Child Health Research Directory 2022

The Jack and Lucy Clark Department of Pediatrics

The Mindich Child Health and Development Institute

Icahn School of Medicineat Mount Sinai

Kravis Children's Hospital

Mount Sinai

Kravis Children's Hospital
Department of Pediatrics

The Jack and Lucy Clark Department of Pediatrics

Lisa M. Satlin, MD Chair

Mindich Child Health and Development Institute

Bruce D. Gelb, MD Director

Department of Environmental Medicineand Public Health

Robert O. Wright, MD, MPH Chair

Rachel A. Annunziato, PhD

Associate Professor of Pediatrics (Behavioral and Developmental Pediatrics)

Lab/Location: Annenberg 4-51

Email: rachel.annunziato@mssm.edu

Research Interests

Dr. Annunziato's research focuses primarily on the psychosocial needs of medically ill children and adults. She is interested in the transition to adulthood for adolescents with a medical illness. Her research in this area aims to develop interventions to improve medical and mental health outcomes when patients are shifted from pediatric to adult oriented settings.

Type of Research: Clinical/Translational

Publications

Annunziato RA, Stuber ML, Supelana C, Dunphy C, Arnand R, Erinjeri J, Alonso EM, Mazariegos, GV, Venick RS, Bucuvalas JC, Shemesh E. The impact of caregiver posttraumatic stress and depressive symptoms on pediatric transplant outcomes. *Pediatric Transplantation.* 2020; 24(1), e13642.

Riklin E, Calandrillo D, Blitz A, Zuckerberg D, **Annunziato RA**. Examining the Psychosocial Needs of Adolescents with Craniofacial Conditions: A Mixed-Methods Approach. *The Cleft Palate-Craniofacial Journal.* 2020; 57(2), 177-185.

Duncan SE, Arnon R, DiPietrantonio C, Ehrlich K, Knight CS, Chu J, **Annunziato RA**. Pediatric Liver Transplant Teams' Coping with Patient Death. *Journal of Pediatric Gastroenterology and Nutrition.* 2018; 67, 169-172.

Annunziato RA, Bucuvalas JC, Yin W, Arnand R, Alonso EM, Mazariegos GM, Venick RS, Shneider BL, Shemesh E. Self-Management Measurement and Prediction of Clinical Outcomes in Pediatric Transplant. *Journal of Pediatrics.* 2018; 193, 128-133.

Duncan SE, **Annunziato RA**. Barriers to selfmanagement behaviors in college students with food allergies. *Journal of American College Health.* 2018; 66, 331-339.

Manish Arora, BDS, MPH, PhD

Professor and Vice Chairman, Department of Environmental Medicine and Public Health

Institute Affiliation: Institute for Exposomic Research

Lab/Location: Atranberg 3-02

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Research Interests

Dr. Arora conducts laboratory and epidemiologic studies on environmental health. His team has developed a biomarker of fetal exposure to environmental chemicals using deciduous and permanent teeth. He also studies the environmental determinants of oral health.

Type of Research: Clinical/Translational

Publications

Stroustrup A, Bragg J, Busgang S, Andra, S, ... **Arora M**, Gennings C. Sources of clinically significant neonatal intensive care unit phthalate exposure. *Journal of exposure science and environmental epidemiology.* 2020; 30(1), 137–148.

Bessman, N, Mathieu J, Renassia C, Zhou L, Fung, T, Fernandez, K, Austin C, Moeller J, Zumerle S, Louis, S, Vaulont S, Ajami NJ, Sokol H, Putzel G, Arvedson, T, Sockolow R, Lakhal-Littleton S, Cloonan S, **Arora, M**, Peyssonnaux C, Sonnenberg G. 2020. Dendritic cell-derived hepcidin sequesters iron from the microbiota to promote mucosal healing. *Science.* 2020; 368(6487), 186–189.

Curtin P, Austin C, Curtin A, Gennings C, Figueroa Romero C, **Arora M**. Dysregulated biodynamics in metabolic attractor systems precede the emergence of amyotrophic lateral sclerosis. *PLOS Computational Biology.* 2020; 16(4): e1007773.

Nair N, Austin C, Curtin P, Gouveia C, **Arora M**, Torres J; Mount Sinai Road to Prevention Group. Association Between Early-life Exposures and Inflammatory Bowel Diseases, Based on Analyses of Deciduous Teeth. *Gastroenterology.* 2020 Jul;159(1):383-385.

Figueroa-Romero C, Mikhail KA, Gennings C, Curtin P, Bello GA, Botero TM, Goutman SA, Feldman EL, **Arora M**, Austin C. Early life metal dysregulation in amyotrophic lateral sclerosis. *Annals of Clinical and Translational Neurology.* 2020 Jun;7(6):872-882.

Margaret Baron, MD, PhD

Professor of Medicine (Hematology and Medical Oncology), Developmental and Regenerative Biology, and Oncological Sciences; Director, MD/PhD Program; Senior Associate Dean for MD/ PhD Education

Institute Affiliations: Tisch Cancer Institute; Black Family Stem Cell Institute

Lab/Location: Annenberg 24-68

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Research Interests

The Baron lab is interested in molecular and cellular pathways that regulate hematopoietic development. Our research uses animal and cellular models to study hematopoiesis at steady-state and under conditions of stress.

Type of Research: Basic/Translational

Publications

Ebefors K, Wiener RJ, Yu L, Azeloglu EU, Yi Z, Jia F, Zhang W, **Baron MH**, He JC, Haraldsson B, Daehn I. Endothelin receptor-A mediates degradation of the glomerular endothelial surface layer via pathologic crosstalk between activated podocytes and glomerular endothelial cells. *Kidney International.* 2019 Oct;96(4):957-970.

Fu J, Wei C, Zhang W, Schlondorff D, Wu J, Cai M, He W, **Baron MH**, Chuang PY, Liu Z, He JC, Lee K. Gene expression profiles of glomerular endothelial cells support their role in the glomerulopathy of diabetic mice. *Kidney International.* 2018 Aug;94(2):326-345.

Barminko J, Reinholt BM, Emmanuelli A, Lejeune AN, **Baron MH**. Activation of the vitamin D receptor transcription factor stimulates the growth of definitive erythroid progenitors. *Blood Advances.* 2018; 2:1207-1219.

Barminko J, Reinholt B, **Baron MH**. Development and differentiation of the erythroid lineage in mammals. *Developmental and Comparative Immunology.* 2016; 58: 18-29.

Zhang H, Nieves JL, Fraser ST, Isern J, Douvaras P, Papatsenko D, D'Souza S, Lemischka IR, Dyer MA, **Baron MH**. Expression of Podocalyxin separates the hematopoietic and vascular potentials of mouse ES cell-derived mesoderm. *Stem Cells.* 2013;32(1): 191-203.

Keith Benkov, MD

Associate Professor of Pediatrics (Gastroenterology) and Division Chief of GastroenterologyMedical Director, Children's Inflammatory Bowel Disease Center

Lab/Location: 5 East 98th Street 10th Floor

Email: keith.benkov@mssm.edu

Research Interests

Dr. Benkov investigates the outcomes of children and adolescents with inflammatory bowel disease (IBD), based on a large national registry of over 27,000 patients. His particular interests include the genetic aspects of IBD, the unique clinical phenotype on young children presenting with IBD, transition of grown patients to adult providers and the role of anxiety in IBD.

Type of Research: Clinical/Translational

Publications

Robson J, Lusman SS, Lee CK, Merves J, Middleton J, Perez ME, Desai NK,... **Benkov K**, et al. Pediatric Gastroenterology, Hepatology, and Nutrition Entrustable Professional Activities: Development of an Assessment Tool and Curricular Resources. *Journal of Pediatric Gastroenterology and Nutrition.* 2020 Jul;71(1):e40-e45.

Sauer CG, Robson J, Turmelle YP, Cerezo CS, Loomes KM, Huang JS, Quiros-Tejeira RE, **Benkov KJ**, et al. North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition Position Paper on Entrustable Professional Activities: Development of Pediatric Gastroenterology, Hepatology, and Nutrition Entrustable Professional Activities. *Journal of Pediatric Gastroenterology and Nutrition.* 2020 Jul;71(1):136-143.

Jarchin L, Spencer EA, Khaitov S, Greenstein A, Jossen J, Lai J, Dunkin D, Pittman N, Benkov K, Dubinsky MC. De Novo Crohn's Disease of the Pouch in Children Undergoing Ileal Pouch-Anal Anastomosis for Ulcerative Colitis. *Journal of Pediatric Gastroenterology and Nutrition.* 2019 Oct;69(4):455-460.

Carlsen K, Phan BL, Pittman N, **Benkov K**, et al. Coping Among Parents of Teens With Inflammatory Bowel Disease. *Gastroenterology Nursing.* 2019;42(4):342-350.

Dayan JR, Dolinger M, **Benkov K**, Dunkin D, et al. Real World Experience With Ustekinumab in Children and Young Adults at a Tertiary Care Pediatric Inflammatory Bowel Disease Center. *Journal of Pediatric Gastroenterology and Nutrition.* 2019 ul;69(1):61-67.

James J. Bieker, PhD

Professor of Developmental and Regenerative Biology Institute

Affiliations: Mindich Child Health and Development Institute; Black Family Stem Cell Institute; Tisch Cancer Center

Lab/Location: Annenberg 25-84B

Email: james.bieker@mssm.edu

Research Interests

We are actively pursuing the mechanism of action of the EKLF (KLF1) transcription factor using biochemical, molecular, cellular, and developmental approaches. Our focus is on illuminating EKLF-directed transcriptional and epigenetic controls that lead to regulated erythroid gene expression, and in determining whether mutations are causative for aberrant or malignant hematology.

Type of Research: Basic/Translational

Publications

Mukherjee K, Xue L, Planutis A, Gnanapragasam MN, Chess A, **Bieker JJ**. KLF1/EKLF expression defines a unique macrophage subset during mouse erythropoiesis, *eLife.* 2021.

Gnanapragasam MN, Planutis A, Glassberg JA, **Bieker JJ**. Identification of a genomic DNA sequence that quantitatively modulates KLF1 expression in differentiating human hematopoietic cells, *BioRxiv.* 2021.

Mansoor A, Mansoor MO, Patel JL, Zhao S, Natkunam Y, **Bieker JJ**. KLF1/EKLF expression in acute leukemia is correlated with chromosomal abnormalities. *Blood Cells, Molecules, and Diseases.* 2020 Jul.

Kulczynska K, **Bieker JJ**, Siatecka M. A Krüppellike factor 1 (KLF1) Mutation Associated with Severe Congenital Dyserythropoietic Anemia Alters Its DNA-Binding Specificity. *Molecular and Cellular Biology.* 2020 February 12.

Varricchio L, Planutis A, Manwani D, Jaffray J, Mitchell WB, Migliaccio AR, **Bieker JJ**. Genetic disarray follows mutant KLF1-E325K expression in a congenital dyserythropoietic anemia patient. *Haematologica.* 2019 Dec.

Dusan Bogunovic, PhD

Professor, Center for Inborn Errors of Immunity, Precision Immunology Institute, Department of Microbiology, Mindich Child Health and Development Institute

Lab/Location: Icahn 12th Floor

Email: dusan.bogunovic@mssm.edu

Research Interests

Dr. Bogunovic's research focuses on human immunogenetics. He studies individuals with severe clinical presentations of infections and or autoinflammation. The hypothesis of the lab is that inter-individual variability in susceptibility to infectious agents and/ or autoinflmmation can also be explained by the immune genetic composition of the host.

Type of Research: Basic/Translational

Publications

Taft J, Markson M, Legarda D, Patel R, ...**Bogunovic D**. Human TBK1 deficiency leads to autoinflammation driven by TNF-induced cell death. *Cell.* 2021.

Gruber CN, Patel RS, Trachtman R, Lepow L.... Charney AW, Gnjatic S, Gelb BD, Merad M, **Bogunovic D.** Mapping Systemic Inflammation and Antibody Responses in Multisystem Inflammatory Syndrome in Children (MIS-C). *Cell* 2020.

Gruber C, Martin-Fernandez M, Ailal F, Qiu X, Taft J, Altman J, Rosain J, Buta S, Bousfiha A, Casanova JL, Bustamante J, **Bogunovic D.** Homozygous STAT2 gain-of-function mutation by loss of USP18 activity in a patient with type I interferonopathy. *Journal of Experimental Medicine.* 2020 May 4.

Altman JB, Taft J, Wedeking T, Gruber CN, Holtmannspötter M, Piehler J, **Bogunovic D.** Type I IFN is siloed in endosomes. *Proceedings of the National Academy of Sciences of the United States of America.* 2020 July 28.

Alsohime F, Martin-Fernandez M, Temsah MH, Alabdulhafid M, Le Voyer T, Alghamdi M, Qiu X, Alotaibi N, Alkahtani A, Buta S, Jouanguy E, Al-Eyadhy A, Gruber C,... **Bogunovic D**, Alangari AA. JAK Inhibitor Therapy in a Child with Inherited USP18 Deficiency. *The New England Journal of Medicine.* 2020 January 16.

Michael S. Breen, PhD

Assistant Professor of Psychiatry, Genetics and Genomic Sciences

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Icahn 14-26/14-20

Email: michael.breen@mssm.edu

Research Interests

Our research is at the intersection of genomics and neuroscience, utilizing a number of transcriptomic and functional genomic approaches to investigate gene expression, RNA editing and function in the human brain and in neurodevelopmental disorders.

Type of Research: Basic/Translational

Publications

Satterstrom FK, Kosmicki JA, Wang J, **Breen MS**, De Rubeis S, An JY, Peng M, Collins R, Grove J, Klei L, Stevens C. Large-scale exome sequencing study implicates both developmental and functional changes in the neurobiology of autism. *Cell.* 2020 February 6;180(3):568-84.

Breen MS, Dobbyn A, Li Q, Roussos P, Hoffman GE, Stahl E, Chess A, Sklar P, Li JB, Devlin B, Buxbaum JD. Global landscape and genetic regulation of RNA editing in cortical samples from individuals with schizophrenia. *Nature Neuroscience.* 2019 Sep;22(9):1402-12.

Werling DM, Pochareddy S, Choi J, An JY, Sheppard B, Peng M, Li Z, Dastmalchi C, Santpere G, Sousa AM, Tebbenkamp AT Kaur N, Gulden F, **Breen MS** et al. Whole-genome and RNA sequencing reveal variation and transcriptomic coordination in the developing human prefrontal cortex. *Cell Reports.* 2020 April 7;31(1):107489.

Breen MS, Bierer LM, Daskalakis NP, Bader HN, Makotkine I, Chattopadhyay M, Xu C, Grice AB, Tocheva AS, Flory JD, Buxbaum JD. Differential transcriptional response following glucocorticoid activation in cultured blood immune cells: a novel approach to PTSD biomarker development. *Translational Psychiatry.* 2019 August 21;9(1):1-3.

Breen MS, Ozcan S, Ramsey JM, Wang Z, Ma'ayan A, Rustogi N, Gottschalk MG, Webster MJ, Weickert CS, Buxbaum JD, Bahn S. Temporal proteomic profiling of postnatal human cortical development. *Translational Psychiatry.* 2018 December 5;8(1):1-4.

Brian D. Brown, PhD

Professor of Genetics and Genomic Sciences

Institute Affiliation: Mindich Child Health and Development Institute; Immunology Institute; Diabetes, Obesity and Metabolism Institute; Tisch Cancer Institute

Lab/Location: Hess CSM, Fifth Floor, Room S-117

Email: brian.brown@mssm.edu

Research Interests

Dr. Brown is deciphering the molecular networks that regulate the immune system, and exploiting this information to develop strategies that can induce immunological tolerance to help prevent autoimmune disease, or boost the immune system to fight cancer.

Type of Research: Basic/Translational

Publications

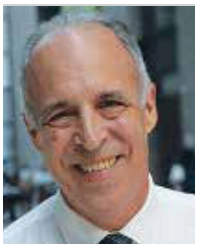
Maier B, Leader AM, Chen ST, Tung N, Chang C, LeBerichel J, Chudnovskiy A, Maskey S, Walker L, Finnigan JP, Kirkling ME, Reizis B, Ghosh S, D'Amore NR, Bhardwaj N, Rothlin CV, Wolf A, Flores R, Marron T, Rahman AH, Kenigsberg E, **Brown BD**, Merad M. A conserved dendritic-cell regulatory program limits antitumour immunity. *Nature.* 2020 Apr;580(7802):257-262.

Wroblewska A*, Dhainaut M*, Ben-Zvi B, Rose SA, Park ES, Amir ED, Bektesevic A, Baccarini A, Merad M, Rahman A, **Brown BD**. Protein Barcodes Enable High-Dimensional Single-Cell CRISPR Screens. *Cell.* 2018 October 16. pii: S0092-8674(18)31234-0.

Agudo J, Park ES, Rose SA, Alibo E, Sweeney R, Dhainaut M, Kobayashi KS, Sachidanandam R, Baccarini A, Merad M, **Brown BD**. Quiescent tissue stem cells evade immune surveillance. *Immunity.* 2018 February 20;48(2):271-285.

Kidd BA*, Wroblewska A*, Boland MR, Agudo J, Merad M, Tatonetti NP, **Brown BD^**, Dudley JT. Mapping the effects of drugs on the immune system. *Nature Biotechnology.* 2016 Jan;34(1):47-54. **^**Co-corresponding author.

Agudo JA, Ruzo A, Park E, Sweeney R, Kana V, Wu M, Zhao Y, Egli D, Merad M, **Brown BD**. Jedi T cells enable targeted cell depletion and visualization of T-cell interactions. *Nature Biotechnology.* 2015 Dec; 33(12):1287-1292.



John Bucuvalas, MD

Professor of Pediatrics; Vice Chair of Faculty Affairs in Pediatrics; Division Chief of Pediatric Hepatology

Institute Affiliation: Mindich Child Health and Development Institute; Recanati/ Miller Transplantation Institute

Lab/Location: N/A

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Research Interests

Dr. Bucuvalas's research is focused on providing pediatric liver transplant recipients the promise of full life by delivering stateof-the-art care and by acquiring and applying new knowledge. His translational research reflects the premise that precision immunosuppression will optimize allograft health and minimize complications of immunosuppressive medications and he also has collaborative efforts focused on the impact of socioeconomic deprivation on outcome.

Type of Research: Clinical/Translational

Publications

Ohnemus D, Neighbors K, Rychlik K, Venick RS, **Bucuvalas JC**, Sundaram SS, Ng VL, Andrews WS, et al. Health-Related Quality of Life and Cognitive Functioning in Pediatric Liver Transplant Recipients. *Journal of Liver Transplantation.* 2020 Jan;26(1):45-56.

Dore-Stites D, Lopez MJ, Magee JC, **Bucuvalas J**, Campbell K, Shieck V, Well A, Fredericks EM. Health literacy and its association with adherence in pediatric liver transplant recipients and their parents. *Pediatric Transplantation.* 2020 Aug;24(5):e13726.

Wadhwani SI, Brokamp C, Rasnick E, **Bucuvalas JC**, Lai JC, Beck AF. Neighborhood socioeconomic deprivation, racial segregation, and organ donation across 5 states. *American Journal of Transplantation.* 2020 July 12.

Ge J, Perito ER, **Bucuvalas J**, Gilroy R, Hsu EK, Roberts JP, Lai JC. Split liver transplantation is utilized infrequently and concentrated at few transplant centers in the United States. *American Journal of Transplantation.* 2020 Apr;20(4):1116-1124.

Bucuvalas J, Lai JC. Unforeseen consequences of the COVID pandemic. *American Journal of Transplantation.* 2020 August 6:10.1111/ajt.16235.

Supinda Bunyavanich, MD, MPH

Professor of Pediatrics (Allergy and Immunology) and Genetics and Genomic Sciences

Institute Affiliations: Jaffe Food Allergy Institute; Mindich Child Health and Development Institute; Icahn Institute for Multiscale Biology

Lab/Location: Icahn 13-70D

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Research Interests

Dr. Bunyavanich combines tools in epidemiology, genomics, and sequence analysis to study asthma and allergic diseases in human cohorts.

