginia Commonwealth University. She recently served on the Chronic Hazard Advisory Panel for the U.S. Consumer Product Safety Commission and is currently serving on the Committee for Inorganic Arsenic for the National Research Council of the National Academy of Sciences. Dr. Gennings' research focuses on development of novel biostatistical methods for designing and analyzing studies of mixtures, including environmental chemical mixtures and nutrients for toxicology, epidemiology, and clinical studies.

## *Full Members*

▲ **Manish Arora, PhD, BDS, MPH** is an Assistant Professor of Preventive Medicine and Dentistry. He works on identifying toxic environmental chemical exposures during prenatal stages and early childhood.

▲ **Patrizia Cassacia, MD, PhD** is a Professor of Genetics and Genomic Sciences and Neurology. Her research addresses mechanisms relevant to pathogenesis and treatment of neurodevelopmental disorders characterized by impaired myelin formation as detected in premature babies, genetic disorders, and traumatic brain injury.

▲ **Jia Chen, ScD** is a Professor of Pediatrics and Oncology. Her research focuses on how the environment and genetics interact in the emergence of disease.

▲ **Valerie Gouon-Evans, PhD** is an Assistant Professor of Developmental and Regenerative Biology. Her research focuses on liver development, regeneration, and cancer using pluripotent stem cells.

▲ **Dorothy E. Grice, MD** is a Professor of Psychiatry and Director of the OCD and Related Disorders Clinical and Research Program. She studies phenomenology, genetics and biology of tic disorders, OCD, and autism.

▲ **Lawrence Kleinman, MD, MPH** is a Professor of Pediatrics. He is interested in the development of pediatric quality measures and quality of healthcare delivery.

▲ **Robert S. Krauss, PhD** is a Professor of Developmental and Regenerative Biology and Oncology. His research seeks to understand the fetal processes that lead to birth defects, such as how aberrant Hedgehog pathway signaling can lead to holoprosencephaly.

▲ **Anna Nowak-Wegrzyn, MD** is an Associate Professor of Pediatrics. Her research focuses on egg and milk allergy treatment and the pathophysiology of food protein-induced enterocolitis syndrome.

▲ **Avi Reichenberg, PhD** is a Professor of Psychiatry and Preventive Medicine. He studies the impact of the environmental and familial factors on psychotic and developmental disorders like schizophrenia and autism.

▲ **Jeffrey M. Saland, MD, MSCR** is an Associate Professor of Pediatrics. He is interested in kidney disease and failure in pediatric populations.

▲ **Lisa M. Satlin, MD** is the Herbert H. Lehman Professor and System Chair of Pediatrics at Mount Sinai. She studies the development of kidney function during childhood.

▲ **Mihaela Stefan, PhD** is an Assistant Professor of Medicine, Endocrinology, Diabetes and Bone Disease. Her research focuses on epigenetic alterations that contribute to the development of autoimmune diseases and the role of environmental-induced epigenetic changes.

▲ **Shanna H. Swan, PhD, MS** is a Professor of Preventive Medicine. She is interested in the impact of *in utero* exposure to chemicals on birth and child development.

▲ **Martin J. Walsh, PhD** is an Associate Professor of Pediatric Gastroenterology. He studies the role of chromatin transcription in cancer and certain chronic diseases.

## *Affiliate Members*

▲ **James J. Bieker, PhD** is a Professor of Developmental Biology. He studies the transcriptional regulation of erythroid-specific genes and the molecular events that direct stem cells to distinct lineages.

▲ **Barbara J. Coffey, MD, MS** is a Professor of Psychiatry and Director of the Tics and Tourette's Clinical and Research Program. Her work focuses on the clinical course, comorbidity, phenomenology, and treatment of Tourette's Disorder and related problems such as OCD, ADHD, and mood and anxiety disorders.

▲ **David Dunkin, MD** is an Assistant Professor of Pediatrics. His research seeks to understand failure of foreign antigen tolerance leading to allergies and inflammatory bowel disease.

▲ **Vilma Gabbay, MD, MS** is an Associate Professor of Psychiatry and Neuroscience. She specializes on the neurology and immunology of mood disorders among youth.

▲ **Alex Kolevzon, MD** is an Associate Professor of Psychiatry and Pediatrics and the Clinical Director of the Seaver Autism Center. His goal is to understand the biological causes of autism spectrum disorder and develop new pharmacological treatments.

▲ **Madhan Masilamani, PhD** is an Assistant Professor of Pediatrics. His research focuses on immunotherapy for allergy treatments.