Type of Research: Clinical/Translational

Publications

Bunyavanich S†, Do A, Vicencio A. Nasal gene expression of angiotensin-converting enzyme 2 (ACE2) in children and adults. *JAMA*. 2020, May 20.

Li Y, Hsu H, Chun Y, Chiu P, Arditi Z, Claudio L, Pandey G†, **Bunyavanich S**†. Machine learning-driven identification of early-life air pollutant combinations associated with childhood asthma outcomes. *Journal of Clinical Investigation*. 2021 October 5.

Zhang L, Chun Y, Ho H, Arditi Z, Lo T, Sajja S, Rose R, Jones D, Wang J, Sicherer S, **Bunyavanich S**†. Multi-scale study of the oral and gut environments in children with high and low threshold peanut allergy. *Journal of Allergy and Clinical Immunology.* 2022 May 10.

Tyler S, Chun Y, Ribeiro V, Grishina G, Grishin A, Hoffman G, Do A, **Bunyavanich S**†. Merged affinity network association clustering (MANAclust): joint multi-omic/clinical clustering to identify disease endotypes. *Cell Reports.* 2021 April 13.

Irizar H, Chun Y, Arditi Z, Do A, Grishina G, Grishin A, Vicencio A, **Bunyavanich S**†. Examination of host genetic effects on nasal microbiome composition. *Journal of Allergy and Clinical Immunology.* 2022 June 16.

Joseph Buxbaum, PhD

Vice Chair for Research and Mentoring, Department of Psychiatry; Director, Seaver Autism Center for Research and Treatment; Professor of Psychiatry, Neuroscience, and Genetics and Genomic Sciences

Institute Affiliations: Mindich Child Health and Development Institute; Friedman Brain Institute

Lab/Location: Annenberg 22-24

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Research Interests

Dr. Buxbaum is interested in understanding the causes of childhood onset psychiatric disorders so that he can develop new treatments. He leads a very extensive program in autism including genetics, model systems, clinical research, and treatment research.

Type of Research: Basic/Translational

Publications

Breen MS, Dobbyn A, Li Q, Roussos P, Hoffman GE, Stahl E, Chess A, Sklar P, Li JB, Devlin B, **Buxbaum JD**; CommonMind Consortium: Global landscape and genetic regulation of RNA editing in cortical samples from individuals with schizophrenia. *Nature Neuroscience.* 2019 Sep;22(9):1402-1412. 7.

Doan RN, Lim ET, De Rubeis S, Betancur C, Cutler DJ, Chiocchetti AG, Overman LM, Soucy A, Goetze S; Autism Sequencing Consortium, Freitag CM, Daly MJ, Walsh CA, **Buxbaum JD**, Yu TW: Recessive gene disruptions in autism spectrum disorder. *Nature Genetics.* 2019 June 17.

He Z, Xu B, **Buxbaum J**, Ionita-Laza I: A genomewide scan statistic framework for whole-genome sequence data analysis. *Nature Communications.* 2019 July 9;10(1):3018.

Satterstrom FK, Kosmicki JA, Wang J...Roeder K, Daly MJ, **Buxbaum JD**: Large-Scale Exome Sequencing Study Implicates Both Developmental and Functional Changes in the Neurobiology of Autism. *Cell.* 2020 February 6;180(3):568-584.e23.

Buxbaum JD, Baron-Cohen S, Anagnostou E, Ashwin C, Betancur C, Chakrabarti B, Crawley JN, Hoekstra RA, Hof PR, Lai MC, Lombardo MV, Schumann CM. Rigor in science and science reporting: updated guidelines for submissions to Molecular Autism. *Molecular Autism.* 2019 February 4;10:6.

Minji Byun, PhD

Assistant Professor of Medicine

Institute Affiliation: Precision Immunology Institute; Mindich Child Health and Development Institute

Lab/Location: Icahn 11-20D (office)
Icahn 11-02 (lab)

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Research Interests

Byun laboratory is interested in understanding the genetic basis of immune dysregulation disorders. Using various cutting-edge human genetics tools and pluripotent stem cell-based in vitro models, we identify and characterize inherited and acquired genetic variants in patients with rare and life-threatening disorders such as multicentric Castleman disease. The ultimate goal of our group's research is to evaluate the evidence supporting causality of the identified genetic variants and to elucidate immunological mechanisms underlying the disease, thereby contributing to the development of new treatments for poorly understood rare disorders that often affect children and adolescents.

Type of Research: Basic/Translational

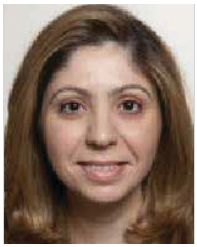
Publications

Baker TS, Gambino KJ, Schriefer L, Lim J-Y, Steinberg K, Fajgenbaum DC, Garcia-Sancho A, **Byun MA**. Novel FAS mutation with variable expressivity in a family with unicentric and idiopathic multicentric Castleman disease. *Blood Advances.* 2018 November 13; 2(21):2959-2963.

Belkaya S*, Kontorovich AR, **Byun M**,... Gelb BD, et al. Autosomal Recessive Cardiomyopathy Presenting as Acute Myocarditis. *Journal of the American College of Cardiology.* 2017;69(13):1653-1665.

Ho HE, **Byun M**, Cunningham-Rundles C. Disseminated Cutaneous Warts in X-Linked Hyper IgM Syndrome. *Journal of Clinical Immunology.* 2018; May;38(4):454-456

Byun M, Ma CS, Akçay A, Pedergnana V, Palendira U, Myoung J, Avery DT, Liu Y, Abhyankar A, Lorenzo L, ...Tangye SG, Casanova JL. Inherited human OX40 deficiency underlying classic Kaposi sarcoma of childhood. *Journal of Experimental Medicine.* 2013 August 26;210(9):1743-59.



Mirna Chehade, MD, MPH

Associate Professor of Pediatrics (Allergy and Immunology) and Medicine (Gastroenterology)Director, Mount Sinai Center for Eosinophilic Disorders, Jaffe Food Allergy Institute

Institute Affiliation: Jaffe Food Allergy Institute

Lab/Location: Icahn L6-90, Icahn 11th Floor

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Research Interests

Dr. Chehade's research is focused on allergic eosinophilic gastrointestinal disorders, including eosinophilic esophagitis and eosinophilic gastroenteritis. She studies clinical outcomes of therapies as well as the immunopathogenesis of these diseases, and is examining for non-invasive blood and urine biomarkers for these diseases.

Type of Research: Clinical/Translational

Publications

Chehade M, Brown S. Elimination diets for eosinophilic esophagitis: making the best choice. *Expert Review of Clinical Immunology.* 2020.

Chehade M, Meyer R, Beauregard A. Feeding difficulties in children with non-IgE-mediated food allergic gastrointestinal disorders. *Annals of Allergy, Asthma and Immunology.* 2019;122:603-9.

Ko E, **Chehade M**. Biological Therapies for Eosinophilic Esophagitis: Where Do We Stand? *Clinical Reviews in Allergy and Immunology.* 2018;55:205-16.

Hirano I... **Chehade M**... Radin A. Efficacy of Dupilumab in a Phase 2 Randomized Trial of Adults With Active Eosinophilic Esophagitis. *Gastroenterology.* 2020;158:111-22.

Chehade M, Jones SM, Pesek RD et al. Phenotypic Characterization of Eosinophilic Esophagitis in a Large Multi-Center Patient Population from the Consortium for Food Allergy Research. *The Journal of Allergy and Clinical Immunology: In Practice.* 2018;6:1534-1544.

Jia Chen, ScD

Professor, Departments of Environmental Medicine and Public Health, Pediatrics, Hematology and Medical Oncology, and Oncological Sciences

Institute Affiliation: Institute for Exposomic Research; Mindich Child Health and Development Institute; Tisch Cancer Institute

Institute Affiliation: Institute of Translational Epidemiology

Lab/Location: Annenberg 21-94

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Research Interests

Chen's lab uses a molecular epidemiology approach to understand complex interactions between the environment and genome/epigenome in human diseases. Her lab performs genomic and epigenomic analyses in population studies to elucidate disease mechanisms and to identify/ validate biomarkers for disease risk and prognosis.

Type of Research: Basic/Translational

Publications

Zhang W, Ham J, Li Q, Deyssenroth MA, Lambertini L, Huang Y, Tsuchiya KJ, **Chen J**, Nomura Y. Moderate prenatal stress may buffer the impact of Superstorm Sandy on placental genes: Stress in Pregnancy (SIP) Study. *PLoS One.* 2020 January 29;15(1):e0226605.

Deyssenroth MA, Marsit CJ, **Chen J**, Lambertini L. In-depth characterization of the placental imprintome reveals novel differentially methylated regions across birth weight categories. *Epigenetics.* 2020 Jan-Feb;15(1-2):47-60.

Gopalakrishnan K, Aushev VN, Manservisi F, Falcioni L, Panzacchi S, Belpoggi F, Parada H Jr, Garbowski G, Hibshoosh H, Santella RM, Gammon MD, Teitelbaum SL, **Chen J**. Gene expression profiles for low-dose exposure to diethyl phthalate in rodents and humans: a translational study with implications for breast carcinogenesis. *Scientific Reports.* 2020 April 27;10(1):7067.

Tian FY, Everson TM, Lester B, Punshon T, Jackson BP, Hao K, Lesseur C, **Chen J**, Karagas MR, Marsit CJ. Selenium-associated DNA methylation modifications in placenta and neurobehavioral development of newborns: An epigenome-wide study of two U.S. birth cohorts. *Environment International.* 2020 Apr;137:105508.

Zhang W, Liu W, Bao S, Liu H, Zhang Y, Zhang B, Zhou A, **Chen J**, Hao K, Xia W, Li Y, Sheng X, Xu S. Association of adverse birth outcomes with prenatal uranium exposure: A population-based cohort study. *Environment International.* 2020 Feb;135:105391.

Jaime Chu, MD

Mount Sinai Endowed Professor of Pediatric Liver Research; Associate Professor of Pediatrics (Hepatology); Director. Pediatric Physician-Scientist Residency Program

Institute Affiliations: Recanati-Miller Transplant Institute; Mindich Child Health and Development Institute

Lab/Location: Annenberg 14-12

Email: jaime.chu@mssm.edu

Research Interests

Dr. Chu's basic research group focuses on how sugar metabolism pathways regulate liver development and disease, with particular focus on liver fibrosis research using in vivo models. Her clinical and translational research is focused on defining risk factors for biliary atresia and fatty liver disease, as well as clinical trials in disorders of neonatal cholestasis.

Type of Research: Basic/Translational

Publications

Morrison JK, DeRossi C, Alter IL, Nayar S, Giri M, Zhang C, Cho JH, **Chu J**. Single-cell transcriptomics reveals conserved cell identities and fibrogenic phenotypes in zebrafish and human liver. *Hepatology Communications.* 2022 March 22.

Nayar S, Morrison JK, Giri M, Gettler KM, Chuang LS, Walker LA, Ko HM, Kenigsberg E, Kugathasan S, Merad M, **Chu J**, Cho JH. Myeloid-stromal subtypes reveal NOD2-mediated Crohn's and rescue pathways. *Nature.* 2021 March 31.

Fix OK, Blumberg EA, Chang KM, **Chu J**,..., for the AASLD COVID-19 Vaccine Working Group. AASLD Expert Panel Consensus Statement: Vaccines to Prevent COVID-19 Infection in Patients with Liver Disease. *Hepatology.* 2021 Aug.

DeRossi C, Bambino K, Morrison J, Sakarin I, Villacorta-Martin C, Zhang C..., **Chu J**. Mannose phosphate isomerase and mannose regulate hepatic stellate cell activation and fibrosis in zebrafish and humans. *Hepatology.* 2019 April 23.

Charlotte Cunningham-Rundles, MD, PhD

Professor of Immunology, Medicine and Pediatrics; Department of Medicine;Mindich Child Health and Development Institute

Lab/Location: Icahn 11-20

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Research Interests

Dr. Cunningham-Rundles is interested in the pathogenesis, characterization and treatment of primary human immune deficiency diseases. Her lab investigates the genetics and functions of B cells in primary immune defects and autoimmunity.

Type of Research: Basic/Translational

Publications

Amanat F, Stadlbauer D, Strohmeier S, Nguyen THO, Chromikova V, McMahon M, Jiang K, Arunkumar GA...,**Cunningham-Rundles C**, et al. A serological assay to detect SARS-CoV-2 seroconversion in humans. *Nature Medicine.* 2020 Jul;26(7):1033-1036.

The Ever-Increasing Array of Novel Inborn Errors of Immunity: an Interim Update by the IUIS Committee. Tangye SG, Al-Herz W, Bousfiha A, **Cunningham-Rundles C**, et al. *Journal of Clinical Immunology.* 2021 Apr;41(3):666-679. February 18.

Lymphoid malignancy in common variable immunodeficiency in a single-center cohort. Smith T, **Cunningham-Rundles C**. *European Journal of Haematology.* 2021 Nov;107(5):503-516.

Clinical Manifestations and Outcomes of Activated Phosphoinositide 3-Kinase δ Syndrome from the USIDNET Cohort.Oh J, Garabedian E, Fuleihan R, **Cunningham-Rundles C.** *The Journal of Allergy and Clinical Immunology: In Practice.* 2021 Nov;9(11):4095-4102.

Circulating bioactive bacterial DNA is associated with immune activation and complications in common variable immunodeficiency. Ho HE, Radigan L, Bongers G, El- Shamy A, **Cunningham-Rundles C**. *JCI Insight.* 2021 October 8;6(19):e144777. 144777.PMID: 34622805

Maria A. Curotto de Lafaille, PhD

Associate Professor ofPediatrics

Institute Affiliation: Jaffe Food Allergy Institute, Precision Immunology Institute, Mindich Child Health and Development Institute

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Research Interests

Dr Curotto de Lafaille studies the immune mechanisms involved in allergic diseases, specifically on the production of pathogenic high affinity IgE. Her current studies in the laboratory aim to elucidate the mechanisms that maintain the B cell memory of allergic responses in mice and human.

Type of Research: Basic/Translational

Publications

Vabret N, Britton GJ, Gruber C, Hegde S, Kim J, Kuksin M...., **Curotto de Lafaille MA**, Mehandru S, Merad M, Samstein RM, et al; Sinai Immunology Review Project. Immunology of COVID-19: Current State of the Science. *Immunity.* 2020 June 16;52(6):910-941.

Aranda CJ, **Curotto de Lafaille MA**. The secret life of IgE cells. *Immunity.* 2019 February 19;50(2):285-287.

Saunders SP, Ma EGM, Aranda CJ and **Curotto deLafaille MA**. Non-classical B cell memory of allergic IgE responses. *Frontiers in Immunology.* 2019 April 26;10:715.

Rakowski E, Zhao S, Liu M, Bajaj S, Durmus N, Grunig G, **Curotto de Lafaille M**, Wu Y, Reibman J. variability of blood eosinophils in patients in a clinic for severe asthma. *Clinical and Experimental Allergy.* 2019 Feb;49(2):163-170.

Agua-Doce A, Caridade M, Oliveira VG, Bergman L, **Lafaille MC**, Lafaille JJ, Demengeot J, Graca L. Route of Antigen Presentation Can Determine the Selection of Foxp3-Dependent or Foxp3-Independent Dominant Immune Tolerance. *The Journal of Immunology.* 2018 January 1;200(1):101-109.

Tirtha Kamal Das, PhD

Assistant Professor of Cell, Developmental and Regenerative Biology

Institute Affiliation: Mindich Child Health and Development Institute/CDRB

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Research Interests

We use an 'Integrated Fly-Vertebrate Modeling' approach to study human diseases and identify novel therapeutics. We use whole animal fly models, human cell lines, mouse xenografts, and patient data analysis to identify mechanisms of cancer and rare mendelian disease progression and related therapeutics.

Type of Research: Basic/Translational

Publications

Das TK, Esernio J, Cagan RL. Restraining Network Response to Targeted Cancer Therapies Improves Efficacy and Reduces Cellular Resistance. *Cancer Research.* 2018 August 1; 78(15):43444359

Das TK, and Cagan RL. KIF5B-RET Oncoprotein Signals through a Multi-Kinase Signaling Hub. *Cell Reports.* 2017 September 5.

Das TK, Dana D, Paroly SS, Perumal SK, Singh S, Jhun H, Pendse J, Cagan RL, Talele TT, Kumar S. Centrosomal Kinase Nek2 Cooperates With Oncogenic Pathways to Promote Metastasis. *Oncogenesis.* 2013 Sept 9;2(9):e69.

Das TK, Sangodkar J, Negre N, Narla G, Cagan RL. Sin3a Acts through a Multi-Gene Module to Regulate Invasion in Drosophila and Human Tumors. *Oncogene.* 2013 June 27; 32(26): 3184-97.

Dar AC, **Das TK**, Shokat KM, Cagan RL. Chemical Genetic Discovery of Targets and AntiTargets for Cancer Polypharmacology. *Nature.* 2012; 486 (80- 84).

Silvia De Rubeis, PhD

Assistant Professor of Psychiatry

Institute Affiliation: Seaver Autism Center for Research and Treatment, Mindich Child Health and Development Institute

Lab/Location: 1468 Madison Avenue, 22-38

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Research Interests

Dr. De Rubeis focuses on the genetics and neurobiology of autism spectrum disorder.

Type of Research: Clinical/Translational

Publications

Popovitchenko T, Park Y, Page NF, Luo X, Krsnik Z, Liu Y, Salamon I, Stephenson JD, Kraushar ML, **De Rubeis S**, et al. Translational derepression of Elavl4 isoforms at their alternative 5' UTRs determines neuronal development. *Nature Communications.* 2020 April 3;11(1):1674.

Popovitchenko T, Park Y, Page NF, Luo X, Krsnik Z, Liu Y, Salamon I, Stephenson JD, Kraushar ML... **De Rubeis S**, Hart RP, Rasin MR, et al. Translational derepression of Elavl4 isoforms at their alternative 5' UTRs determines neuronal development. *Nature Communications.* 2020 April 3;11(1):1674.

Satterstrom FK, Kosmicki JA, Wang J, Breen MS, **De Rubeis S**, et al. Large-Scale Exome Sequencing Study Implicates Both Developmental and Functional Changes in the Neurobiology of Autism. *Cell.* 2020 February 6;180(3):568-584.e23.

Sullivan JM, **De Rubeis S**, Schaefer A. Convergence of spectrums: neuronal gene network states in autism spectrum disorder. *Current Opinion in Neurobiology.* 2019;59:102-111.

Doan RN, Lim ET, **De Rubeis S**, et al. Recessive gene disruptions in autism spectrum disorder. *Nature Genetics.* 2019;51(7):1092-1098.

Robert J. Desnick, PhD, MD

Dean for Genetics and Genomic Medicine; Professor and Chair Emeritus of Genetic and Genomic Sciences

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Research Interests

Dr. Desnick's Research Interests include genomics, gene discovery, pharmacogenetics, and inborn errors of metabolism. His translational research includes drug development for treatment of genetic diseases.

Type of Research: Basic, Clinical, Translational

Publications

Naik H, Overbey JR, Montgomery GH, Winkel G, Balwani M, Anderson KE., Bissell DM, Bonkovsky HL, * Phillips JD, Wang B, McGuire B, Keel MS, Levy C, Erwin A, and **Desnick RJ**. Evaluating the Patient Reported Outcomes Measurement Information System scales in acute intermittent porphyria. *Genetics in Medicine.* 2020; 22:590-597.

Bailey HJ, Bezerra Ga, Marcero JR, Padhi S, Foster WR, Rembeza E, Roy A, Bishop DF, **Desnick RJ**, Bulusu GDailey HA, and Yue WW. Human aminolevulinate synthase structure reveals a eukaryotic-specific autoinhibitory loop regulating substrate binding and product release. *Nature Communications.* 2020; 11:2813.

Yasuda M, Huston MW, Pagant S, Gan L, St Martin S, Sproul S, Richards D,.. **Desnick RJ**, et al. AAV2/6 Gene Therapy in a Murine Model of Fabry Disease Results in Supraphysiological Enzyme Activity and Effective Substrate Reduction. *Molecular Therapy: Methods and Clinical Development.* 2020 July 9;18:607-619.

Yasuda M, Gan L, Chen B, Yu C, Zhang J, Gama-Sosa MA, Pollak DD, Berger S, Phillips JD, Edelmann W, and **Desnick, RJ**. Homozygous hydroxymethylbilane synthase knock-in mice provide pathogenic insights into the severe neurological impairments present in human homozygous dominant acute intermittent porphyria. *Human Molecular Genetics.* 2019; 28:1755-1767

Chen B, Whatley S, Badminton B, Aarsand AK, Anderson AK, Anderson K, **Desnick RJ**, et al. International Porphyria Molecular Diagnostic Collaborative: An evidence-based database of verified pathogenic and benign variants, for the Porphyrias. *Genetics in Medicine.* 2019; 21:2605-2613.

Angela Diaz, MD, PhD

Dean of Global Health, Social Justrice, and Human Rights; Professor of Pediatrics (Adolescent Medicine) and Department of Environmental Medicine and Public Health, and Global Health and Health Systems

Lab/Location: 320 East 94th Street

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Research Interests

Dr. Diaz's Research Interests focus on the burden of HPV in inner-city adolescent and young adult female cohort. Dr. Diaz Also studies a range of correlates and predictors of resilience in youth with high levels of trauma and the impact of physical and sexual abuse on the health and mental well-being of adolescents.

Type of Research: Clinical/Translational

Publications

Usyk M, Schlecht NF, Pickering S, Williams L, Sollecito CC, Gradissimo A, Porras C, Safacian M, Pinto L, Herrero R, Schiffman M, Viswanathan S, Nucci-Sack A, **Diaz A**, Costa Rica HPV Vaccine Trial (CVT) Group, Burk RD. mo1BV reveals immune landscape of bacterial vaginosis and predicts humna papillomavirus infection natural history. *Nature Communications.* 2022:.

Diaz A, Nucci-Sack A, Colon R, Gulliot M, Hollman D, Brunelli M, Burk R, Schlecht N. Impact of COVID-19 mitigation measures on inner-city female youth in New York City. *Journal of Adolescent Health.* 2021.

Schlecht N, **Diaz A**, Nucci-Sack A, Shyhalla K, Shankar V, Guillot M, Hollman D, Strickler HD, Burk R. Incidence and types of human papillomavirus infections in adolescent girls and young women immunized with the human papillomavirus vaccine. *JAMA Network Open.* 2021.

Gradissimo A, Viswanathan S, Wiek G, St. Peter L, Studentsov Y, Nucci-Sack A, **Diaz A**, Pickering S, Schlecht N, Burk R. Anti-HPV16 Antibody Titers Prior to an Incident Cervical HPV16/31 Infection. *Viruses.* 2021.

Diaz A, Shankar V, Nucci-Sack A, Linares LO, Salandy A, Strickler H, Burk R, Schlecht N. Effect of child abuse and neglect on risk behaviors in inner-city minority female adolescents. *Child Abuse and Neglect.* 2020 Mar.

George A. Diaz, MD, PhD

Professor of Genetics and Genomic Sciences and Pediatrics

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Research Interests

Dr. Diaz's main Research Interests include translational clinical research focused on inborn errors of metabolism, particularly urea cycle disorders. Ongoing efforts include the application of next generation sequencing technologies to characterize undiagnosed rare diseases and clinical trial work to develop new therapies for mendelian disorders including gene therapies and other innovative approaches.

Type of Research: Clinical/Translational

Publications

Berry SA, Longo N, **Diaz GA**, McCandless SE, Smith WE, Harding CO, Zori R, Ficicioglu C, Lichter-Konecki U, Robinson B, Vockley J. Safety and efficacy of glycerol phenylbutyrate for management of urea cycle disorders in patients aged 2 months to 2 years. *Molecular Genetics and Metabolism.* 2017;122:46-53.

Wasserstein MP, **Diaz GA**, Lachmann RH, et al. Olipudase alfa for treatment of acid sphingomyelinase deficiency (ASMD): safety and efficacy in adults treated for 30 months. *J Inherit Metab Dis.* 2018;41:829-38.

Diaz GA, Schulze A, Longo N, Rhead W, Feigenbaum A, et al. Long-term safety and efficacy of glycerol phenylbutyrate for the management of urea cycle disorder patients. *Molecular Genetics and Metabolism.* 2019; 127:336-345.

Thurberg BL, **Diaz GA**, Lachmann RH, Schiano T, Wasserstein MP, Ji AJ, Zaher A, Peterschmitt MJ. Long-term efficacy of olipudase alfa in adults with acid sphingomyelinase deficiency (ASMD): Further clearance of hepatic sphingomyelin is associated with additional improvements in proand anti-atherogenic lipid profiles after 42 months of treatment. *Molecular Genetics and Metabolism.* 2019 June 24:S1096- 7192(20)30149-9.

Imagawa E, **Diaz GA**, Oishi K. A novel Romani microdeletion variant in the promoter sequence of ASS1 causes citrullinemia type I. *Molecular Genetics and Metabolism Reports.* 2020 June 29;24:100619.

Marla Dubinsky, MD

Professor of Pediatrics
Professor of Medicine

Lab/Location: 17 East 102nd Street
Fifth Floor, Area D

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Research Interests

Dr. Dubinsky's main research interests are the influence of genetics and immune responses on the variability in clinical presentations of earlyonset IBD and prognosis. Additional interests include the study of pharmacogenetics to evaluate how heredity influences drug responses and optimizing and individualizing the management of IBD as well as the impact of IBD on fertility and pregnancy

Type of Research: Clinical/Translational

Publications

Dolinger MT, Person H, Smith R, Jarchin L, Pittman N, **Dubinsky MC**, Lai J. Pediatric Crohn Disease and Multisystem Inflammatory Syndrome in Children (MIS-C) and COVID-19 Treated With Infliximab. *Journal of Pediatric Gastroenterology and Nutrition.* 2020 Aug;71(2):153-155.

Aboubakr A, Riggs AR, Jimenez D, Mella MT, **Dubinsky MC**. Identifying Patient Priorities for Preconception and Pregnancy Counseling in IBD [published online ahead of print, 2020 July 20]. *Digestive Diseases and Sciences.* 2020;10.1007/s10620-020-06480-3.

Spencer EA, Helmus D, Telesco S, Colombel JF, **Dubinsky MC**; Road to Prevention Study Group. Inflammatory Bowel Disease Clusters Within Affected Sibships in Ashkenazi Jewish Multiplex Families. *Gastroenterology.* 2020;159(1):381-382.

Kayal M, Plietz M, Rizvi A, Radcliffe M, Riggs A, Yzet C, Tixier E, Trivedi P, Ungaro RC, Khaitov S, Sylla P, Greenstein A, Frederic Colombel J, **Dubinsky MC.** Inflammatory Pouch Conditions Are Common After Ileal Pouch Anal Anastomosis in Ulcerative Colitis Patients. *Inflammatory Bowel Diseases.* 2020 June 18;26(7):1079-1086.

Dolinger MT, Choi JJ, Phan BL, Rosenberg HK, Rowland J, **Dubinsky MC**. Use of Small Bowel Ultrasound to Predict Response to Infliximab Induction in Pediatric Crohn's Disease. *Journal of Clinical Gastroenterology.* 2020;10.1097

Nicole C. Dubois, PhD

Associate Professor of Cell, Developmental, and Regenerative Biology

Institute Affiliations: Mindich Child Health and Development Institute; Black Family Stem Cell Institute

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Research Interests

The research in the Dubois lab focuses on understanding development and disease of the human heart using the pluripotent stem cell model. Specifically, the lab is interested in investigating the molecular mechanisms directing lineage specification with the aim to translate our knowledge to better understand human congenital heart disease.

Type of Research: Basic/Translational

Publications

Yoon C, Song H, Yin T, Bausch-Fluck D, Frei AP, Kattman S, **Dubois N**, Witty AD, Hewel JA, Guo H, Emili A, Wollscheid B, Keller G, Zandstra PW. FZD4 Marks Lateral Plate Mesoderm and Signals with NORRIN to Increase Cardiomyocyte Induction from Pluripotent Stem Cell-Derived Cardiac Progenitors. *Stem Cell Reports*. 2018 January 9;10(1):87-100.

Bardot E, Tzavaras N, Benson DL, **Dubois NC**. Quantitative Whole-mount Immunofluorescence Analysis of Cardiac Progenitor Populations in Mouse Embryos. *JoVE*. 2017 October 12;(128).

Poleshko A, Shah PP, Gupta M, Babu A, Morley MP, Manderfield LJ, Ifkovits JL, Calderon D, Aghajanian H, Sierra-Pagán JE, Sun Z, Wang Q, Li L, **Dubois NC**, Morrisey EE, Lazar MA, Smith CL, Epstein JA, Jain R. Genome-Nuclear Lamina Interactions Regulate Cardiac Stem Cell Lineage Restriction. *Cell.* 2017 October 19;171(3):573-587.e14.

Magadum A, Ding Y, He L, Kim T, Vasudevarao MD, Long Q, Yang K, Wickramasinghe N, Renikunta HV, **Dubois N**, Weidinger G, Yang Q, Engel FB. Live cell screening platform identifies PPARδ as a regulator of cardiomyocyte proliferation and cardiac repair. *Cell Research.* 2017 Aug;27(8):1002-1019.

Sultana N, Magadum A, Hadas Y, Kondrat J, Singh N, Youssef E, Calderon D, Chepurko E, **Dubois N**, Hajjar RJ, Zangi L. Optimizing Cardiac Delivery of Modified mRNA. *Molecular Therapy.* 2017 June 7;25(6):1306-1315.

David Dunkin, MD

Assistant Professor of Pediatrics (Gastroenterology and Nutrition)

Institute Affiliation: Mindich Child Health and Development Institute

Lab: Icahn 11-26

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Research Interests

Dr. Dunkin is interested in understanding the mechanism by which the human body develops or fails to develop tolerance to foreign antigens including food and intestinal flora that leads to diseases such as allergies and inflammatory bowel disease. His investigations have examined the mechanisms of epicutaneous exposure leading to the induction of tolerance to antigens and how this might be used as a therapy for treating inflammatory disease of the intestines. In addition, Dr. Dunkin and his collaborators are investigating the use of Chinese herbal therapies in both murine models and in humans for the treatment of IBD and EoE.

Type of Research: Basic/Translational/Clinical Trials

Publications

Dunkin D, Merlino F, Correale C, Yeretssian G, Marinelli L, the CEACAM5 working group and Giulia Roda. A small CEACAM5 peptide restores the protective function of CD8+ regulatory T cells in Crohn's disease, *Gastrenterology.* June 2021 in press

X Chen X, Lai J, Yang N, Gnjatic S, Gillespie V, Hahn W, Chefitz E, Pittman N, Jossen J, Benkov K, Dubinsky M, Li XM, **Dunkin D**. Butenol Purified Food Allergy Herbal Formula-2 has an Immunomodulating Effect ex-vivo in Pediatric Crohn's Disease Subjects, *Frontiers in Medicine Gastroenterology.* 29 November 2021

Chen X, Berin CM, Gillespie V, Sampson HA , **Dunkin D**. Treatment of Intestinal Inflammation with Epicutaneous Immunotherapy Requires TGF-B and IL-10 but not Foxp3+ Tregs, *Frontiers in Immunology.* 26 February 2021

Dolinger M, Spencer E, Lai J, **Dunkin D**, Dubinsky M. Dual Biologic and Small Molecule Therapy for the Treatment of Refractory Pediatric Inflammatory Bowel Disease, *Inflammatory Bowel Diseases*. October 2020.

Tordesillas L, Lozano-Ojalvo D, **Dunkin D**, et al. PDL2+ CD11b+ dermal dendritic cells capture topical antigen through hair follicles to prime LAP+ Tregs. *Nature Communications.* 2018;9(1):5238

Lisa Eiland, MD

Associate Professor of Pediatrics

Institute Affiliation: Mindich Child Health and Development Institute

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1000 Tenth Avenue, Tenth Floor

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Research Interests

Dr. Eiland's Research Interests are on the effects of stress on the developing brain. Particularly, how NICU stressors may contribute to increased adverse neurodevelopmental outcome in the preterm infant.

Type of Research: Clinical/Translational

Publications

Hill MN, **Eiland L**, Lee TTY, Hillard CJ, McEwen BS. Early life stress alters the developmental trajectory of corticolimbic endocannabinoid signaling in male rats. *Neuropharmacology.* 2019;146:154-162.

Eiland L, Romeo RD. Stress and the developing adolescent brain. *Neuroscience.* 2013;249:162-171.

Eiland L, Ramroop J, Hill MN, Manley J, McEwen BS. Chronic juvenile stress produces corticolimbic dendritic architectural remodeling and modulates emotional behavior in male and female rats. *Psychoneuroendocrinology.* 2012;37(1):39-47.

Eiland L, McEwen BS. Early life stress followed by subsequent adult chronic stress potentiates anxiety and blunts hippocampal structural remodeling. *Hippocampus.* 2012;22(1):82-91.

McEwen BS, **Eiland L**, Hunter RG, Miller MM. Stress and anxiety: structural plasticity and epigenetic regulation as a consequence of stress. *Neuropharmacology.* 2012;62(1):3-12.

Fernando Ferrer, MD, FACS, FAAP

Professor of Urology
Chief Operating Officer at Mount Sinai Kravis Children's Hospital and Vice Chair of Hospital Operations in the Department of Pediatrics

Institute Affiliation: Mindich Child Health and Development Institute

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Research Interests

Dr. Ferrer's researcher interest include Renal injury, Cancer, and Imaging.

Type of Research: Clinical/Translational/Basic

Publications

Heermans JT, Makari JH, **Ferrer FA**. Local Control of Perineal Rhabdomyosarcoma: are current recommendations adequate. *Urology.* 2020 Mar;137:161-163.

Jang HS, Noh MR, Jung EM, Kim WY, Southekal S, Guda C, Foster KW, Oupicky D, **Ferrer FA**, Padanilam BJ. Proximal tubule cyclophilin D regulates fatty acid oxidation in cisplatin-induced acure kidney injury. *Kidney International.* 2020 Feb;97(2):327-339.

Thangada S, Ghosh M, Dasgupta O, Khanna K, Yamase H, Kashgarian M, Hla T, Shapiro L, Ferrer, F. Cell Intrinsic Sphigosine Kinase 2 Regulates Macrophage Polarization and Renal Fibrosis in Response to Unilateral Ureteral Obstruction. *PLoS One.* 2018.

Zee RS, Makari JH, **Ferrer F**, Herndon, CDA. Epispadias Repair with Tunica Vaginalis Flap. *Journal of Pediatric Urology.* 27 June 2017.

Caromile, LA, Dortche K, Rahman MM, Grant CL, Stoddard C, **Ferrer F**, Shapiro L. PSMA Redirects Signal Transduction Pathways to Promote Prostate Cancer Progression. *Science Signaling.* March 2017

Maida P. Galvez, MD, MPH
Professor of Departments of Environmental Medicine and Public Health and Pediatrics

Institute Affiliation: Institute for Exposomic Research

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Research Interests

Dr. Galvez's research is focused on environmental factors that impact children's growth and development, as well as risk communication, research translation and community engagement.

Type of Research: Clinical/Translational

Publications

G. Lu, F. Rausell-Palamos, Z. Zhang, R.C Vasavada, Shelley Valle, Matthew Spindler, D. Homann and **A. García-Ocaña**. Dextran Sulfate Ameliorates Type 1 Diabetes, pancreatic beta cell death and autoimmunity. *Diabetes.* 69(8):1692-1707, 2020.

A. Fu, J.C. Alvarez-Perez, D. Avizonis, T. Kin, G. Bridon, L. Evans, C. Rosselot, G. Bird, J. Shapiro, L.D Walensky, R. Jones, **A. Garcia-Ocaña**, N.N Danial. Glucose-dependent partitioning of arginine to urea cycle spares ß-cells from inflammation. *Nature Metabolism.* 2, 432–446, 2020.

C. Ackeifi, P. Wang, E. Karakose, J.E. Manning Fox, B.J. González, H. Liu, J. Wilson, E. Swartz, C. Berrouet, Y. Li, K. Kumar, P.E. MacDonald, R. Sanchez, B. Thorens, R. DeVita, D. Homann, D. Egli, D.K. Scott, **A. Garcia-Ocaña**, A.F. Stewart. GLP-1 Receptor Agonists Synergize with DYRK1A Inhibitors to Potentiate Functional Human ß Cell Regeneration. *Science Translational Medicine.* February 12;12(530):eaaw9996. doi: 10.1126/scitranslmed.aaw9996, 2020.

C. Rosselot, A. Kumar, J. Lakshmipathi, P. Zhang, G. Lu, L.S. Katz, E.V. Prochownik, A.F. Stewart, L. Lambertini, D.K. Scott, **A. Garcia-Ocaña**. Myc Is Required for Adaptive ß-Cell Replication in Young Mice but Is Not Sufficient in One-Year-Old Mice Fed with a High-Fat Diet. *Diabetes.* 68:1934-1949, 2019.

P. Wang, J.C. Alvarez-Perez, D.P. Felsenfeld, H. Liu, S. Sivendran, A. Bender, A. Kumar, R. Sanchez, D.K. Scott, **A. Garcia-Ocaña**, A.F. Stewart. A highthroughput chemical screen reveals that harminemediated inhibition of DYRK1A increases human pancreatic beta cell replication. *Nature Medicine,* 21:383-388, 2015.

Adolfo Garcia-Ocaña, PhD

Professor of Medicine (Endocrinology, Diabetes and Bone Diseases)

Institute Affiliations: Mindich Child Health and Development Institute; Diabetes, Obesity and Metabolism Institute

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Research Interests

Dr. Garcia-Ocaña's research focuses on tissue regeneration, growth factors and intracellular signaling. More specifically, his group is analyzing the therapeutic potential of growth promoting agents to induce pancreatic beta cell regeneration for diabetes treatment.

Type of Research: Basic

Publications

Lu G, Rausell-Palamos F, Zhang Z, Vasavada RC... **García-Ocaña A.** Dextran Sulfate Ameliorates Type 1 Diabetes, pancreatic beta cell death and autoimmunity. *Diabetes.* 2020;69(8):1692-1707.

Fu A, Alvarez-Pere JC, Avizonis D... **Garcia-Ocaña A**, et al. Glucose-dependent partitioning of arginine to urea cycle spares ß-cells from inflammation. *Nature Metabolism.* 2020;2, 432–446.

Ackeif C. Wang P, Karakose E, Manning Fox JE... **Garcia-Ocaña A**, et al. GLP-1 Receptor Agonists Synergize with DYRK1A Inhibitors to Potentiate Functional Human ß Cell Regeneration. *Science Translational Medicine.* February 12;12(530).

CRosselot C, Kumar A, Lakshmipathi J...**Garcia-Ocaña A**. Myc Is Required for Adaptive ß-Cell Replication in Young Mice but Is Not Sufficient in One-Year-Old Mice Fed with a High-Fat Diet. *Diabetes.* 2019; 68:1934-1949.

Wang P, Alvarez-Perez JC, Felsenfeld DP, Liu H... **Garcia-Ocaña A**, et al. A highthroughput chemical screen reveals that harminemediated inhibition of DYRK1A increases human pancreatic beta cell replication. *Nature Medicine.* 2015; 21:383-388.

Bruce D. Gelb, MD

Professor of Pediatrics (Cardiology) and Genetics and Genomic Sciences; Director of The Mindich Child Health and Development Institute

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Research Interests

Dr. Gelb is interested in uncovering and then understanding the genetic causes of congenital heart defects (CHD). Using state-of- the-art genomic approaches, his research group is studying Mendelian and complex traits with CHD, and then models disease genes in cells and animals.

Type of Research: Basic/Translational

Publications

Josowitz R, Mulero-Navarro S, Rodriguez NA, Falce C, Cohen N, Ullian EM, Weiss LA, Rauen KA, Sobie EA, **Gelb BD**. Autonomous and non-autonomous defects underlie hypertrophic cardiomyopathy in BRAF-Mutant hiPSC-Derived Cardiomyocytes. *Stem Cell Reports.* 2016 September 13;7(3):355-69.