▲ **Michael Rendl, MD** is an Associate Professor of Developmental and Regenerative Biology and Dermatology. His lab seeks to understand the function of hair follicle stem cells which may lead to the development of hair regenerative therapies.

▲ **Scott H. Sicherer, MD** is a Professor of Pediatrics and Division Chief of Allergy and Clinical Immunology. He is interested in the natural history, epidemiology, psychosocial issues, environmental risk factors, and therapy of food allergies.

▲ **Julie Wang, MD** is an Associate Professor of Pediatrics. She studies food allergy treatments in Chinese herbal medicine, diagnostic issues in food allergy, and food allergy in the inner city.

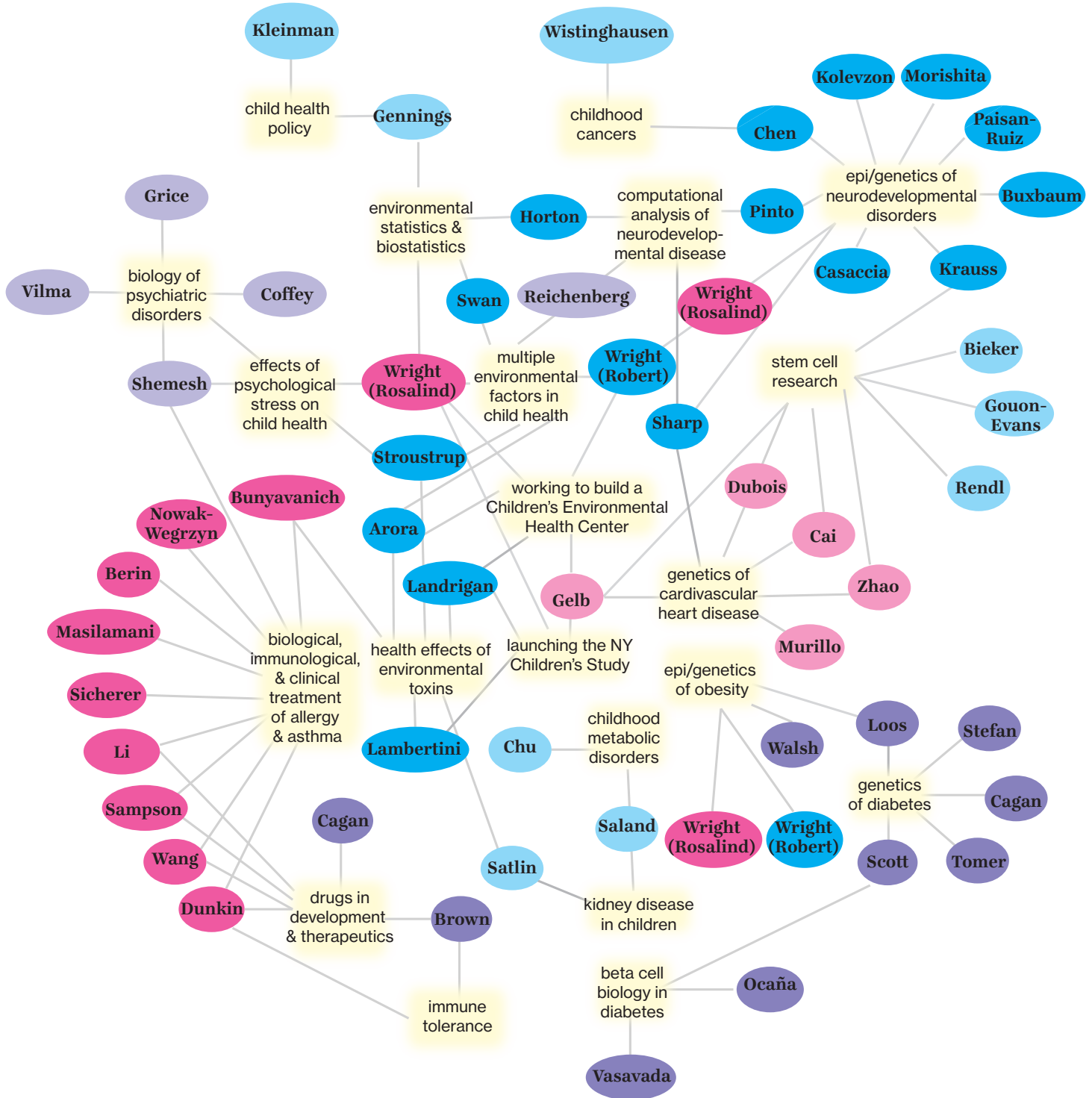
▲ **Birte Wistinghausen, MD** is an Assistant Professor of Pediatrics. She studies post-organ transplant diseases in children.