Zaidi S, Choi M, Brueckner M,* Chung WK,* **Gelb BD,*** Goldmuntz E,* Seidman CE,* Lifton RP.* Increased frequency of de novo mutations in histone modifying genes in congenital heart disease. *Nature.* 2013; 498:220-223.
*denotes equal contribution.

Carvajal-Vergara X, Sevilla A, D'Souza SL...**Gelb BD***, Lemischka I*. Patient-specific induced pluripotent stem cell derived models of LEOPARD syndrome. *Nature.* 2010; 465:808-812.
*denotes equal contribution.

Pandit B, Sarkozy A, Pennacchio LA...**Gelb BD**. Gain-of-function RAF1 mutations cause Noonan and LEOPARD syndromes with hypertrophic cardiomyopathy. *Nature Genetics.* 2007; 39:1007-1012.

Tartaglia M, Mehler EL, Goldberg R, Zampino G, Brunner HG, Kremer H, van der Burgt I, Crosby AH, Ion A, Jeery S, Kalidas K, Patton MA, Kucherlapati RS, **Gelb BD**. Mutations in PTPN11, encoding the protein tyrosine phosphatase SHP-2, cause Noonan syndrome. *Nature Genetics.* 2001; 29:465-4680.

Chris Gennings, PhD

Professor of Environmental Medicine and Public Health

Institute Affiliation: Institute for Exposomic Research; Mindich Child Health and Development Institute

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Research Interests

Dr. Gennings' research focuses on development of novel biostatistical methods for designing and analyzing studies of mixtures, including environmental chemical mixtures and nutrients. An example includes the development of a method to estimate the "bad actors" in a mixture that are most related to a health outcome.

Type of Research: Basic/Translational

Publications

Liu SH, Bobb JF, Claus Henn B, **Gennings C**, et al. Bayesian varying coefficient kernel machine regression to assess neurodevelopmental trajectories associated with exposure to complex mixtures. *Statistics in Medicine.* 2018 December 30;37(30):4680- 4694.

Björvang RD, **Gennings C**, Lin PI, et al. Persistent organic pollutants, pre-pregnancy use of combined oral contraceptives, age, and time-to-pregnancy in the SELMA cohort. *Environmental Health.* 2020, June 15;19(1):67.

Eggers S, **Gennings C**, Malecki KMC, Safdar N, Arora M. Exposure to environmental chemical mixtures is associated with nasal colonization by Staphylococcus aureus: NHANES 2001- 2004 [published online ahead of print, 2020 July 29]. *Environmental Research.* 2020;190:109994.

Cowell W, Colicino E, Tanner E, Amarasiriwardena C, Andra SS, Bollati V, Kannan S, Ganguri H, **Gennings C**, et al. Prenatal toxic metal mixture exposure and newborn telomere length: Modification by maternal antioxidant intake. *Environmental Research.* 2020 August 8;190:110009.

Gennings C, Curtin P, Bello G, Wright R, Arora M, Austin C. Lagged WQS regression for mixtures with many components. *Environmental Research.* 2020;186:109529.

Dorothy E. Grice, MD

Professor of Psychiatry; Director, Tics, OCD and Related Disorders Clinical and Research Program

Institute Affiliations: Friedman Brain Institute; Mindich Child Health and Development Institute

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Research Interests

Dr. Grice focuses on the phenomenology, genetics and biology of OCD, tic disorders and autism. Specific programs include epidemiological studies of genetic and environmental risks (Denmark and Sweden), molecular genetic studies and characterization of genes implicated in risk, and study of cross disorder risks for childhood-onset psychiatric conditions

Type of Research: Clinical/Translational

Publications

Janecka M, Hansen SN, Modabbernia A, Browne HA, Buxbaum JD, Schendel DE, Reichenberg A, Parner ET, **Grice DE**. Parental Age and Differential Estimates of Risk for Neuropsychiatric Disorders: Findings From the Danish Birth Cohort. *Journal of the American Academy of Child and Adolescent Psychiatry.* 2019 Jun;58(6):618-627.

Nurnberger JI Jr, Austin J, Berrettini WH, Besterman AD, DeLisi LE, **Grice DE**, et al. *Journal of Clinical Psychiatry.* 2019 April 9;80(3):19lr12741a.

Nurnberger JI Jr, Austin J, Berrettini WH, Besterman AD, DeLisi LE, **Grice DE**, et al. What Should a Psychiatrist Know About Genetics? Review and Recommendations From the Residency Education Committee of the International Society of Psychiatric Genetics. *Journal of Clinical Psychiatry.* 2018 November 27;80(1):17nr12046.

Yip BHK, Bai D, Mahjani B, Klei L, Pawitan Y, Hultman CM, **Grice DE**, et al. Heritable Variation, With Little or No Maternal Effect, Accounts for Recurrence Risk to Autism Spectrum Disorder in Sweden. *Biological Psychiatry.* 2018 April 1;83(7):589-597.

Abdulkadir M, Londono D, Gordon D, Fernandez TV, Brown LW, Cheon KA, Coffey BJ, Elzerman L, **Grice DE**, et al. Investigation of previously implicated genetic variants in chronic tic disorders: a transmission disequilibrium test approach. *European Archives of Psychiatry and Clinical Neuroscience.* 2018 Apr;268(3):301-316.

Katherine Guttmann, MD, MBE

Assistant Professor of Pediatrics, Division of Newborn Medicine

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Research Interests

Dr. Guttmann conducts research focusing on ethics and communication with families of babies in the Neonatal Intensive Care Unit.

Type of Research: Clinical/Translational

Publications

Guttmann K, Patterson C, Haines T, Hoffman C, Masten M, Lorch S, Chuo J. Parent Stress in Relation to use of Bedside Telehealth, an Initiative to Improve Family-Centeredness of Care in the Neonatal Intensive Care Unit. *Journal of Patient Experience.* 2020 August 20.

Guttmann K, Wu Y, Juul S, Weiss E. Consent Related Challenges for Neonatal Clinical Trials. *American Journal of Bioethics.* 2020; 20(5) 38-40.

Guttmann K, Flibotte J, DeMauro S, Seitz H. A mixed methods analysis of parental perspectives on diagnosis and prognosis of NICU graduates with cerebral palsy. *Journal of Child Neurology.* 2020; 35(5): 336-343.

Guttmann K, Martin A, Chaudhary A, Cole J, Foglia E. Resuscitation Before Cord Clamping: The Maternal Experience. *Archives of Disease in Childhood: Fetal and Neonatal Edition.* 2020;105(5):569-570.

Guttmann K, Shouldice M, Levin A. Ethical Issues in Child Abuse Research. *Switzerland: Springer.* 2018.

Joan Han, MD

Professor of Pediatrics Chief, Division of Pediatric Endocrinology and Diabetes

Institute Affiliation: Diabetes, Obesity, and Metabolism Institute, Mindich Child Health and Development Institute

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Research Interests

Dr. Han investigates the neuroendocrine regulation of energy balance and cognitive functioning as well as the genetic, environmental, and behavioral determinants of metabolic health in the general population and in patients with rare genetic disorders associated with obesity and type 2 diabetes.

Type of Research: Clinical/Translational

Publications

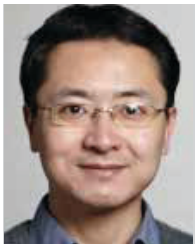
Tucker JM, Novick M, Murray PJ, **Han J**, Boyer K, Reed N, Allenby T, Siegel R. Acceptability of Time-Limited Eating in Pediatric Weight Management. *Frontiers in Endocrinology (Lausanne).* 2022 April 21;13:811489.

Mak D, Ryan KA, **Han JC**. Review of Insulin Resistance in Dilated Cardiomyopathy and Implications for the Pediatric Patient Short Title: Insulin Resistance DCM and Pediatrics. *Frontiers in Pediatrics.*2021;9:756593.

Smith WA, Gray E, Jones TL, **Han JC**, Burton ET. Waitlist management in a pediatric weight management clinic: implementing an orientation session. *BMC Pediatrics.* 2021 September 22;21(1):416.

Farmer CA, Thurm AE, Honnekeri B, Kim P, Swedo SE, **Han JC**. The contribution of platelets to peripheral BDNF elevation in children with autism spectrum disorder. *Scientific Reports.* 2021 September 13;11(1):18158.

Haws RM, Gordon G, **Han JC**, Yanovski JA, Yuan G, Stewart MW. The efficacy and safety of setmelanotide in individuals with Bardet-Biedl syndrome or Alström syndrome: Phase 3 trial design. *Contemporary Clinical Trials Communications.* 2021 Jun;22:100780.



Ke Hao, PhD

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Institute Affiliation: Mindich Child Health and Development Institute; Icahn Institute of Genomic and Multiscale Biology

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Research Interests

The Hao lab focuses on integrative genomics and xQTLs of disease relevant tissue, health effect of environmental toxin exposure during early life and detection and genotyping structure alternation (SV) in cancer and germline genome, and SV-based association studies.

Type of Research: Basic/Translational

Publications

Shao X, Cheng H, Zhou J, Zhang J, **Hao K**, et al . Prenatal exposure to ambient air multi-pollutants significantly impairs intrauterine fetal development trajectory. *Ecotoxicology and Environmental Safety.* 2020 September 15;201:110726.

Zhang Z, Menon MC, Zhang W, Stahl E, Loza BL, Rosales IA, Yi Z, Banu K, **Hao K**, et al. Genomewide non-HLA donor-recipient genetic differences influence renal allograft survival via early allograft fibrosis. *Kidney International.* 2020 Sep;98(3):758-768.

Stahl E, Roda G, Dobbyn A, Hu J, Zhang Z, **Hao K**, et al. Collagenous Colitis Is Associated With HLA Signature and Shares Genetic Risks With Other Immune-Mediated Diseases. *Gastroenterology.* 2020 Aug;159(2):549-561.e8.

Duan R, Niu H, Yu T, Cui H, Yang T, **Hao K**, Wang C. Identification and Bioinformatic Analysis of Circular RNA Expression in Peripheral Blood Mononuclear Cells from Patients with Chronic Obstructive Pulmonary Disease. *The International Journal of Chronic Obstructive Pulmonary Disease.* 2020 June 16;15:1391-1401.

Olin JW, Di Narzo AF, d'Escamard V, Kadian- Dodov D, **Hao K**, et al. A plasma proteogenomic signature for fibromuscular dysplasia. *Cardiovascular Research.* 2020 January 1;116(1):63-77.

Hala Harony-Nicolas, PhD

Assistant Professor of Psychiatry and Neuroscience

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Research Interests

Dr. Harony-Nicolas research interest focus on understating the mechanisms underlying social behavior deficits in autism spectrum disorder and the implication of the hypothalamic oxytocin system in neurodevelopmental disorders.

Type of Research: Basic/Translational

Publications

Golden CEM, Yee Y, Wang VX, **Harony-Nicolas H**, Hof PR, Lerch JP, Buxbaum JD. Reduced axonal caliber and structural changes in a rat model of Fragile X syndrome with a deletion of a K-Homology domain of Fmr1. *Translational Psychiatry.* 2020 August 12;10(1):280.

Anpilov S, Shemesh Y, Eren N, **Harony-Nicolas H**, Benjamin A, Dine J, Oliveira E M, Forkosh O, Karamihalev S, Rosa-Eva Hüttl, Feldman N, Berger R, Dagan A, Chen G, Neumann I, Wagner s, Yizhar O, Chen A. Wireless Optogenetic Stimulation of Oxytocin Neurons in a Semi-natural Setup Dynamically Elevates Both Pro-social and Agonistic Behaviors. *Neuron.* 2020;S0896-6273(20)30397-4.

Carla EM Golden, Michael S Breen, Lacin Koro, Sankalp Sonar, Kristi Niblo, Andrew Browne, Daniele De Marino, Silvia De Rubeis, Mark G Baxter, Joseph D Buxbaum, **Harony-Nicolas Hala**. Deletion of the Kh1 domain of Fmr1 leads to transcriptional alterations and attentional deficits in rats. *Cerebral Cortex.* 2019 March 16.

Berg EL, Copping NA, Rivera JK, Pride MC, Careaga M, Bauman MD, Bernab RF, Lein PJ, **Harony-Nicolas H**, Buxbaum JD, Ellegood J, Lerch JP, Wohr M, Silverman JL. Developmental social communication deficits in the Shank3 rat model of Phelan-McDermid syndrome and autism spectrum disorder. *Autism Research*. 2018 Apr; 11(4): 587-601.

Engineer CT, Rahebi KC, Borland MS, Buell EP, Im KW, Wilson LG, Sharma P, Vanneste S, **Harony-Nicolas H**, Buxbaum JD and Kilgard MP. *Shank3*-Deficient rats exhibit degraded cortical responses to sound. *Autism Research.* 2018 Jan;11(1):59-68.

Tom Hildebrandt, PsyD

Assistant Professor of Psychiatry; Director, Eating and Weight Disorders Program

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Research Interests

Dr. Hildebrandt studies the neuroendocrinology of eating and weight disorders and anabolic-androgenic steroid use, with special interest in disruption of gonadal and appetite hormones and their influences on emotional and eating disturbances. He uses the identification of these neurobiological mechanisms to guide the development of behavioral and family based treatments for adolescents and adults.

Type of Research: Clinical/Translational

Publications

Hildebrandt T, Grotzinger A, Schulz K. Anorexia nervosa, emotional go/no-go, and the distinct effect of testosterone. *International Journal of Eating Disorders.* 2016; 49; 69-76.

Jacobs S, Radnitz C, **Hildebrandt T**. Adherence as a predictor of weight loss in a commonly used smartphone application. *Obesity Research and Clinical Practice.* 2016, pii: S1871-403X(16)30029-1.

Hildebrandt T, Greif, R., Grotzinger, A., Redmann, M., Levy, I., Goodman, W., and Schiler, D. Testing the disgust conditioning model of food avoidance in adolescents with recent onset anorexia nervosa. *Behaviour Research and Therapy.* 2015; 71: 131-8.

Yu, J., Lanzierri, N., and **Hildebrandt T**. Healthcare professionals' stigmatization of men with anabolic steroid use and eating disorders. *Body Image: An International Journal of Research.* 2015; 15: 49-53.

Yehuda R, Bierer L M, Pratchett L C, Lehrner A, Koch E C, Van Manen J A, Flory J D, Makotkine I, and **Hildebrandt T**. Cortisol augmentation of a psychological treatment for warfighters with posttraumatic stress disorder: Randomized trial showing improved treatment retention and outcome. *Psychoneuroendocrinology,* 2015; 51: 58-97.

Carol R. Horowitz MD, MPH

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Professor, Department of Medicine
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Research Interests

Dr. Horowitz is a health services researcher and practicing general internist who has been PI and investigator part of numerous NIH, CDC and PCORI grants related to chronic disease prevention and control, and has implemented and evaluated programs to improve the quality of care and outcomes of diverse populations of adults with diabetes, obesity, cardiovascular disease and other health conditions through clinical and community programs.

Type of Research: Clinical/Translational

Publications

Leung CL, Naert M, Andama B, Dong R, Edelman D, **Horowitz C**, et al. Human-centered design as a guide to intervention planning for non-communicable diseases: the BIGPIC study from Western Kenya. *BMC Health Services Research.* 2020 May 12;20(1):415.

Orlando LA, Sperber NR, Voils C, Nichols M, **Horowitz CR**, et al Correction: Developing a common framework for evaluating the implementation of genomic medicine interventions in clinical care: the IGNITE Network's Common Measures Working Group. *Genetics in Medicine.* 2020 July 27.

Horowitz CR. Genetic testing and results disclosure in diverse populations: what does it take? *Genetics in Medicine.* 2020;10.1038/s41436-020-0874-6.

Mayer VL, Siscovick D, Goytia C, Brown D, Hanlen E, Flory J, McKee MD, **Horowitz CR**. "Not Alone Anymore": The Experiences of Adults With Diabetes in New York's Medicaid Health Home Program. *Medical Care.* 2020 Jun;58 Suppl 6 Suppl 1:S60-S65.

Heller DJ, Kumar A, Kishore SP, **Horowitz CR**, Joshi R, Vedanthan R. Assessment of Barriers and Facilitators to the Delivery of Care for Noncommunicable Diseases by Nonphysician Health Workers in Low- and Middle-Income Countries: A Systematic Review and Qualitative Analysis. *JAMA Network Open.* 2019;2(12):e1916545.

Megan K. Horton, PhD, MPH

Assistant Professor of Environmental Medicine and Public Health

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Lab/Location: CAM Third Floor

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Research Interests

Dr. Horton's research focuses on understanding the mechanisms through which prenatal and early childhood exposure to environmental toxicants adversely affect children's health.

Type of Research: Basic/Translational

Publications

Rechtman E, Curtin P, Onyebeke LC, Wang VX, Papazaharias DM, **Horton MK**, et al . Respirator usage protects brain white matter from welding fume exposure: A pilot magnetic resonance imaging study of welders. *Neurotoxicology.* 2020 May;78:202-208.

Horton MK, Zheng L, Williams A, et al. Using the delayed spatial alternation task to assess environmentally associated changes in working memory in very young children. *Neurotoxicology.* 2020;77:71-79.

de Water E, Papazaharias DM, Ambrosi C, Mascaro L, Iannilli E, Gasparotti R, Lucchini RG, Austin C, Arora M, Tang CY, Smith DR, Wright RO, Horton MK. Early-life dentine manganese concentrations and intrinsic functional brain connectivity in adolescents: A pilot study. *PLoS One.* 2019 Aug**ust** 14;14(8):e0220790.

de Water E, Curtin P, Zilverstand A, Sjödin A, Bonilla A, **Horton MK**, et al. A preliminary study on prenatal polybrominated diphenyl ether serum concentrations and intrinsic functional network organization and executive functioning in childhood. *Journal of Child Psychology and Psychiatry.* 2019 Sep;60(9):1010-1020.

Claus Henn B, Austin C, Coull BA, Schnaas L, Gennings C, **Horton MK**, et al. Uncovering neurodevelopmental windows of susceptibility to manganese exposure using dentine microspatial analyses. *Environmental Research.* 2018 Feb;161:588-598.

Yuval Itan, PhD

Assistant Professor of Human Disease Genomics

Institute Affiliation: Mindich Child Health and Development Institute

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Research Interests

Dr. Itan has focused on developing computational methods to identify mutations and genes underlying human disease in whole genome and whole exome sequencing data, applying approaches across machine learning, population genetics, biostatistics, computational biology, bioinformatics and more.

Type of Research: Clinical/Translational

Publications

Bastard P, Rosen LB, Zhang Q... **COVID Human Genetic Effort** et al. Auto-Antibodies Against type I IFNs in Patients With Life-Threatening COVID-19. *Science.* 2020 September 24.

Zhang Q, Bastard P, Liu Z... **COVID Human Genetic Effort**; NIAID-USUHS; TAGC COVID Immunity Group, Snow AL,et al. Inborn Errors Of Type I IFN Immunity In Patients With Life-Threatening COVID-19. *Science.* 2020 September 24.

Onat OE, Kars ME, Gül δ, Bilguvar K, Wu Y... **Itan Y**, et al. Human CRY1 Variants Associate With Attention Deficit/Hyperactivity Disorder. *Journal of Clinical Investigation.* 2020 July 1;130(7):3885-3900.

Schidlowski L, Liebert F, Iankilevich PG...**Itan Y**, et al. C. Non-syndromic Oculocutaneous Albinism: Novel Genetic Variants and Clinical Follow Up of a Brazilian Pediatric Cohort. *Frontiers in Genetics.* 2020 Apr**il** 28;11:397.

Sevim Bayrak C, **Itan Y**. Identifying Disease- Causing Mutations In Genomes Of Single Patients By Computational Approaches. *Human Genetics.* 2020 Jun;139(6-7):769-776.

Ethylin Wang Jabs, MD

Professor of Genetics and Genomic Sciences, Pediatrics, and Developmental and Regenerative Biology

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Research Interests

Dr. Jabs has a strong interest in understanding the genetic basis of birth defects. Her research is focused on craniofacial disorders including craniosynostosis and cleft lip and palate. Her group uses developmental biology and "omic" approaches to study the pathogenetic mechanisms, signaling pathways and networks involved in developmental processes. Based on these findings, therapeutic strategies are being tested in animals models.