## *Staff*

▲ **Elena Lum, PhD** is the Program Manager for the MCHDI. She graduated with a PhD in Molecular and Cellular Biology from Stony Brook University. She conducted her dissertation research at Cold Spring Harbor Laboratory, where she studied epigenetic alterations associated with platinum sensitivity in ovarian tumors to identify more effective therapy options for patients. She has served on several non-profit committees and is the President and co-founder of a 501c3 charity organization dedicated to addressing important health and social issues in her local community. She is responsible for overseeing the programs and events, newsletter, social media, and working with various departments to provide support to our research faculty at the MCHDI.

# Faculty Interactome

The MCHDI was structured to foster group efforts for its investigators to address the most pressing issues in children's health. The diagram below – the faculty “interactome” – illustrates just some of the ways in which the institute faculty collaborate and interact.



Faculty's center of research:

- allergy/asthma ●
- neurodevelopment ●
- cardiovascular ●
- diabetes/obesity ●
- psychiatric ●
- not assigned ●

# Awards and Publications

## Awards

### **Brian D. Brown, PhD**

American Society of Gene and Cell Therapy, “**Outstanding New Investigator Award**”

### **Joseph D. Buxbaum, PhD**

Autism Spectrum News, “**Autism Spectrum News Annual Leadership Award**”

### **Barbara J. Coffey, MD, MS**

The National Tourette Syndrome Association, “**Tourette Syndrome Association Centers of Excellence**”

### **Bruce D. Gelb, MD**

Icahn School of Medicine at Mount Sinai, “**The J. Lester Gabrilove Award**”; American Heart Association (2014 Scientific Sessions), “**Council on Cardiovascular Disease in the Young’s Alexander S. Nadas Memorial Lecture**”

### **Alex Kolevzon, MD**

American Academy of Child and Adolescent Psychiatry, “**AACAP Outstanding Mentor Award for the Summer Medical Student Fellowship**”

### **Michael Rendl, MD**

Icahn School of Medicine at Mount Sinai, “**Irma T. Hirschl Trust Research Award**”

### **Hugh A. Sampson, MD**

American Academy of Allergy, Asthma & Immunology, “**Distinguished Scientist Award**”

### **Hugh A. Sampson, MD and Scott H. Sicherer, MD**

Thomson Reuters, “**World’s Most Influential Scientific Minds 2014**”

### **Lisa M. Satlin, MD**

American Society of Nephrology, “**The Barry M. Brenner Endowed Lectureship**”

### **Shanna H. Swan, PhD, MS**

Healthy Child Healthy World, “**Mom on a Mission 2014**”