Type of Research: Basic/Translational

Publications

Holmes G, Gonzalez-Reiche AS, Lu N, Zhou X, Rivera J, **Jabs EW**, et al. Integrated Transcriptome and Network Analysis Reveals Spatiotemporal Dynamics of Calvarial Suturogenesis. *Cell Reports.* 2020 July 7;32(1):107871.

Wu M, Kriti D, van Bakel H, **Jabs EW**, Holmes G. Laser Capture Microdissection of Mouse Embryonic Cartilage and Bone for Gene Expression Analysis. *JoVE.* 2019;(154):10.3791/60503.

Motch Perrine SM, Wu M, Stephens NB, Kriti D, van Bakel H, **Jabs EW**, Richtsmeier JT. Mandibular dysmorphology due to abnormal embryonic osteogenesis in FGFR2-related craniosynostosis mice. *Disease Models and Mechanisms.* 2019 May 30;12(5):dmm038513.

Sewda A, White SR, Erazo M, Hao K, **Jabs EW**, et al. Nonsyndromic craniosynostosis: novel coding variants. *Pediatric Research.* 2019 Mar;85(4):463-468.

Reiner J, Pisani L, Qiao W, **Jabs EW**, et al. Cytogenomic identification and long-read single molecule real-time (SMRT) sequencing of a Bardet- Biedl Syndrome 9 (BBS9) deletion. *NPJ Genomic Medicine.* 2018 January 22;3:3.

Magdalena Janecka, PhD

Assistant Professor of Psychiatry

Institute Affiliation: Mindich Child Health and Development Institute, Seaver Autism Center for Research and Treatment

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Research Interests

Dr. Janecka has focused on the epidemiology of neurodevelopmental disorders in order to identify parental and early-life risk factors.

Type of Research: Basic/Translational

Publications

Kodesh A, Levine SZ, Khachadourian V, Rahman R... **Janecka M**. Maternal health around pregnancy and autism risk: a population-based study. *medRxiv.* 2020.

Janecka M, Hansen S, Modabbernia A, Browne H., Buxbaum JD, et al. Parental age and differential risk for neuropsychiatric disorders: findings from the Danish birth cohort. *Journal of the American Academy of Child and Adolescent Psychiatry.* 58: 618-627.

Janecka M, Sandin S, Reichenberg A. Autism risk and serotonin reuptake inhibitors – Reply. *JAMA Psychiatry.* 2019; 75 (12): 1217-1224.

Janecka M, Kodesh A, Levine S, Lusskin S, Viktorin A, Rahman R, Buxbaum J, Schlessinger A, Sandin S, Reichenberg A. Association of autism spectrum disorder with prenatal exposure to medications affecting neurotransmitter systems. *JAMA Psychiatry.* 2018; 75 (12): 1217-1224.

Clark D, Canvin L., Green J, Layard R, Pilling S, **Janecka M**. Transparency about the outcomes of mental health services (IAPT Approach). *The Lancet.* 2018; 391: 679-686.

Allan C. Just, PhD

Assistant Professor of Environmental Medicine and Public Health

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Research Interests

Dr. Just's research focuses on molecular epidemiologic approaches to children's environmental health using high-dimensional satellite and epigenomic data to develop exposure models and novel biomarkers. He links common environmental exposures, including phthalates and air pollution with children's health outcomes including gestational age, growth, and obesity.

Type of Research: Clinical/Translational

Publications

Just A, Arfer K, Rush J, et al. Advancing methodologies for applying machine learning and evaluating spatiotemporal models of fine particulate matter (PM2.5) using satellite data over large regions. *Atmospheric Environment.* 2020, Oct.

Colicino E, Marioni R, Ward-Caviness C, **Just A**, et al. Blood DNA methylation sites predict death risk in a longitudinal study of 12, 300 individuals. *Aging.* 2020 July 22;12(14):14092-14124.

Wang C, **Just A**, Heiss J, et al. Biomarkers of aging and lung function in the normative aging study. Aging. 2020;12(12):11942-11966. Zhou B, Erell E, Hough I. Shtein A, **Just AC**, Novack V, Rosenblatt J, Kloog I, Estimation of Hourly near Surface Air Temperature Across Israel Using an Ensemble Model. *Remote Sensing.* 2020;12, 1741.

Zhang X, Spear E, Gennings C, **Just AC**, et al . The association of prenatal exposure to intensive traffic with early preterm infant neurobehavioral development as reflected by the NICU Network Neurobehavioral Scale (NNNS). *Environmental Research.* 2020 Apr;183:109204.

Alex Kolevzon, MD

Professor of Psychiatry and Pediatrics; Clinical Director, Seaver Autism Center for Research and Treatment

Institute Affiliation: Friedman Brain Institute; Mindich Child Health and Development Institute

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Research Interests

Dr. Kolevzon's research is focused on developing new pharmacological treatments in autism spectrum disorders. He collaborates with basic scientists at the Seaver Autism Center where genetic discovery in autism leads to the use of model systems and testing targeted molecular therapeutics. Dr. Kolevzon leads the clinical research team to then study these compounds in clinical trials.

Type of Research: Clinical/Translational

Publications

Ohlenberg TM, Trelles MP, McLarney B, Betancur C, Thurm A, **Kolevzon A**. Psychiatric illness and regression in individuals with Phelan-McDermid syndrome. *Journal of Neurodevelopmental Disorders.* 2020;12(1):7.

Herscu P, Handen BL, Arnold LE, Snape MF, Bregman JD, **Kolevzon A**, etal. The SOFIA Study: Negative Multi-center Study of Low Dose Fluoxetine on Repetitive Behaviors in Children and Adolescents with Autistic Disorder. *Journal of Autism and Developmental Disorders.* 2020 Sep;50(9):3233-3244.

Berry-Kravis E, Horrigan JP, Tartaglia N, **Kolevzon A**, et al. A Double-Blind, Randomized, Placebo- Controlled Clinical Study of Trofinetide in the Treatment of Fragile X Syndrome. *Pediatric Neurology.* 2020 Sep;110:30-41.

Gergoudis K, Weinberg A, Templin J, Farmer C, Durkin A, **Kolevzon A**, et al. Psychometric Study of the Social Responsiveness Scale in Phelan- McDermid Syndrome. *Autism Research.* 2020 May 14.

Øien RA, Siper P, **Kolevzon A**, Grodberg D. Detecting Autism Spectrum Disorder in Children With ADHD and Social Disability. *Journal of Attention Disorders.* 2020;24(7):1078-1084.

Amy R. Kontorovich, MD, PhD

Assistant Professor of Medicine, Cardiology; Medical Director of Adult Cardiovascular Genetics

Institute Affiliation: Mindich Child Health and Development Institute; The Zena and Michael A. Wiener Cardiovascular Institute

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Research Interests

Dr. Kontorovich's research centers on identifying novel genetic factors underlying various cardiovascular diseases. One focus is on the role of human genetic factors in the pathogenesis of myocarditis, recently including that due to COVID-19. We use human induced pluripotent stem cell-derived cardiomycotes and CRISPR/Cas9 gene editing to model viral-induced myocardial injury in vitro, as well as genomic studies in affected patient cohorts. Another focus is in studying the natural history, penetrance and prevalence of heritable transthyretin amyloidosis, seeking to identify and characterize novel clinical features in genetically at-risk individuals that herald the onset of this disease through studies involving genomics, genetic epidemiology and population genetics, along with biomarker discovery and advanced cardiac imaging.

Type of Research: Basic/Translational

Publications

Belkaya S, **Kontorovich AR**, Byun M, Mulero-Navarro S, Bajolle F, Cobat A, Josowitz R, Itan Y, Quint R, Lorenzo L, Boucherit S, Stoven C, Di Filippo S, Abel L, Zhang SY, Bonnet D, Gelb BD, Casanova JL. Autosomal Recessive Cardiomyopathy Presenting as Acute Myocarditis. *Journal of the American College of Cardiology.* 2017 April 4;69(13):1653-1665.

Pollack A, **Kontorovich AR**, Fuster V, Dec GW. Viral myocarditis--diagnosis, treatment options, and current controversies. *Nature Reviews Cardiology.* 2015 Nov;12(11):670-80.

Pawale A, **Kontorovich A**, Kaushik R, Sengupta P, Sanz J, Orozco-Sevilla V, McGuire A, Thaker H, Stelzer P. Valve-sparing aortic root replacement for rapidly growing multiple sinus of Valsalva pseudoaneurysms in a case of Behçet's-like aortitis. *The Annals of Thoracic Surgery.* 2013 Jul;96(1):e23.

Robert S. Krauss, PhD

Professor of Cell, Developmental, and Regenerative Biology and Oncological Sciences

Institute Affiliations: Black Family Stem Cell Institute; Tisch Cancer Institute; Mindich Child Health and Development Institute

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Research Interests

Dr. Krauss, a cell and developmental biologist, is interested in mechanisms of cell adhesion and signal transduction during fetal development and how when these processes go awry it contributes to birth defects and disease. One area of focus is the role of the Hedgehog pathway in midline patterning, defects in which cause the common and devastating birth defect holoprosencephaly.

Type of Research: Basic/Translational

Publications

Bae JH, Hong M, Jeong HJ, Kim H, Lee SJ, Ryu D, **Krauss RS**, et al. Satellite cell-specific ablation of Cdon impairs integrin activation, FGF signalling, and muscle regeneration. *Journal of Cachexia, Sarcopenia and Muscle.* 2020 Aug;11(4):1089-1103.

Joseph GA, Hung M, Goel AJ, Hong M, Rieder MK, **Krauss RS**, et al. Late-onset megaconial myopathy in mice lacking group I Paks. *Skeletal Muscle.* 2019 February 21;9(1):5.

Kann AP, **Krauss RS**. Multiplexed RNAscope and immunofluorescence on whole-mount skeletal myofibers and their associated stem cells. *Development.* 2019;146(20):dev179259. Published 2019 October 14.

Goel AJ, **Krauss RS**. Ex Vivo Visualization and Analysis of the Muscle Stem Cell Niche. *Methods in Molecular Biology.* 2019;2002:39-50.

Hong M, **Krauss RS**. Modeling the complex etiology of holoprosencephaly in mice. *American Journal of Medical Genetics, Part C: Seminars in Medical Genetics.* 2018;178(2):140-150.

Luca Lambertini, PhD

Assistant Professor of Medicine (Endocrinology) and Obstetrics, Gynecology and Reproductive Science

Institute Affiliation: Mindich Child Health and Development Institute; Diabetes, Obesity and Metabolism Institute

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Research Interests

Dr. Lambertini's research is focused on the identification and characterization of the epigenetics underpinnings of insulin production and pancreatic beta cell replication.

Type of Research: Basic

Publications

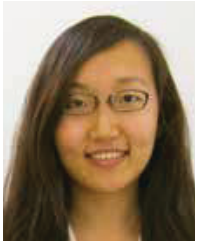
Jones R, Peña J, Mystal E, Marsit C, Lee MJ, Stone J, **Lambertini L**. Mitochondrial and glycolysisregulatory gene expression profiles are associated with intrauterine growth restriction. *The Journal of Maternal-Fetal and Neonatal Medicine.* 2020 Apr;33(8):1336-1345

Kennedy E, Everson TM, Punshon T, Jackson BP, Hao K, **Lambertini L**, et al. Copper associates with differential methylation in placentae from two US birth cohorts. *Epigenetics.* 2020 Mar;15(3):215-230.

Deyssenroth MA, Marsit CJ, Chen J, **Lambertini L**. In-depth characterization of the placental imprintome reveals novel differentially methylated regions across birth weight categories. *Epigenetics.* 2020;15(1-2):47-60.

Zhang W, Ham J, Li Q, Deyssenroth MA, **Lambertini L**, et al. Moderate prenatal stress may buffer the impact of Superstorm Sandy on placental genes: Stress in Pregnancy (SIP) Study. *PLoS One.* 2020 January 29;15(1):e0226605.

Rosselot C, Kumar A, Lakshmipathi J, Zhang P, **Lambertini L**, et al. Myc Is Required for Adaptive δ-Cell Replication in Young Mice but Is Not Sufficient in One-Year-Old Mice Fed With a High-Fat Diet. *Diabetes.* 2019 Oct;68(10):1934-1949.



Shelley H. Liu, PhD

Assistant Professor, Center for Biostatistics, Department of Population Health Science and Policy

Institute Affiliation: Mindich Child Health and Development Institute

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Research Interests

Dr. Liu is a biostatistician, focusing on longitudinal data analysis, Bayesian statistics, latent class analysis and statistical issues arising from cohort studies. She is interested in developing statistical methods for environmental health research, such as estimating the health effects associated with exposure mixtures, and identifying critical time windows of vulnerability.

Type of Research: Clinical/Translational

Publications

Pourkaviani S, Zhang X, Spear EA, **Liu SH**, et al. Clinical validation of the Neonatal Infant Stressor Scale with preterm infant salivary cortisol. *Pediatric Research.* 2020 Jun;87(7):1237-1243.

Liu SH, Liu B, Sanders AP, Saland J, Wilson KM. Secondhand smoke exposure and higher blood pressure in children and adolescents participating in NHANES. *Preventive Medicine.* 2020;134:106052.

Bu DD, **Liu SH**, Liu B, Li Y. Achieving Value in Population Health Big Data [published online ahead of print, 2020 May 11]. *Journal of General Internal Medicine.* 2020;10.

Li Y, **Liu SH**, Niu L, Liu B. Unhealthy Behaviors, Prevention Measures, and Neighborhood Cardiovascular Health: A Machine Learning Approach. *Journal of Public Health Management and Practice.* 2019;25(1):E25-E28.

Wen C, **Liu SH**, Li Y, Sheffield P, Liu B. Pediatric Asthma Among Small Racial/Ethnic Minority Groups: An Analysis of the 2006-2015 National Health Interview Survey. *Public Health Reports.*2019;134(4):338-343.

Florence L. Marlow, PhD

Associate Professor of Cell, Development, and Regenerative Biology

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Annenberg 525

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Research Interests

Dr. Marlow has focused on development and function of the reproductive system, fertility, and the maternal factors that govern normal development and patterning of the embryonic axes and organ systems and neurodegenerative pathologies.

Type of Research: Basic/Translational

Publications

Romano S, Kaufman OH, **Marlow FL**. Loss of dmrt1 restores female fates in the absence of cyp19a1a but not rbpms2a/b.. *Development.* 2020 Sept 28; bioRxiv 2020/009522

Hong S, Feng L, Yang Y, Jiang H, Hou X, Guo P, Hou X, **Marlow FL**. Stanley P, Wu P. In situ Fucosylation for Modulating Wnt Signaling in Live Cells. 2020 Jul; 8IS2451-9456(20)30238-5.

Abrams E, Fuentes R, **Marlow F**, Kobayashi M, Zhang H, Lu S, Kapp L, Joseph SR, Kugath A, Gupta T, Lemon V, Runke G, Amodeo AA, Vastenhouw N, Mullins MC. Molecular Genetics of maternallycontrolled cell divisions. *Plos Genetics.* 2020 Apri**l** 8;16(4):e1008652..

Kaufman OH, Lee K, Martin M, Rothhämel S, **Marlow FL**. Zebrafish rbpms2 functions in Balbiani body architecture and oocyte fate. *PLoS Genetics.* 2018; 14(7) e1007489.

Santos-Ledo A, Garcia-Macia M, Campbell PD, Gronska M, **Marlow FL**. Kinesin 1 promotes chondrocyte maintenance during skeletal morphogenesis. *PLoS Genetics.* 2017; 13(7):e1006918.

Marek Mlodzik, PhD

Professor and Chair, Department of Developmental and Regenerative Biology

Institute Affiliation: Friedman Brain Institute, Mindich Child Health and Development Institute, Tisch Cancer Institute

Lab/Location: Annenberg 18th Floor

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Research Interests

Interests of the Mlodzik lab focus on the regulation of Wnt-Planar Cell Polarity (PCP) signaling and its involvement in embryonic development and organogenesis, utilizing a combination of Drosophila genetics and cell biology state-of the art techniques to dissect the molecular framework underlying cell polarity and patterning aspects of PCP during development and disease.

Type of Research: Basic/Translational

Publications

Humphries AC, Narang S, **Mlodzik M**. Mutations associated with human neural tube defects display disrupted planar cell polarity in *Drosophila. elife.* 2020;9:e53532.

Koca Y, Housden BE, Gault WJ, Bray SJ, **Mlodzik M**. Notch signaling coordinates ommatidial rotation in the Drosophila eye via transcriptional regulation of the EGF-Receptor ligand Argos. *Scientific Reports.* 2019;9(1):18628.

Domingos PM, Jenny A, Combie KF, **Mlodzik M**, et al. Regulation of Numb during planar cell polarity establishment in the Drosophila eye. *Mechanisms of Development.* 2019 Dec;160:103583.

Thuveson M, Gaengel K, Collu GM, Chin ML, Singh J, **Mlodzik M**. Integrins are required for synchronous ommatidial rotation in the Drosophila eye linking planar cell polarity signalling to the extracellular matrix. *Open Biology.* 2019;9(8):190148.

Bigenzahn JW, Collu GM, **Mlodzik M**, et al. LZTR1 is a regulator of RAS ubiquitination and signaling. *Science.* 2018 December 7;362(6419):1171-1177.

Hirofumi Morishita, MD, PhD

Professor of Psychiatry, Neuroscience, and Ophthalmology

Institute Affiliations: Mindich Child Health and Development Institute; Friedman Brain Institute

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Research Interests

The goal of Dr. Morishita's research is to identify the cortical mechanisms of developmental critical periods to establish (1) perception and (2) cognition such as attention and social cognition relevant to neurodevelopmental and psychiatric disorders. We take an integrated approach combining molecular, anatomical, imaging, electrophysiological, and behavior methodologies using mouse models.

Type of Research: Basic/Translational

Publications

Norman KJ, Riceberg JS, Koike H, Bateh, J, Lopez S, Caro, K, Kato D, Liang A,...**Morishita H**. Post-error recruitment of frontal sensory cortical projections promotes attention in mice. *Neuron.* February 19, 2021.

Falk NE, Norman, KJ, Garkun, Y, Demars, MP, Im, S, Taccheri G, Short, J, Caro, K,... Morishita, H. Nicotinic regulation of local and long-range input balance drives top-down attentional circuit maturation. *Science Advances.* 2021.

Yamamuro K, Bicks LK, Leventhal M, Im S, Kato D, Flanigan ME, Garkun Y, Norman KJ, Caro K,... **Morishita H**. A prefrontal–paraventricular thalamus circuit requires juvenile social experience to regulate adult sociability in mice. *Nature Neuroscience.* 31 August 2020.

Bicks LK, Yamamuro K, Flanigan ME, Kim JM, Kato D, Lucas EK, Koike H, Peng MS, Brady DM, Chandrasekaran S, Norman KJ, Smith M, Clem RL, Russo SJ, Akbarian S, **Morishita H**. Prefrontal parvalbumin interneurons require juvenile social experience to establish adult socialbehavior. *Nature Communications.* 2020 February 21, 11, 1003 (2020)

Eric Nestler, MD

Professor of Neuroscience; Professor of Pharmacology and Systems Therapeutics, and Psychiatry

Institute Affiliation: Friedman Brain Institute (Director)

Lab/Location: Icahn 10-26

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Research Interests

Dr. Nestler's research focuses on identifying the neurobiological basis of drug addiction and depression in rodent models. He studies the molecular and cellular changes that occur in regions of the brain important for reward and motivation in response to chronic administration of a drug of abuse or chronic exposure to stress. He is particularly interested in long-lasting changes that are mediated via alterations in gene expression and chromatin remodeling. The result of his research will guide future efforts toward the development of more effective treatments for addiction and depression.

Type of Research: Basic/Translational

Publications

Dash S, Balasubramaniam M, Martínez-Rivera FJ, **Nestler EJ**, et al. Cocaine-regulated microRNA miR-124 controls poly (ADP-ribose) polymerase-1 expression in neuronal cells. *Scientific Reports.* 2020 July 8;10(1):11197.

Yim YY, Teague CD, **Nestler EJ**. In vivo locusspecific editing of the neuroepigenome. *Nature Reviews Neuroscience.* 2020;21(9):471-484.