## Select Publications

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## Grants

### Agency

	Funding from New Grants (\$)	Funding from Existing & New Grants (\$)
National Institute Of Environmental Health Sciences/NIH/DHHS	\$3,039,496	\$4,735,674
National Institute Of Mental Health/NIH/DHHS	\$2,097,177	\$4,576,528
National Institute Of Diabetes And Digestive And Kidney Diseases/NIH/DHHS	\$733,708	\$2,953,222
New York State Stem Cell Board	\$527,112	\$527,112
Benaroya Research Institute At Virginia	\$432,588	\$432,588
Biomedical Research Alliance of New York	\$233,940	\$233,940
University Of North Carolina	\$212,473	\$586,258
University of Texas Health Center at San Antonio	\$141,024	\$141,024
Washington University	\$127,125	\$127,125
DBV Technologies	\$121,031	\$416,788
March Of Dimes	\$100,001	\$291,668
Georgia Regents University	\$100,000	\$100,000
Human Frontiers Of Science Program	\$100,000	\$100,000
Seaver Foundation	\$97,750	\$1,347,751
Bayer Hemophilia	\$96,000	\$96,000
Regeneron Pharmaceuticals, Inc.	\$85,661	\$85,661
University Of Pittsburgh	\$63,240	\$366,721
University Of California, Berkeley	\$53,548	\$53,548
Allertin Therapeutics, LLC	\$50,432	\$50,432
Lung Cancer Research Foundation	\$49,999	\$49,999
Hirschl/Weill-Caulier Trust	\$35,000	\$35,000
Dana-Farber Cancer Institute	\$33,568	\$33,568
Seattle Children's Research Institute	\$28,239	\$28,239
Allergen Research Corporation (ARC)	\$26,428	\$26,428
Auspex Pharmaceuticals, Inc.	\$22,187	\$22,187
Taisho Pharmaceutical Co., Ltd.	\$20,000	\$20,000
Nutricia	\$14,707	\$14,707
National Institute Of Allergy And Infectious Diseases/NIH/DHHS	\$6,000	\$5,531,931
National Children'S Cancer Foundation	\$5,000	\$5,000
National Center for Advancing Translational Sciences/NIH/DHHS	-	\$5,566,238
National Heart, Lung, And Blood Institute/NIH/DHHS	-	\$3,541,143
National Institute Of Neurological Disorders And Stroke/NIH/DHHS	-	\$1,881,411
National Cancer Institute/NIH/DHHS	-	\$1,764,269
Agency For Healthcare Research And Quality/DHHS	-	\$1,499,957
National Institute Of Child Health And Human Development/NIH/DHHS	-	\$1,429,177
National Institute Of Arthritis & Musculoskeletal & Skin Diseases/NIH/DHHS	-	\$1,217,617
National Human Genome Research Institute/NIH/DHHS	-	\$1,079,010
Food Allergy Initiative	-	\$965,675
Dartmouth College	-	\$452,726
National Eye Institute/NIH/DHHS	-	\$415,275
Health Resources And Services Administration/DHHS	-	\$321,561
American Cancer Society, Inc.	-	\$240,000
Harvard School Of Public Health	-	\$149,350
Westat, Inc	-	\$86,641
Harvard University	-	\$75,952
Whitehall Foundation, Inc.	-	\$75,000
Hoffmann-La Roche Inc.	-	\$58,616
Tulane University	-	\$48,089
Blacksmith Institute	-	\$40,002
UKCRC Centre for Diet and Activity Research (CEDAR)	-	\$33,232
Brain and Behavior Research Foundation	-	\$30,000
SynapDx Corporation	-	\$19,926
Children's Hospital of Philadelphia	-	\$13,444
Columbia University	-	\$12,846
<b>Total</b>	<b>\$8,653,434</b>	<b>\$44,006,256</b>

## Material Transfer Agreements

### Research Focus

	Outgoing Material Transfer Agreements (#)	Licenses (#)
Neurodevelopmental disorders	15	4
Cardiovascular disease	11	3
Diabetes and Obesity	18	4
Allergy and Asthma	5	9
Others	2	1
<b>Total</b>	<b>51</b>	<b>21</b>

## Licenses

### Licenses

	Total Number
Antigens/Antibodies	9
Reagents/Methods/Tools	8
Genes	3
Therapeutics	1
<b>Total</b>	<b>21</b>

# Pilot Program Awardees

**Three pilot program projects were selected in November 2014** for \$70,000 of funding for one year starting on January 1, 2015. The purpose of the pilot program is to provide MCHDI faculty with funding for initial stages of research projects with the goal of generating sufficient data to apply for larger, external grants. Projects were encouraged that were likely to: a) improve children's health, b) promote collaboration within the MCHDI, and c) leverage additional extramural funding for the Principal Investigators (PIs).

## *Pilot Projects Funded for 2015*

### ▲ “Investigating cardiac dysfunction in Duchenne Muscular Dystrophy using compound screening”

**Investigators:** Nicole C. Dubois, PhD, MCHDI Investigator and Assistant Professor of Developmental and Regenerative Biology; Eric A. Sobie, PhD, Associate Professor of Pharmacology and Systems Therapeutics; Dan P. Felsenfeld, PhD, Associate Professor of Developmental and Regenerative Biology

### ▲ “The origins of fetal gut microbiome: role of the maternal environment during pregnancy and delivery”

**Investigators:** Ruth J.F. Loos, PhD, MCHDI Investigator and Professor of Preventive Medicine; Jeremiah Faith, PhD, Assistant Professor of Genetics and Genomic Sciences and Medicine; Jose C. Clemente, PhD, Assistant Professor of Genetics and Genomic Sciences and Medicine; Inga Peter, PhD, MSc, Associate Professor of Genetics and Genomic Sciences

### ▲ “An integrative systems approach to understand developmental control of sinoatrial node”

**Investigators:** Yong Zhao, MD, PhD, MCHDI Investigator and Assistant Professor of Genetics and Genomic Sciences; Jun Zhu, PhD, Professor of Genetics and Genomic Sciences; Zhidong Tu, PhD, Assistant Professor of Genetics and Genomic Sciences