Tan A, Costi S, Morris LS, **Nestler EJ**, et al. Effects of the KCNQ channel opener ezogabine on functional connectivity of the ventral striatum and clinical symptoms in patients with major depressive disorder. *Molecular Psychiatry.* 2020;25(6):1323-1333.

Xu H, Brown AN, Waddell NJ, **Nestler EJ**, et al. Role of Long Noncoding RNA Gas5 in Cocaine Action [published online ahead of print, 2020 May 11]. *Biological Psychiatry.* 2020;S0006-3223(20)31589-4.

Guerin AA, Bonomo Y, Lawrence AJ, **Nestler EJ**, et al. Cognition and Related Neural Findings on Methamphetamine Use Disorder: Insights and Treatment Implications From Schizophrenia Research. *Frontiers in Psychiatry.* 2019;10:880.

Jeffrey H. Newcorn, MD

Associate Professor of Psychiatry (Child and Adolescent Psychiatry) and Pediatrics Director, Division of ADHD and Learning Disorders; Director, Pediatric Psychopharmacology

Institute Affiliation: Friedman Brain Institute

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Research Interests

Dr. Newcorn studies the neurobiological basis of attention-deficit/hyperactivity disorder (ADHD), and clinical efficacy and mechanism of action of stimulant and non-stimulant medications. He conducts clinical treatment studies which include neuroimaging and genetic biomarkers of response.

Type of Research: Clinical/Translational

Publications

Schulz, KP, Bédard, A-CV, Fan, J, Hildebrandt, TB, Stein, MA, Ivanov, I, Halperin, JM, **Newcorn, JH**. Striatal Activation Predicts Differential Therapeutic Responses to Methylphenidate and Atomoxetine. *Journal of the American Academy of Child and Adolescent Psychiatry.* 2017 Jul;56(7):602-609.e2.

Schulz KP, Li X, Clerkin SM, Fan J, Berwid OG, **Newcorn JH**, Halperin JM. Prefrontal and Parietal Correlates of Cognitive Control Related to the Adult Outcome of Attention-Deficit/Hyperactivity Disorder Diagnosed in Childhood. *Cortex, Cortex.* 2017 February 20;90:1-11.

Newcorn, JH, Stark, JG, Adcock, S, McMahen, R, Sikes, C. A randomized phase 1 study to assess the effect of alcohol on the pharmacokinetics of an extended-release orally disintegrating tablet formulation of amphetamine in healthy adults. *Clinical Therapeutics.* 2017 (In Press).

Newcorn, JH, Harpin, V, Huss, M, Lyne, A, Sikirica, V, Johnson, M, Ramos-Quiroga, JA, van Stralen, J, Dutray, B, Sreckovic, S, Bloomfield, R, Robertson, B. Extended-release guanfacine hydrochloride in 6–17-year-olds with ADHD: A randomizedwithdrawal maintenance of efficacy study 2016. *Journal of Child Psychology and Psychiatry.* Jun;57(6):717-28.

Gurnani, T, Ivanov, I, **Newcorn, JH**. 2016. Pharmacotherapy of Aggression in Child and Adolescent Psychiatric Disorders. *Journal of Child and Adolescent Psychopharmacology.* February 2016.;26(1):65-73.

Dalila Pinto, PhD

Assistant Professor of Psychiatry, and Genetics and Genomic Sciences
Institution Affiliations: Mindich Child Health and Development Institute; Seaver Autism Center, Friedman Brain Institute, Icahn Institute for Multiscale Biology

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Research Interests

Dr. Pinto's laboratory focuses on identifying risk factors and pathways involved in neurodevelopmental disorders, including autism, epilepsy and schizophrenia. By using a combination of innovative high-throughput experimental and bioinformatics approaches, her lab maps and characterizes various forms of genetic variation (copy number and point-mutations) that are further integrated with coding and non-coding gene expression, epigenetics and clinical data to shed light on the mechanisms underlying these disorders.

Type of Research: Basic/Translational

Publications

Holmes G, Gonzalez-Reiche AS, Lu N, **Pinto D**, et al. Integrated Transcriptome and Network Analysis Reveals Spatiotemporal Dynamics of Calvarial Suturogenesis. *Cell Reports.* 2020;32(1):107871.

Munn-Chernoff MA, Johnson EC, Chou YL, **Pinto D**, et al. Shared genetic risk between eating disorderand substance-use-related phenotypes: Evidence from genome-wide association studies. *Addiction Biology.* 2020;e12880.

Yao S, Kuja-Halkola R, Martin J, **Pinto D**, et al. Associations Between Attention-Deficit/ Hyperactivity Disorder and Various Eating Disorders: A Swedish Nationwide Population Study Using Multiple Genetically Informative Approaches. *Biological Psychiatry.* 2019;86(8):577-586.

Watson HJ, Yilmaz Z, Thornton LM, **Pinto D**, et al. Genome-wide association study identifies eight risk loci and implicates metabo-psychiatric origins for anorexia nervosa. *Nature Genetics.* 2019;51(8):1207-1214.

Zhao N, Sebastiano V, Moshkina N, **Pinto D**, et al. Influenza virus infection causes global RNAPII termination defects. *Nature Structural and Molecular Biology.* 2018;25(9):885-893.

Francesco Ramirez, DSc

Professor of Pharmacology and Systems Therapeutics, Medicine (Cardiology) and Orthopedics

Lab/Location: Annenberg 19-66

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Research Interests

Dr. Ramirez is a molecular geneticist with a long standing interest in heritable disorders of connective tissue. Current work focuses on elucidating the pathogenesis of cardiovascular and musculoskeletal abnormalities in mouse models of Marfan syndrome, and on identifying new therapeutic means to mitigate progression of these systemic manifestations.

Type of Research: Basic/Translational

Publications

Tran PHT, Skrba T, Wondimu E, **Ramirez F**, et al. The influence of fibrillin-1 and physical activity upon tendon tissue morphology and mechanical properties in mice. *Physiological Reports.* 2019;7(21):e14267.

Hansen J, Galatioto J, Caescu CI, **Ramirez F**,et al. Systems pharmacology-based integration of human and mouse data for drug repurposing to treat thoracic aneurysms. *JCI Insight.* 2019;4(11):e127652.

Milewicz DM, **Ramirez F**. Therapies for Thoracic Aortic Aneurysms and Acute Aortic Dissections. *Arteriosclerosis, Thrombosis, and Vascular Biology.* 2019;39(2):126-136

Ramirez F, Caescu C, Wondimu E, Galatioto J. Marfan syndrome; A connective tissue disease at the crossroads of mechanotransduction, TGFδ signaling and cell stemness. *Matrix Biology.* 2018;71- 72:82-89.

Cikach FS, Koch CD, Mead TJ, **Ramirez F**, et al. Massive aggrecan and versican accumulation in thoracic aortic aneurysm and dissection. *JCI Insight.* 2018;3(5):e97167.

Robert Rapaport, MD

Professor of Pediatrics and Director of the Division of Pediatric Endocrinology and Diabetes

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Research Interests

Dr. Rapaport's research interests are focused on three main areas: growth, growth hormone treatment and metabolic aspects of children born small for gestational age, neonatal thyroid disease and pubertal disorders.

Type of Research: Clinical/Translational

Publications

Yau M, **Rapaport R**. Growth Hormone Stimulation Testing: To Test or Not to Test? That Is One of the Questions. *Frontiers in Endocrinology (Lausanne).* 2022 June 9.

Bhangoo A, Gupta R, Shelov SP, Carey DE, Accacha S, Fennoy I, Altshuler L, Lowell B, **Rapaport R**, Rosenfeld W, Speiser PW, Ten S, Rosenbaum M. Fasting Serum IGFBP-1 as a Marker of Insulin Resistance in Diverse School Age Groups. *Frontiers in Endocrinology (Lausanne).* 2022 May 2.

Kolevzon A, Breen MS, Siper PM, Halpern D, Frank Y, Rieger H, Weismann J, Trelles MP, Lerman B, **Rapaport R**, Buxbaum JD. Clinical trial of insulin-like growth factor-1 in Phelan-McDermid syndrome. *Molecular Autism.* 2022 April 8.

Lavik AR, Ebekozien O, Noor N, Alonso GT, Polsky S, Blackman SM, Chen J, Corathers SD, Demeterco-Berggren C, Gallagher MP, Greenfield M, Garrity A, Rompicherla S, **Rapaport R**, Yayah Jones NH. Trends in Type 1 Diabetic Ketoacidosis During COVID-19 Surges at 7 US Centers: Highest Burden on non-Hispanic Black Patients. *The Journal of Clinical Endocrinology and Metabolism.* 2022 June 16.

Sethuram S, Levy T, Foss-Feig J, Halpern D, Sandin S, Siper PM, Walker H, Buxbaum JD, **Rapaport R**, Kolevzon A. A proof-of-concept study of growth hormone in children with Phelan-McDermid syndrome. *Molecular Autism.* 2022 January 29.

Avi Reichenberg, PhD

Professor of Psychiatry and Preventative Medicine Institution Affiliations: Seaver Center for Autism; Mindich Child Health and Development Institute

Lab/Location: CAM West Tower, D5-143

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Research Interests

Dr. Reichenberg's research group focuses on the role of environmental and familial factors in the etiology of developmental and psychotic disorders. His work includes human population-based studies, molecular genetic and epigenetic, bioinformatic methods and animal models. The goal is to gain better insight into the causes of psychiatric disorders, particularly autism and schizophrenia.

Type of Research: Basic/Translational/Clinical

Publications

Bai D, Marrus N, Yip BHK, **Reichenberg A**, Constantino JN, Sandin S. Inherited Risk for Autism Through Maternal and Paternal Lineage [published online ahead of print, 2020 April 2]. *Biological Psychiatry.* 2020;S0006-3223(20)31384-6.

Kodesh A, Goldberg Y, Rotstein A, **Reichenberg A**, et al. Risk of dementia and death in very-late-onset schizophrenia-like psychosis: A national cohort study. *Schizophrenia Research.* 2020.

Gilleen J, Tesse M, Velikonja T, Weiser M, Davidson M, **Reichenberg A**. Schizotypal traits and neuropsychological performance: The role of processing speed. *Schizophrenia Research.* 2020.

ullana MA, Tortella-Feliu M, Fernández de la Cruz L, **Reichenberg A**, et al. Risk and protective factors for anxiety and obsessive-compulsive disorders: an umbrella review of systematic reviews and metaanalyses. *Psychological Medicine.* 2020.

Modabbernia A, **Reichenberg A**, Ing A, et al. Linked patterns of biological and environmental covariation with brain structure in adolescence: a populationbased longitudinal study. *Molecular Psychiatry.* 2020.

Michael Rendl, MD

Professor of Cell, Developmental and Regenerative Biology, and Dermatology

Institute Affiliations: Black Family Stem Cell Institute; Mindich Child Health and Development Institute

Lab/Location: Atranberg 7-10C

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Research Interests

Dr. Rendl's lab studies the function of stem cell niches. They utilize genetic mouse models for embryonic hair follicle formation and adult hair regeneration to uncover how Dermal Papilla niche cells instruct hair follicle stem cells. Insights from these studies will provide a platform for developing hair regenerative therapies.

Type of Research: Basic/ Translational

Publications

Shook BA, Wasko RR, Mano O, **Rendl M**, et al. Dermal Adipocyte Lipolysis and Myofibroblast Conversion Are Required for Efficient Skin Repair. *Cell Stem Cell.* 2020.

Heitman N, Sennett R, Mok KW, **Rendl M**, et al. Dermal sheath contraction powers stem cell niche relocation during hair cycle regression. *Science.* 2020;367(6474):161-166.

Saxena N, Mok KW, **Rendl M**. An updated classification of hair follicle morphogenesis. *Experimental Dermatology.* 2019;28(4):332-344.

Mok KW, Saxena N, Heitman N, **Rendl M**, et al. Dermal Condensate Niche Fate Specification Occurs Prior to Formation and Is Placode Progenitor Dependent. *Developmental Cell.* 2019.

Heitman N, Saxena N, **Rendl M**. Advancing insights into stem cell niche complexities with next-generation technologies. *Current Opinion in Cell Biology.* 2018;55:87-95.

Jeffrey M. Saland, MD, MSCR

Associate Professor of Pediatrics (Nephrology) and Division Chief of Nephrology

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Icahn 6-10A

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Research Interests

Dr. Saland participates in local and multicenter clinical studies of chronic kidney disease. Areas of interest include lipoprotein metabolism, and cardiovascular complications in children with CKD. Dr. Saland has developed treatment for atypical hemolytic uremic syndrome and is engaged in clinical trials to treat primary hyperoxaluria.

Type of Research: Clinical/Translational

Publications

Ng DK, Xu Y, Hogan J, **Saland J**, et al. Timing of patient-reported renal replacement therapy planning discussions by disease severity among children and young adults with chronic kidney disease. *Pediatric Nephrology.* 2020.

Hogan J, Schneider MF, Pai R, **Saland J**, et al. Grip strength in children with chronic kidney disease. *Pediatric Nephrology.* 2020;35(5):891-899.

Liu SH, Liu B, Sanders AP, **Saland J**, Wilson KM. Secondhand smoke exposure and higher blood pressure in children and adolescents participating in NHANES. *Preventive Medicine.* 2020;134:106052.

Viteri B, **Saland JM**. Hemolytic Uremic Syndrome. *Pediatrics in Review.* 2020;41(4):213-215.

Saland JM, Kupferman JC, Pierce CB, et al. Change in Dyslipidemia with Declining Glomerular Filtration Rate and Increasing Proteinuria in Children with CKD. *Clinical Journal of the American Society of Nephrology.* 2019;14(12):1711-1718.

Hugh A. Sampson, MD

Kurt Hirschhorn Professor of Pediatrics (Allergy and Immunology)

Institute Affiliations: Jaffe Food Allergy Institute; Mindich Child Health and Development Institute; Immunology Institute

Lab/Location: Icahn 11-26

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Research Interests

Dr. Sampson's research interests have focused on food allergic disorders including work on the immuno-pathogenic role of food hypersensitivity in atopic dermatitis, the pathogenesis of food-induced anaphylaxis, characterization of food-induced gastrointestinal hypersensitivities, molecular characterization of food allergens, and more recently immunotherapeutic strategies for treating food allergies.

Type of Research: Clinical/Translational

Publications

Berin MC, Agashe C, Burks AW, Chiang D, Davidson WF, Dawson P, Grishin A, Henning AK, Jones SM, Kim EH, Leung DYM, Masilamani M, Scurlock AM, Sicherer SH, Wood RA, **Sampson HA**. Allergen-specific T cells and clinical features of food allergy: Lessons from CoFAR immunotherapy cohorts. *Journal of Allergy and Clinical Immunology.* 2022; 149:1373-82.

Kanchan K, Grinek S, Bahnson HT, Ruczinski I, Shankar G, Larson D, Du Toit G, Barnes KC, **Sampson HA**, Suarez- Farinas M, Lack G, Nepom GT, Cerosaletti K, Mathias RA. HLA alleles and sustained peanut consumption promote IgG4 responses in subjects protected from peanut allergy. *Journal of Clinical Investigation.* 2022 January 4.

Jones SM, Kim EH, Nadeau KC, Nowak-Wegrzyn A, Wood RA, **Sampson HA**, Scurlock AM, Chinthrajah S, Wang J, Pesek RD, Sindher SB, Kulis M, Johnson J, Spain K, Babineau DC, Chin H, Laurienzo-Panza J, Yan R, Larson D, Qin T, Whitehouse D, Sever ML, Sanda S, Plaut M, Wheatley LM, Burks AW; Immune Tolerance Network. Efficacy and safety of oral immunotherapy in children aged 1-3 years with peanut allergy (the Immune Tolerance Network IMPACT trial): a randomised placebocontrolled study. *Lancet.* 2022 January 22.

Santos AF, Kulis MD, **Sampson HA**. Bringing the Next Generation of Food Allergy Diagnostics into the Clinic. *The Journal of Allergy and Clinical Immunology: In Practice.* 2022;10(1):1-9.

Lisa M. Satlin, MD

Professor (Nephrology) and Chair of Pediatrics

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Annenberg 14-18, 14-19

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Research Interests

Dr. Satlin's developmental renal physiology lab focuses on exploring the role of variations in urinary flow rate in the mechanoregulation of ion channels and transport proteins in the kidney in health and disease, unraveling the molecular mechanisms underlying the ability of the maturing kidney to adjust sodium and potassium balance during periods of somatic growth, and developing physiologically appropriate 3D bioprinted distal renal tubules-on-a-chip.

Type of Research: Basic/Translational

Publications

Webb TN, Carrisoza-Gaytan R, Montalbetti N, Rued AC, Roy A, Socovich AM, Subramanya AR, **Satlin LM**, Kleyman T, and MD Carattino. Cell Specific Regulation of L-WNK1 by Dietary K. *American Journal of Physiology - Renal Physiology.* 2016 January 1;310(1):F15-26.

Carrisoza-Gaytan R, Carattino MD, Kleyman T, and **LM Satlin**. An unexpected journey: conceptual evolution of mechanoregulated potassium transport in the distal nephron. *American Journal of Physiology - Cell Physiology.* 2016 February 15;310(4):C243-59.

Kharade SV, Flores D, Lindsley CW, **Satlin LM**, and JS Denton. ROMK inhibitor actions in the nephron probed with diuretics. *American Journal of Physiology - Renal Physiology.* 2016 310: F732–F737.

Nizar JM, Dong W, McClellan RB, Labarca M, Zhou Z, Wong J, Goens DG, Zhao M, Velarde N, Bernstein D, Pellizon M, **Satlin L**, and V Bhalla. Sodium-sensitive elevation in blood pressure is ENaC independent in diet-induced obesity and insulin resistance. *American Journal of Physiology - Renal Physiology.* 2016 May 1;310(9):F812-20.

Carrisoza-Gaytán R, Wang L, Schreck C, Kleyman TR, Wang W, and **LM Satlin**. The mechanosensitive BKδ/δ1 channel localizes to cilia of principal cells in rabbit cortical collecting duct (CCD). *American Journal of Physiology - Renal Physiology.* 2017 January 1;312(1):F143-F156.

Kurt P. Schulz, PhD

Assistant Professor of Psychiatry

Lab/Location: 19 East 98th Street
Fifth Floor

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Research Interests

Dr. Schulz has a long record of translational research on the pathophysiology of neurodevelopmental disorders and the identification of biomarkers for treatment response. His research has focused on the role of prefrontal cortex maturation as a mechanism for the recovery from ADHD and the therapeutic actions of stimulant and non-stimulant medications for ADHD on these prefrontal processes.

Type of Research: Clinical/Translational

Publications

Ivanov I, **Schulz K**, Li X, Newcorn J. Reward Processing in Drug-Naive Youth with Various Levels of Risk for Substance Use Disorders: A Pilot Study. *Journal of Child and Adolescent Psychopharmacology.* 2019;29(7):516- 525.

Luo Y, **Schulz KP**, Alvarez TL, Halperin JM, Li X. Distinct topological properties of cue-evoked attention processing network in persisters and remitters of childhood ADHD. *Cortex.* 2018;109:234-244.

Hildebrandt T, **Schulz K**, Schiller D, Heywood A, Goodman W, Sysko R. Evidence of prefrontal hyperactivation to food-cue reversal learning in adolescents with anorexia nervosa. *Behaviour Research and Therapy.* 2018;111:36-43.

Schulz KP, Krone B, Adler LA, et al. Lisdexamfetamine Targets Amygdala Mechanisms That Bias Cognitive Control in Attention-Deficit/ Hyperactivity Disorder. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging.* 2018;3(8):686-693.

Hildebrandt T, **Schulz K**, Fleysher L, Griffen T, Heywood A, Sysko R. Development of a methodology to combine fMRI and EMG to measure emotional responses in patients with anorexia nervosa. *International Journal of Eating Disorders* 2018;51(7):722-729.

Donald Scott, PhD

Professor of Medicine (Endocrinology)

Institute Affiliation: Mindich Child Health and Development Institute; Obesity, Diabetes and Metabolism Institute

Lab/Location: Atranberg 5-17

Email: donald.scott@mssm.edu

Research Interests

Dr. Scott has a longstanding interest in how nutrients change cellular phenotype. Dr. Scott has focused on glucose-responsive transcription factors, including ChREBP and Myc. These studies provide a glimpse into how cells respond to varying metabolic environments, which is applicable to a wide range of metabolic diseases, including diabetes, cancer, cardiovascular disease, and aging.

Type of Research: Basic/Translational

Publications

Maachi H, Fergusson G, Ethier M, **Scott DK**, et al. HB-EGF Signaling Is Required for Glucose-Induced Pancreatic ß-Cell Proliferation in Rats. *Diabetes.* 2020;69(3):369-380.

Rosselot C, Kumar A, Li L, Lakshmipathi J, Zhang P, Katz LS, Prochownik EV, Stewart AF, Lambertini L, **Scott DK**, Garcia-Ocaña A. Myc Is Required for Adaptive ß-Cell Replication in Young Micebut Is not Sufficient in One-Year-Old Mice Fed with a High-Fat Diet. *Diabetes.* 2019.

Ackeifi, C., Swartz, E., Kumar, K., Liu, H., Chalada S, Karakose E, **Scott DK**, Garcia-Ocaña, A., Sanchez, R., DeVita, R.J., Stewart, A.F., Wang, P. Pharmacologic and Genetic Approaches Define Human Pancreatic Beta Cell Mitogenic Targets of DYRK1A Inhibitors. *JCI Insight.* 2019;5(1):e132594.

Ackeifi C, Wang P, Karakose, E, Manning Fox JE, **Scott DK**, et al. GLP-1 receptor agonists synergize with DYRK1A inhibitors to potentiate functional human cell regeneration. *Science Translational Medicine.* 12: eaaw9996.

Maachi H, Fergusson G, Ethier M, Brill GN, **Scott DK**, Ghislain, J, Poitout V, et al. HB-EGF Signaling is Required for Glucose-Induced Pancreatic ß-Cell Proliferation in Rats. *Diabetes.* 2020; 69: 369-380.

Andrew Sharp, PhD

Professor of Genetics and Genomic Sciences

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Hess CSM 8-301

Email: andrew.sharp@mssm.edu

Research Interests

The Sharp lab is an integrated research environment combining both experimental and bioinformatic approaches. Dr. Sharp's research uses genomic approaches to perform basic studies of human genome function, and a wide variety of diseases, including congenital disorders such as cleft lip/palate and spina bifida, and chromosomal disorders such as translocations and microdeletions.

Type of Research: Basic/Translational

Publications

Do AN, Watson CT, Cohain AT, **Sharp AJ**,et al. Dual transcriptomic and epigenomic study of reaction severity in peanut-allergic children. *Journal of Allergy and Clinical Immunology.* 2020.

Seiden AH, Richter F, Patel N, **Sharp AJ**, et al. Elucidation of de novo small insertion/deletion biology with parent-of-origin phasing. *Human Mutation.* 2020.

Rodriguez OL, Ritz A, **Sharp AJ**, Bashir A. MsPAC: a tool for haplotype-phased structural variant detection. *Bioinformatics.* 2020;36(3):922-924.

Jadhav B, Monajemi R, Gagalova KK, **Sharp AJ**, et al. RNA-Seq in 296 phased trios provides a highresolution map of genomic imprinting. *BMC Biology.* 2019;17(1):50.

Richter F, Hoffman GE, Manheimer KB, **Sharp AJ**, et al. ORE identifies extreme expression effects enriched for rare variants. *Bioinformatics.* 2019;35(20):3906-3912.

Eyal Shemesh, MD

Professor of Pediatrics and Psychiatry; Division Chief of Developmental and Behavioral Pediatrics

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Icahn Sixth Floor, L6-13

Email: eyal.shemesh@mssm.edu

Research Interests

Dr. Shemesh, who trained as both a pediatrician and a child psychiatrist, studies ways to assess and then improve the well-being (especially emotional well-being) of children and adults who suffer from medical illnesses and their families, with a particular focus on traumatic stress reactions and nonadherence to medical regimens.

Type of Research: Clinical/Translational

Publications

Shneider C, Dunphy C, **Shemesh E**, Annunziato RA. Assessment and Treatment of Nonadherence in Transplant Recipients. *Gastroenterology Clinics of North America.* 2018 Dec;47(4):939-948.

Egorova NN, Pincus HA, **Shemesh E**, Kleinman LC. Behavioral Health Diagnoses Among Children and Adolescents Hospitalized in the United States: Observations and Implications. *Psychiatric Services.* 2018 August 1;69(8):910-918.

Annunziato RA, Bucuvalas JC, Yin W, Arnand R, Alonso EM, Mazariegos GV, Venick RS, Stuber ML, Shneider BL, **Shemesh E**. Self-Management Measurement and Prediction of Clinical Outcomes in Pediatric Transplant. *The Journal of Pediatrics.* 2018 Feb;193:128-133.e2

Shemesh E, Mitchell J, Neighbors K, Feist S, Hawkins A, Brown A, Wanrong Y, Anand R, Stuber ML, Annunziato RA. Recruiting a representative sample in adherence research-The MALT multisite prospective cohort study experience. *Pediatric Transplantation* 2017 Dec;21(8).

Lieber SR, Helcer J, Leven E, Knight CS, Wlodarkiewicz C, Shenoy A, **Shemesh E**, Florman SS, Schiano TD, Annunziato RA. Pretransplant Psychosocial Risk Factors May Not Predict Late Nonadherence and Graft Rejection in Adult Liver Transplant Recipients. *Experimental and Clinical Transplantation.* 2018 Oct;16(5):533-540.

Scott H. Sicherer, MD

Professor of Pediatrics (Allergy and Immunology) and Division Chief of Allergy; Medical Director, Clinical Research Center

Institute Affiliation: Jaffe Food Allergy Institute (Director); Mindich Child Health and Development Institute

Lab/Location: Icahn L6-87

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Research Interests

Dr. Sicherer has a strong interest in food allergy with research focusing on epidemiology, psychosocial issues, prevention, modalities to educate physicians and parents about food allergy, daily management, natural history, and novel therapeutics.

Type of Research: Clinical/Translational

Publications

Lopes JP, **Sicherer S**. Food allergy: epidemiology, pathogenesis, diagnosis, prevention, and treatment. *Current Opinion in Immunology.*2020;66:57-64.

Maciag MC, Herbert LJ, **Sicherer SH**, et al. The Psychosocial Impact of Food Protein-Induced Enterocolitis Syndrome [published online ahead of print, 2020 June 20]. *The Journal of Allergy and Clinical Immunology: In Practice.* 2020;S2213-2198(20)30609-7.

Kim EH, Perry TT, Wood RA, **Sicherer SH**, et al. Induction of sustained unresponsiveness after egg oral immunotherapy compared to baked egg therapy in children with egg allergy [published online ahead of print, 2020 June 12]. *Journal of Allergy and Clinical Immunology.* 2020;S0091-6749(20)30810-1.

Sicherer SH, Warren CM, Dant C, Gupta RS, Nadeau KC. Food Allergy from Infancy Through Adulthood. *The Journal of Allergy and Clinical Immunology: In Practice.* 2020;8(6):1854-1864.

Maciag MC, Bartnikas LM, **Sicherer SH**, et al. A Slice of Food Protein-Induced Enterocolitis Syndrome (FPIES): Insights from 441 Children with FPIES as Provided by Caregivers in the International FPIES Association. *The Journal of Allergy and Clinical Immunology: In Practice.* 2020;8(5):1702-1709.

Paige Siper, PhD

Assistant Professor of Psychiatry, Chief Psychologist of the Seaver Autism Center for Research and Treatment

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: 1428 Madison Avenue E Level, Room 22

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Research Interests

Dr. Siper's lab combines electrophysiological approaches and comprehensive phenotyping to identify biological and bio-behavioral markers of idiopathic and single-gene causes of autism spectrum disorder.

Type of Research: Clinical/Translational

Publications

Øien RA, **Siper P**, Kolevzon A, Grodberg D. Detecting Autism Spectrum Disorder in Children With ADHD and Social Disability. *Journal of Attention Disorders.* 2020;24(7):1078-1084

Curtin, P., Austin, C., Curtin, A., Gennings, C., Arora, M...Siper, P... Reichenberg. Dynamical features in fetal and postnatal zinc-copper metabolic cycles predict the emergence of autism spectrum disorder. 2018; *Science Advances.*4 (5).

De Rubeis S.+ **Siper P.M.**+, Durkin, A., Weissman, J., Muratet, F., Halpern, D., Trelles, MDP., Frank, Y., Lozano, R., Wang, A.T., Holder, L.J., Betancur, C., Buxbaum, J.D., Kolevzon, A. Delineation of the genetic and clinical spectrum of Phelan-McDermid syndrome caused by SHANK3 point mutations. 2018; *Molecular Autism.* 9 (31).

Siper P.M.+, De Rubeis, S.+, Trelles, M.P., Durkin, A., Di Marino, D., Muratet, F., et al. Prospective investigation of FOXP1 syndrome. 2017; *Molecular Autism.* 57 (8), 1-16.

Siper P.M., Kolevzon A., Wang, A.T., Buxbaum, J.D., Tavassoli, T. A clinician-administered observation and corresponding caregiver interview capturing DSM-5 sensory reactivity symptoms in children with ASD. 2017; *Autism Research.* 10(6).

Philippe M. Soriano, PhD

Professor of Developmental and Regenerative Biology and Oncological Sciences

Institute Affiliation: Tisch Cancer Institute

Lab/Location: Annenberg 25-70

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Research Interests

Dr. Soriano is a developmental biologist who studies growth factor signaling pathways that have important roles in mouse craniofacial development and in stem cells of the early embryo. His laboratory uses state-of-theart molecular genetic approaches in the mouse to address the general question of how biological specificity is acquired upon engagement of growth factor signaling.

Type of Research: Basic

Publications

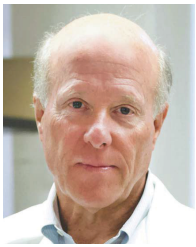
Dinsmore CJ, **Soriano P**. Differential regulation of cranial and cardiac neural crest by Serum Response Factor and its cofactors. *eLife.* 2022 January 19; 11:e75106.

Ray AT, Mazot P, Brewer JR, Catela C, Dinsmore CJ, **Soriano P**. FGF signaling regulates development by processes beyond canonical pathways. *Genes and Development.* (2020) December 1; 34(23-24): 1735-1752.

Clark JF, Dinsmore CJ, **Soriano P**. A most formidable arsenal: genetic technologies for building a better mouse. *Genes and Development..* 2020 October 1; 34(19-20): 1256-1286.

Kurowski A, Molotkov A, **Soriano P**. FGFR1 regulates trophectoderm development and facilitates blastocyst implantation. *Developmental Biology.* 2019 February 1;446(1):94-101.

Molotkov A, **Soriano P**. Distinct mechanisms for PDGF and FGF signaling in primitive endoderm development. *Developmental Biology.* 2018 October 1;442(1):155-161.



Andrew F. Stewart, MD

Irene and Dr. Arthur M. Fishberg Professor of Medicine

Institute Affiliation: Diabetes, Obesity and Metabolism Institute (Director); Mindich Child Health and Development Institute

Lab/Location: Atranberg 5

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Research Interests

The Stewart lab is interested in drug discovery for human beta cell and expansion of human pancreatic beta cells for regenerative and replacement therapies for Types 1 and 2 diabetes mellitus.

Type of Research: Basic

Publications

Wang P, Karakose E, Argmann C, Wang H, Balev M, Brody R, Rivas H, Liu X, Wood O, Liu H, Choleva C, Hasson D, Paulo JA, Scott DK, Lambertini L, DeCaprio JA, **Stewart AF**. Disrupting the DREAM Complex Enables Proliferation of Adult Human Pancreatic Beta Cells. *Journal of Clinical Investigation.* (in press) 2022.

Ackeifi C, Wang P, Karakose E, Manning Fox JE, González BJ, Scott DK, Garcia-Ocaña A, **Stewart AF**, et al . Dual DYRK1A-GLP1R Modulation Synergistically Increases Human Beta Cell Numbers. *Science Translational Medicine* 12. 2020.

Wang P, Karakose E, Liu H, Swartz E, Ackeifi C, Zlatanic V, Wilson J, Argmann C, Scott DK, Garcia-Ocana A, **Stewart AF**. Combined Inhibition of DYRK1A, SMAD and Trithorax Pathways Synergizes to Induce Robust Replication in Adult Human Beta Cells. *Cell Metabolism.* 2019;29:638-52, 2019.

Wang P, Felsenfeld DP, Liu H, Sivendran S, Bender A, Kumar A, Alvarez-Perez JC, Garcia- Ocana A, Sanchez R, Scott DK, **Stewart AF**. A highthroughput chemical screen reveals that harminemediated inhibition of DYRK1A increases human pancreatic beta cell replication. *Nature Medicine.* 2015.

Shanna H. Swan, PhD

Professor of Environmental Medicine and Public Health

Institute Affiliation: Institute for Exposomic Research; Mindich Child Health and Development Institute

Lab/Location: CAM West Tower, D3-135

Email: shanna.swan@mssm.edu

Research Interests

Dr. Shanna Swan is an Environmental and Reproductive Epidemiologist. Her research group examines the impact of environmental exposures on reproductive health and neurodevelopment in multi-center pregnancy cohort studies that include over 1,000 mothers and their children. This research is focused on identifying sex-differences in environmental effects, development and disease.

Type of Research: Clinical/Translational

Publications

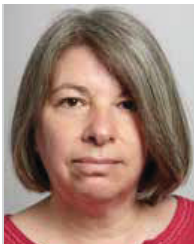
Fischer MB, Ljubicic ML, Hagen CP, **Swan SH**, et al. Anogenital Distance in Healthy Infants: Method-, Age- and Sex-related Reference Ranges. *The Journal of Clinical Endocrinology and Metabolism.* 2020;105(9):dgaa393.

Lyden GR, Barrett ES, Sathyanarayana S, Bush NR, **Swan SH**, Nguyen RHN. Pregnancy intention and phthalate metabolites among pregnant women in The Infant Development and Environment Study cohort. *Paediatric and Perinatal Epidemiology.* 2020.

Day DB, Collett BR, Barrett ES, **Swan SH**, et al. Prenatal sex hormones and behavioral outcomes in children. *Psychoneuroendocrinology*. 2020;113:104547.

Rudnicka A, Adoamnei E, Noguera-Velasco JA, **Swan SH**, et al. Vitamin D status is not associated with reproductive parameters in young Spanish men. *Andrology.* 2020;8(2):323-331.

Manservisi F, Lesseur C, Panzacchi S, **Swan SH**, et al. The Ramazzini Institute 13-week pilot study glyphosate-based herbicides administered at human-equivalent dose to Sprague Dawley rats: effects on development and endocrine system. *Environmental Health.* 2019;18(1):15.



Susan L. Teitelbaum, PhD

Professor of Environmental Medicine and Public Health

Institute Affiliation: Mindich Child Health and Development Institute; Institute for Translational Epidemiology; Tisch Cancer Institute

Lab/Location: CAM Second Floor West Tower, Room D2-132

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Research Interests

Dr. Teitelbaum is a classically trained environmental and cancer epidemiologist with extensive experience in conducting epidemiologic field studies, assessing complex environmental exposures and performing advanced statistical analysis of large epidemiologic data sets. Her research focuses on the influence of the environment on children's health as well as breast cancer.

Type of Research: Epidemiology

Publications

Gopalakrishnan K, **Teitelbaum SL**, Wetmur J, Manservisi F, Falcioni L, Panzacchi S, Gnudi F, Belpoggi F, Chen J. Histology and Transcriptome Profiles of the Mammary Gland across Critical Windows of Development in Sprague Dawley Rats. *Journal of Mammary Gland Biology and Neoplasia.* 2018 Sep;23(3):149-163.

Biro FM, Pajak A, Wolff MS, Pinney SM, Windham GC, Galvez MP, Greenspan LC, Kushi LH, **Teitelbaum SL**. Age of Menarche in a Longitudinal US Cohort. *Journal of Pediatric and Adolescent Gynecology.* 2018 Aug;31(4):339-345.

Parada H Jr, Gammon MD, Chen J, Calafat AM, Neugut AI, Santella RM, Wolff MS, **Teitelbaum SL**. Urinary Phthalate Metabolite Concentrations and Breast Cancer Incidence and Survival following Breast Cancer: The Long Island Breast Cancer Study Project. *Environmental Health Perspective.* 2018 April 26;126(4):047013.

Bello GA, Lucchini RG, **Teitelbaum SL**, Shapiro M, Crane MA, Todd AC. Development of a Physiological Frailty Index for the World Trade Center General Responder Cohort. *Current Gerontology and Geriatrics Research.* 2018 February 26;2018:3725926.

Parada H Jr, Bradshaw PT, Steck SE, Engel LS, Conway K, **Teitelbaum SL**, Neugut AI, Santella RM, Gammon MD. Postdiagnosis Changes in Cigarette Smoking and Survival Following Breast Cancer. *JNCI Cancer Spectrum.* 2017 Sep;1(1). pii: pkx001.

Rebecca Trachtman, MD, MS

Assistant Professor of Pediatrics, Division of Clinical Immunology and Rheumatology, Department of Pediatrics

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Icahn L6-94

Email: rebecca.trachtman@mssm.edu

Research Interests

Dr. Trachtman's research focuses on the biomarkers and patient-reported outcomes in juvenile idiopathic arthritis.

Type of Research: Clinical/Translational

Publications

Kaushik S, Aydin SI, Derespina KR, **Trachtman R**, et al. Multisystem Inflammatory Syndrome in Children Associated with Severe Acute Respiratory Syndrome Coronavirus 2 Infection (MIS-C): A Multiinstitutional Study from New York City. *The Journal of Pediatrics.* 2020;224:24-29.

Trachtman H, **Trachtman R**. Recurrent focal segmental glomerulosclerosis after kidney transplantation: response to comments by Straatmann and Vehaskari. *Pediatric Nephrology.* 2016;31(8):1377.

Trachtman R, Onel K. Blau Syndrome. Auto-Inflammatory Syndromes: Pathophysiology, Diagnosis, and Management. (In press)

Trachtman R, Sran SS, Trachtman H (2015). Recurrent Focal Segmental Glomerulosclerosis After Kidney Transplantation. *Pediatric Nephrology.* 30 (10): 1793-1802.

O'Donnell HC, **Trachtman R**, Islam S, Racine AD (2014). Factors Associated With Timing of First Outpatient Visit After Newborn Hospital Discharge. *Academic Pediatrics.* 14(1): 77-83.

M. Pilar Trelles, MD

Assistant Professor of Psychiatry

Institute Affiliation: Seaver Autism Center for Research and Treatment, Mindich Child Health and Development Institute

Lab/Location: Seaver Autism Center, Atranberg E level

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Research Interests

Dr. Trelles is interested in using community-based approaches to address autism care inequalities and improve ethnic disparities in autism genomic research.

Type of Research: Clinical/Translational

Publications

Kohlenberg TM, **Trelles MP**, McLarney B, Betancur C, Thurm A, Kolevzon A. Psychiatric illness and regression in individuals with Phelan-McDermid syndrome. *Journal of Neurodevelopmental Disorders.* 2020 February 12;12(1):7. PubMed PMID: 32050889.

Satterstrom FK, Kosmicki JA, Wang J...**Autism Sequencing Consortium**, et al. Large-Scale Exome Sequencing Study Implicates Both Developmental and Functional Changes in the Neurobiology of Autism. *Cell.* 2020 February 6;180(3):568-584.e23.

Trelles MP, Castro K. Bilingualism in Autism Spectrum Disorder: Finding Meaning in Translation. *Journal of the American Academy of Child and Adolescent Psychiatry.* 2019 Nov;58(11):1035-1037.

Gergoudis K, Weinberg A, Templin J, Farmer C, Durkin A, Weissman J, Siper P, Foss-Feig J, **Trelles MP**, et al. Developmental Synaptopathies Consortium. Psychometric Study of the Social Responsiveness Scale in Phelan-McDermid Syndrome. *Autism Research.* 2020 Aug;13(8):1383-1396. doi: 10.1002/aur.2299. Epub 2020 May 14. PMID: 32406614

De Rubeis S; Siper PM; Durkin A; Weissman A; Muratet F; Halpern D; **Trelles MP**; Frank Y; Lozano R; Wang T; Holder Jr. J; Betancur C; Buxbaum J; Kolevzon A. Delineation of the genetic and clinical spectrum of Phelan-McDermid syndrome caused by SHANK3 point mutations. *Molecular Autism.* 2018 April 27;9: 31.