2015 Pilot Program Recipients (from left to right):  
Nicole C. Dubois, PhD; Ruth J.F. Loos, PhD; Yong Zhao, MD, PhD

# Annual Retreat

The MCHDI's 2nd annual retreat was held at the New York Academy of Medicine on December 9, 2014 and attended by over 100 faculty members and students. The annual retreat was designed to give researchers an opportunity to present their work, learn about the latest studies conducted within the Institute, encourage research collaborations among the Institute's members, and offer networking opportunities for faculty and trainees. There were short talks by the pre-doctoral and post-doctoral young investigators competition finalists, and Josephine Mollon, PhD candidate (mentor: Avi Reichenberg, PhD) and Corey Watson, PhD (mentor: Andrew J. Sharp, PhD) were chosen as the winners of the pre-doctoral and post-doctoral divisions respectively. Two pilot award recipients, Andrew J. Sharp, PhD and Supinda Bunyavanich, MD, MPH, who were funded this year, presented their year-to-date results and the three awardees who will be funded in 2015 – Nicole C. Dubois, PhD, Ruth J.F. Loos, PhD, and Yong Zhao, MD, PhD – presented their proposed projects. MCHDI students and faculty from pre-doctoral, post-doctoral, junior and senior faculty levels gave valuable advice during our mentorship panel. In addition, this year's retreat featured two poster sessions with overview and project-specific posters. Finally, Dr. Carol Levy interviewed Chris Turner, a board member of the Juvenile Diabetes Research Foundation, his wife Tracey, and their daughter Cate, who has diabetes mellitus, about their experience with that disorder. As we completed the retreat, their story inspired all of the MCHDI attendees about the impact of childhood illness in the lives of families and how affected families' hopes for the future ride on the work we do in the MCHDI.

See the full program for the Annual Retreat on the MCHDI website.



# Communications

**In 2014, we focused on building stronger channels of communication.** We've revamped the MCHDI website to include more content about our programs and shared resources. Through our new editorial and social media platforms, we also hope to engage our faculty members and the community to promote a continuous exchange of information. During the summer/fall of 2014, the MCHDI established several new communication outlets including the following:

**Website** ▲ Our new and improved website now includes detailed information about our signature programs and events such as the annual retreat, pilot program, incubator series, grant review program, and child health research day. Our annual reports and the first issue of our MCHDI newsletter are also posted.

Please visit our website at [www.mountsinai.org/mchdi](http://www.mountsinai.org/mchdi)

**Newsletter** ▲ The first issue of the MCHDI newsletter was distributed during the fall. In the summer, the MCHDI had organized a newsletter naming contest and Dr. Annemarie Stroustrup's entry "MCHDI Developmental Outcomes" was chosen as the winning name. This is a bi-annual newsletter intended for our internal faculty members to highlight important research breakthroughs, publications, awards, and other updates about our institute.

**Facebook** ▲ Our official MCHDI Facebook page was launched late in July, and has over 370 followers. This page serves as our public portal to share informative posts and research findings relevant to children's health. The MCHDI will soon be launching an online voting campaign in collaboration with parent bloggers to determine which child health topics interests parents the most.

Visit our page at [www.facebook.com/mindichchdi](http://www.facebook.com/mindichchdi)

**Twitter** ▲ The MCHDI joined the Twitter community in October 2014. Our tweets are also actively streaming on our website in real time.

Follow or tweet to us @MindichCHDI or on our website at [www.mountsinai.org/mchdi](http://www.mountsinai.org/mchdi)

From left to right: MCHDI website, Twitter feed, and newsletter.

# Shared Resources

## *Senator Frank R. Lautenberg Environmental Health Sciences Laboratory*

**Senator Frank R. Lautenberg Environmental Health Sciences Laboratory**, funded through the generosity of the Lautenberg Family Foundation and directed by Robert O. Wright, MD, MPH, is a shared facility between the MCHDI and the Children's Environmental Health Center (CEHC) in the Department of Preventive Medicine. This state-of-the-art laboratory is equipped with the latest technology and instruments to conduct cutting-edge research in environmental health.

Establishment of the Lautenberg Lab is critical to providing new information about the links between environmental chemical exposures and childhood disease. For example, Manish Arora, PhD, BDS, MPH – the recent recipient of an NIH Young Innovator Award – has developed an innovative new methodology to study how fetal development may be changed by environmental toxicants, as well as the associated risk of long-term health disorders. By providing “a window into the past,” which dates as far back to the prenatal period, Dr. Arora’s methodology can reconstruct the timing of the exposure, which is more important than the dose in some cases. Not only will it be possible to determine when toxicants were first introduced to the body, but sophisticated statistical models will also be employed to understand how mixtures of chemicals interact and affect children.

Overall, the Senator Frank R. Lautenberg Environmental Health Sciences Laboratory represents a revolutionary undertaking that supports transdisciplinary research endeavors and collaborativeness within the MCHDI.



*Brian Lee; Robert O. Wright, MD, MPH; Jessica Alba; Kenneth L. Davis, MD; Manish Arora, BDS, PHD, MPH; Philip J. Landrigan MD, MSC; Dennis S. Charney, MD; Sean Kane; and Christopher Gavigan at the ribbon cutting ceremony for the unveiling of The Honest Company Ultra Clean Room in the new lab on September 10, 2014.*

## *BioMe Biobank*

**The BioMe Biobank contains the largest collection of DNA and plasma samples for research studies at Mount Sinai.** Large-scale genomic data is stored in the Biobank, allowing research to be performed on de-identified clinical information from Mount Sinai's data warehouse (MSDW) system while maintaining patient confidentiality. The MSDW contains all inpatient and outpatient data in the Epic EMR (electronic medical records), supporting high-throughput genotyping and phenotyping of diseases. **The goal is to integrate patient clinical care information and research data.** Observational epidemiologic studies of children have grown in the past decade in response to the increasing prevalence of childhood diseases including obesity, autism, and asthma, and environmental risk factors such as lead and pesticides. The technological ease of genotyping collected DNA samples has also led to studies of the genetic basis of childhood diseases. Enrolling children in the Mount Sinai Biobank Project could be useful for studies designed to understand the role genes play in disease and the effects of early childhood exposures and their environment.

The MCHDI, in collaboration with the Charles R. Bronfman Institute for Personalized Medicine, is funding the collection of DNA samples from pediatric patients with allergies. A BioMe Biobank Clinical Research Coordinator, with partial salary support from the MCHDI, is dedicated to enrolling patients from FPA10 three mornings per week. Since February 2012, the Jaffe Food Allergy Institute has recruited >940 enrollees. Patients, 1 day or older, are eligible to donate samples by providing one-time blood samples from which DNA and plasma are subsequently extracted and stored. Participants are also asked to complete a family health history questionnaire detailing self and family disease history and environmental and occupational exposures. **The pediatric cohort is comprised of samples from diverse racial and ethnic groups.** For more information please visit:

[www.icahn.mssm.edu/research/institutes/institute-for-personalized-medicine/innovation-and-technology/biome-platform](http://www.icahn.mssm.edu/research/institutes/institute-for-personalized-medicine/innovation-and-technology/biome-platform)

## *Biorepository CORE Shared Resource Facility*

The biorepository CORE facility provides basic histology services including processing and embedding section fixed and frozen tissues from animal or human sources. The facility will prepare unstained slides suitable for a variety of applications outlined in the table below.

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<b>Histology</b>	DNA/RNA/miRNA extraction from fluids and tissue specimens (fixed and frozen)
<b>Immunohistochemistry (IHC)</b>	Hematoxylin and eosin (H&E) sections for routine light microscopic evaluation
<b>In-situ hybridization</b>	Design, construct, section multi-core tissue microarrays
<b>Laser capture micro-dissection</b>	High-resolution scanning and image analysis of H&E and IHC stained slides and tissue microarrays
<b>Immunofluorescence – simplex/multiplex</b>	Animal-model and human based clinical-pathology interpretation

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It also currently supports functions for tissue procurement, both from consented and anonymized collections. Pathologists in charge of procurement can be contacted for consultations to determine investigator requirements for human tissues in translational research. To arrange for a consultation, visit:

[www.icahn.mssm.edu/research/resources/shared-resource-facilities/histology](http://www.icahn.mssm.edu/research/resources/shared-resource-facilities/histology)





**Mount Sinai** *The Mindich  
Child Health and  
Development Institute*

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**Administrative Coordinator** Risa Slaughter

**Senior Director of Development** Monica Sohn

**Associate Director of Development** Jacqueline Leitzes

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Brian D. Brown, PhD

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For more information on the MCHDI, please visit our website at [www.mssm.edu/mchdi](http://www.mssm.edu/mchdi)