Ernest Turro, PhD

Associate Professor of Genetics and Genomic Sciences

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Hess CSM 8-119

Email: ernest.turro@mssm.edu

Research Interests

Dr. Turro's research focuses on the development and application of statistical methods for interpreting genomic and phenotypic data. He has a strong interest in understanding the genetic basis of rare hereditary diseases, particularly blood-related disorders.

Type of Research: Basic/Translational

Publications

Turro E, et al. Whole-genome sequenci ng of patients with rare diseases in a national health system. *Nature.* 2020; 583:96–102.

Thaventhiran JED..., Kuijpers TW*, **Turro E***, Ouwehand WH*, Thrasher AJ*, Smith KGC. Whole genome sequencing of a sporadic primary immunodeficiency cohort. *Nature.* 2020; 583:90– 95.

Lentaigne, ..., Freson K*, **Turro E***. Germline mutations in the transcription factor IKZF5 cause thrombocytopenia. *Blood.* 2019; 134(23):2070– 2081.

Greene E, NIHR BioResource, Richardson S, **Turro E**. A fast association test for identifying pathogenic variants involved in rare diseases. *The American Journal of Human Genetics.* 2017; 101:104–11.

Greene E, NIHR BioResource, Richardson S, **Turro E**. Phenotype similarity regression for identifying the genetic determinants of rare diseases. *The American Journal of Human Genetics.* 2016; 98:490–499.

Nita Vangeepuram, MD, MPH

Assistant Professor, Pediatrics

Institute Affiliation: Mindich Child Health and Development Institute;

Location: Annenberg Fourth Floor

Email: nita.vangeepuram@mssm.edu

Research Interest:

Dr. Vangepuram aims to lead national efforts to prevent and treat conditions disproportionately impacting ethnicminority youth and their families, by leveraging the assets of communityacademic partnerships. Her Career Development Award (K23) and current R03 support a study using community-based participatory research, in addition to other novel methods (peer education and mobile health technologies), to develop models for the prevention of Type 2 diabetes among at-risk East Harlem youth and adults. I have specific experience in collaborating with community stakeholders to develop and implement health surveys, interventions, and disease prevention programs, and in conducting quantitative and qualitative research.

Type of Research: Clinical/Translational

Publications

Publications Mayer V, **Vangeepuram N**, et al. Outcomes of a Weight Loss Intervention to Prevent Diabetes among Lowincome Residents of East Harlem, NY. *Health Education and Behavior.* 2019 Dec;46(6):10731082.

Loeb K, Le Grange D, Celio Doyle A, Crosby R,.. **Vangeepuram N**, et al. Adapting Family- Based Treatment for Pediatric Obesity: A Randomized Controlled Pilot Trial. *European Eating Disorders Review.* 2019 Sep;27(5):521-530.

Vangeepuram N, Mayer V, Fei K, et al. Smartphone ownership and perspectives on health apps among a vulnerable population in East Harlem, New York. *mHealth.* 2018 August 8;4:31.

Vangeepuram N, Williams N, Constable J, Waldman L, Lopez-Belin P, Phelps-Waldropt L, Horowitz CR. TEEN HEED: Design of a Clinical- Community Youth Diabetes Prevention Intervention. *Contemporary Clinical Trials.* 2017 March 23;57:23-28.

Vangeepuram N, Townsend K, Arniella G, Goytia C, Horowitz CR. Recruitment in Clinical Versus Community-Based Sites for a Pilot Youth Diabetes Prevention Program, East Harlem, New York, 2011-2012. *Preventing Chronic Disease.* 2016;13:E14.

Alfin G. Vicencio, MD

Professor of Pediatrics (Pulmonology)
Vice Chair for Clinical Affairs and Strategy for the Department of Pediatrics, and
Division Chief for Pediatric Pulmonology

Lab/Location: 5 East 98th Street
10th Floor

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Research Interests

Dr. Vicencio is investigating subclinical fungal infection as a potential cause of severe, refractory asthma. Together with collaborators, he is studying deficiencies in airway immune factors that could potentially contribute to infection, and is also analyzing fluid collected from the lower airways of children for molecular evidence of infection.

Type of Research: Clinical/Translational

Publications

Bunyavanich S, Do A, **Vicencio A**. Nasal Gene Expression of Angiotensin-Converting Enzyme 2 in Children and Adults. *JAMA.* 2020 May 20;323(23):2427-9.

Chun Y, Do A, Grishina G, Grishin A, Fang G, Rose S, Spencer C, **Vicencio A**, Schadt E, Bunyavanich S. Integrative study of the upper and lower airway microbiome and transcriptome in asthma. *JCI Insight.* 2020 March 12;5(5):e133707.

Januska MN, Goldman DL, Webley W, Teague WG, Cohen RT, Bunyavanich S, **Vicencio AG**. Bronchoscopy in severe childhood asthma: irresponsible or irreplaceable? *Pediatric Pulmonology.* 2019 November 15.

Ribeiro V, Andrade J, Rose S, Spencer C, **Vicencio A** and Bunyavanich S. Children with severe persistent asthma have disparate peripheral blood and lower airway eosinophil levels. *The Journal of Allergy and Clinical Immunology: In Practice.* 2019 March 20.

Goldman DL, Chen Z, Viswanathan S, Tyberg M, **Vicencio AG** and Burk R **(contribution: cosenior author)**. Lower Airway Microbiota and Mycobiota in Children with Severe Asthma. *Journal of Allergy and Clinical Immunology.* 2018 Feb;141(2):808-811.e7. Epub 2017 October 13. No abstract available.

Rachel Vreeman, MD, MS

Chair, Department of Global Health and Health System Design Professor, Department of Pediatrics Director, Arnhold Institute for Global Health

Institute Affiliation: Arnhold Institute for Global Health

Lab/Location: 1216 Fifth Avenue Suite 565

Email: rachel.vreeman@mssm.edu

Research Interests

Dr. Vreeman's research focuses on improving healthcare for children and adolescents living with HIV within resourcelimited settings. She is an international expert on children's adherence to HIV therapy, disclosure of HIV status, mental health and stigma challenges for adolescents living with HIV in sub-Saharan Africa.

Type of Research: Clinical/Translational

Publications

The Collaborative Initiative for Paediatric HIV Education and Research (CIPHER) Global Cohort Collaboration (**Vreeman RC**). Outcomes of secondline antiretroviral therapy among children living with HIV: a global cohort analysis. *Journal of the International AIDS Society.* 2020 Apr; 23(4): e25477.

McHenry MS, Apondi E, Ayaya SO, Yang Z, Li W, Tu W, Bi G, Sang E, **Vreeman RC**. Growth of young HIV-infected and HIV-exposed children in western Kenya: A retrospective chart review. *PLoS One.* 2019 December 4;14(12):e0224295.

Tymejczyk O, Brazier E, Wools-Kaloustian K,... **Vreeman R**, et al. Impact of universal antiretroviral treatment eligibility on rapid treatment initiation among young adolescents with HIV in sub-Saharan Africa. *Journal of Infectious Diseases.* 2019 November 4.

Jesson J, Schomaker M, Malasteste K,... **Vreeman R**..., et al. Stunting and growth velocity of adolescents with perinatally acquired HIV: differential evolution for males and females. A multiregional analysis from the IeDEA global paediatric collaboration. *Journal of the International AIDS Society.* 2019 Nov;22(11):e25412.

Vreeman RC, Scanlon ML, et al. Validation of an HIV/ AIDS stigma measure for children living with HIV and their families. *Journal of the International Association of Providers in AIDS Care.* 2019 Jan-Dec;18:2325958.

Ryan Walker, PhD, MS

Assistant Professor of Environmental Medicine and Public Health

Institute Affiliation: Environmental Medicine and Public Health; Mindich Child Health and Development Institute

Lab/Location: 1240 Park Avenue, 1-3

Email: ryan.walker@mssm.edu

Research Interest

Dr. Walker is a clinical obesity and type 2 diabetes scientist with expertise in nutrition, exercise physiology and the genetics of metabolic disorders. He studies the relationships between diet, the environment, the gut microbiome and health to establish targets for interventions that reduce disease risk.

Type of Research: Clinical/Translational

Publications

Walker RW, Belbin GM, Sorokin EP, Wojcik GL, Gignoux CR, Moscati A, Van Vleck T, Nadkarni G, Cho J, Abul-Husn JS, Kenny EE, Loos RJ. A common variant in PNPLA3 is associated with age at diagnosis of NAFLD in patients from a multi-ethnic biobank. *Journal of Hepatology.* 2020.

Wojcik G, Graff M... **Walker RW**... Kenny EE, Carlson CS. Genetic analyses of diverse populations improves discovery for complex traits. *Nature.* 2019.

Walker, RW, Clemente JC, Peter I, Loos, RJ. The prenatal gut microbiome: Are we colonized with bacteria in utero? *Pediatric Obesity.* 2017 12:S1, 3-17.

Bien SA, Wojcik GL ... **Walker R**.... Kenny EE, Carlson CS, on behalf of PAGE Study. Strategies for Enriching Variant Coverage in Candidate Disease Loci on a Multiethnic Genotyping Array. *PLoS One.* 2016 December 14;11(12):e0167758

Ried J, Janina J... **Walker R**... Müller-Nurasyid M, and Loos R. A principal component meta-analysis on multiple anthropometric traits identifies novel loci for body shape in >170,000 individuals of the GIANT Consortium. *Nature Communications.* 2016; 7, 13357

Martin J. Walsh, PhD

Associate Professor of Pediatrics (Gastroenterology) and Structural and Chemical Biology

Institute Affiliations: Tisch Cancer Institute; Mindich Child Health and Development Institute

Lab/Location: Annenberg 14-30A

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Research Interests

Dr. Walsh's area of interest is in chromatin biology of human disease and development. The focus of the laboratory is to investigate the transcriptional regulatory networks that are associated cancer and cystic fibrosis.

Type of Research: Basic/Translational

Publications

Sanford JA, Nogiec CD, Lindholm ME, **Walsh M**, et al. Molecular Transducers of Physical Activity Consortium (MoTrPAC): Mapping the Dynamic Responses to Exercise. *Cell.* 2020;181(7):1464-1474.

Nair VD, Ge Y, Li S, **Walsh M**, et al. Sedentary and Trained Older Men Have Distinct Circulating Exosomal microRNA Profiles at Baseline and in Response to Acute Exercise. *Frontiers in Physiology.* 2020 June 10;11:605.

Song WM, Lin X, Liao X, **Walsh M**, et al. Multiscale network analysis reveals molecular mechanisms and key regulators of the tumor microenvironment in gastric cancer. *International Journal of Cancer.* 2020;146(5):1268- 1280.

Zhang R, Zhang F, Sun Z, **Walsh M**, et al. LINE-1 Retrotransposition Promotes the Development and Progression of Lung Squamous Cell Carcinoma by Disrupting the Tumor-Suppressor Gene FGGY. *Cancer Research.* 2019;79(17):4453-4465.

Tome-Garcia J, Erfani P, Nudelman G, **Walsh M**,et al. Analysis of chromatin accessibility uncovers TEAD1 as a regulator of migration in human glioblastoma. *Nature Communications.* 2018;9(1):4020.

Julie Wang, MD

Professor of Pediatrics (Allergy and Immunology)

Institute Affiliations: Jaffe Food Allergy Institute; Mindich Child Health and Development Institute

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Research Interests

Dr. Wang's Research Interests include novel therapeutics for food allergy as well as epidemiology and management of food allergy.

Type of Research: Clinical/Translational

Publications

Greenhawt M, Shaker M, **Wang J**, Oppenheimer JJ, Sicherer S, Keet C, et al. Peanut Allergy Diagnosis - A 2020 Practice Parameter Update, Systematic Review, and GRADE Analysis. *Journal of Allergy and Clinical Immunology.* 2020 Dec;146(6):1302-1334.

Ko J, Zhu S, Alabaster A, **Wang J**, Sax DR. Health care utilization outcomes after implementation of early peanut introduction guidelines. *The Journal of Allergy and Clinical Immunology: In Practice.* 2021 Jan;9(1):531-533.e1.

Lieberman JA, Camargo Jr CA, Pistiner M, **Wang J**. Pediatrician Perspectives on Symptom Presentation and Treatment of Acute Allergic Reactions. *Annals of Allergy, Asthma and Immunology.* 2021 Mar;126(3):273-277.

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Dribin TE, Schnadower D, **Wang J**, et al. Anaphylaxis knowledge gaps and future research priorities. Anaphylaxis knowledge gaps and future research priorities: A consensus report. *Journal of Allergy and Clinical Immunology.* 2022 Mar;149(3):999-1009.

Mary S. Wolff, PhD

Professor of Environmental Medicine and Public Health and Oncological Sciences

Institute Affiliation: Institute for Exposomic Research

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Research Interests

Dr. Wolff's research focuses on environmental exposures, chiefly hormonally active agents in early life, and their relationships with child development, including neurobehavior, somatic growth, and pubertal timing as well as mechanisms of action.

Type of Research: Basic/Translational

Publications

Etzel TM, Engel SM, Quirós-Alcalá L, Chen J, Barr DB, **Wolff MS**, Buckley JP. Prenatal maternal organophosphorus pesticide exposures, paraoxonase 1, and childhood adiposity in the Mount Sinai Children's Environmental Health Study. *Environment International.* 2020;142:105858.

Deierlein AL, Teitelbaum SL, Windham GC, Pinney SM, Galvez MP, Caldwell KL, Jarrett JM, Gajek R, Kushi LH, Biro F, **Wolff M**, Breast Cancer and Environment Research Program. Lead exposure during childhood and subsequent anthropometry through adolescence in girls. *Environment International.* 2018 November 28.

Biro FM, Pajak A, **Wolff MS**, Pinney S, Windham G, Galvez M, Greenspan L, Kushi L,Teitelbaum S. Age of menarche in a longitudinal US cohort. *Journal of Pediatric and Adolescent Gynecology.* 2018.

Buckley JP, Quirós-Alcalá L, Teitelbaum SL, Calafat AM, **Wolff MS**, Engel SM. Associations of prenatal environmental phenol and phthalate biomarkers with respiratory and allergic diseases among children aged 6 and 7 years. *Environment International.* 2018;115: 79-88.

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Robert O. Wright, MD, MPH

Professor and Chair, Department of Environmental Medicine and Public Health; Professor of Pediatrics; Director, Institute for Exposomic Research

Institute Affiliation: Institute for Exposomic Research

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Research Interests

Dr. Wright conducts epidemiologic studies of children's environmental health, focused primarily on neurodevelopment and fetal growth. His work incorporates molecular biomarkers of effect with measures of toxic chemical exposure, social environment and nutrition.

Type of Research: Clinical/Translational

Publications

Liu SH, Bobb JF, Claus Henn B, **Wright RO**, et al. Bayesian varying coefficient kernel machine regression to assess neurodevelopmental trajectories associated with exposure to complex mixtures. *Statistics in Medicine.* 2018;37(30):4680-4694.

Kupsco A, Estrada-Gutierrez G, Cantoral A, **Wright RO**, et al. Modification of the effects of prenatal manganese exposure on child neurodevelopment by maternal anemia and iron deficiency. *Pediatric Research.* 2020;88(2):325-333.

Lee AG, Cowell W, Kannan S, **Wright RO**, et al. Prenatal particulate air pollution and newborn telomere length: Effect modification by maternal antioxidant intakes and infant sex. *Environmental Research.* 2020;187:109707.

Gennings C, Curtin P, Bello G, **Wright RO**, Arora M, Austin C. Lagged WQS regression for mixtures with many components. *Environmental Research.* 2020;186:109529.

Moody EC, Colicino E, **Wright RO**, et al. Environmental exposure to metal mixtures and linear growth in healthy Ugandan children. *PLoS One.* 2020;15(5):e0233108.

Rosalind J. Wright, MD, MPH

Professor of Pediatrics (Pulmonology) and Environmental Medicine and Public Health; Dean for Translational Biomedical Sciences, Department of Pediatrics

Institute Affiliation: Institute for Exposomic Research

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Research Interests

Dr. Wright has a primary interest in lifecourse epidemiology and in particular early life (prenatal and early childhood) programming of chronic disorders including asthma, obesity, neurodevelopment, and lung growth. This work focuses on population-based studies considering the role of both social (e.g., psychological stress, community violence), dietary, and physical (e.g., air pollution, allergens, chemicals) environmental factors explaining health disparities. The lab also examines underlying programming mechanisms including autonomic and neuroendocrine functioning, immune disruption, epigenetics and mitochondriomics.

Type of Research: Clinical/Translational

Publications

Colicino E, Cowell W, Foppa Pedretti N, Joshi A, Youssef O, Just AC, Kloog I, Petrick L, Niedzwiecki M, Wright RO, **Wright RJ**. Maternal steroids during pregnancy and their association with ambient air pollution and temperature during preconception and early gestational periods. *Environment International.* 2022.

Geron M, Cowell W, Amarasiriwardena C, Andra SS, Carroll K, Kloog I, Wright RO, **Wright RJ**. Racial/ethnic and neighborhood disparities in metals exposure during pregnancy in the Northeastern United States. *Science of The Total Environment.* 2022.

Wright RJ, Hsu HL, Chiu YM, Coull BA, Simon MC, Hudda N, Schwartz J, Kloog I, Durrant JL. Prenatal ambient ultrafine particle exposure and childhood asthma in the Northeastern United States. *American Journal of Respiratory and Critical Care Medicine.* 2021.

Cowell W, Colicino E, Levin-Schwartz Y, Enlow MB, Amarasinwardena C, Andra SS, Gennings C, Wright RO, **Wright RJ**. Prenatal metal mixtures and sex-specific infant negative affectivity. *Environmental Epidemiology.* 2021.

Frost A, Bosquet Enlow M, Malin AJ, Bernard K, **Wright RJ**. Early adverse experiences and repeated wheezing from 6 to 30 months of age: Investigating the roles of hypothalamicpituitary- adrenal axis functioning, child sex, and caregiving sensitivity. *Child Development.* 2021.

Ali N. Zaidi, MD, FACC

Associate Professor, Internal Medicine and Pediatrics Director, Mount Sinai Adult Congenital Heart Disease Center, Mount Sinai Cardiovascular Institute
Director, Academic Affairs and Transition Program, Children's Heart Center at Mount Sinai Kravis Children's Hospital

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Research Interests

Dr. Zaidi's research focuses on neurocognitive dysfunction in adolescents and adults with congenital heart disease and pulmonary hypertension in CHD.

Type of Research: Clinical/Translational

Publications

de Ferranti SD, Steinberger J, Ameduri R, Baker A, Gooding H, Kelly AS, Mietus-Snyder M, Mitsnefes MM, Peterson AL, St-Pierre J, Urbina EM, Zachariah JP, **Zaidi AN**. Cardiovascular Risk Reduction in High-Risk Pediatric Patients: A Scientific Statement From the American Heart Association. *Circulation.* 2019 March 26;139(13):e603-e634.

Zaragoza-Macias E, **Zaidi AN**, Dendukuri N, Marelli A. Medical Therapy for Systemic Right Ventricles: A Systematic Review (Part 1) for the 2018 AHA/ ACC Guideline for the Management of Adults With Congenital Heart Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Journal of the American College of Cardiology.* 2018 August 9.

Kollengode MS, Daniels CJ, **Zaidi AN**. Loss of follow-up in transition to adult CHD: a single-center experience. *Cardiology in the Young.* 2018 Aug; 28(8):1001- 1008. Epub 2018 July 3.

Kay WA, Moe T, Suter B, Tennancour A, Chan A, Krasuski RA, **Zaidi AN**. Long Term Consequences of the Fontan Procedure and How to Manage Them. *Progress in Cardiovascular Diseases.* 2018 September 17

Wolfe DS, Hameed AB, Taub CC, **Zaidi AN**, Bortnick AE Addressing Maternal Mortality: The Pregnant Cardiac Patient. *American Journal of Obstetrics and Gynecology.* 2018 September 29.

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