Child Health Research Directory

2017

The Jack and Lucy Department of Pediatrics

The Mindich Child Health and Development Institute

Icahn School of Medicine at Mount Sinai

Kravis Children's Hospital

The Jack and Lucy Clark Department of Pediatrics

Lisa M. Satlin, M.D., Chair

Mindich Child Health and Development Institute

Bruce D. Gelb, M.D., Director

Department of Environmental Medicine and Public Health

Robert O. Wright, M.D., M.P.H., Chair

Rachel A. Annunziato, Ph.D.
Associate Professor of Pediatrics (Behavioral and Developmental Pediatrics)

Lab/Location: Annenberg 4-51
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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:

Baruch Levine, R. & **Annunziato, R.A.** Outcomes of combined treatment: Evaluating split versus integrated treatment for depression. *Professional Psychology: Research and Practice.* (In press).

Jossen, J., **Annunziato, R.A**., Kim, H-S., Chu, J., & Arnon, R. Liver Transplantation for Children with Primary Sclerosing Cholangitis and Autoimmune Hepatitis: UNOS Database Analysis. *Journal of Gastroenterology and Hepatology. 2017; 64*(4), e83-e87.

Annunziato, R.A., Lee, S.G., Galici, E., & Arnon, R. Children with HCV: The impact of disease and treatment on patients, caregivers and families. *Journal of Pediatric Nursin. 2017; 32,* 8-11.

Supelana, C., **Annunziato, R.A.**, Kaplan, D., Helcer, J., Stuber, M.A., & Shemesh, E. PTSD in transplant recipients: Current understanding and future implications. *Pediatric Transplantation. 2016; 20*(1), 23-33.

Arnon, R., **Annunziato, R.A.**, D'Amelio, G., Chu, J., & Shneider, B. Liver transplantation for biliary atresia: Is there a difference in outcome for infants? *Journal of Gastroenterology and Hepatology. 2016; 62*(2), 220-225.

Manish Arora, B.D.S., M.P.H., Ph.D.

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

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

Lab/Location: Atran 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:

Arora M, Reichenberg A, Willfors C, Austin C, Gennings C, Berggren S, Lichtenstein P, Anckarsäter H, Tammimies K, Bölte S. Fetal and postnatal metal dysregulation in autism. *Nature Communications*. 2017 Jun 1;8:15493.

Smith TM, Austin C, Hinde K, Vogel ER, **Arora M**. Cyclical nursing patterns in wild orangutans. *Science Advances.* 2017 May 17;3(5):e1601517.

Morishita H, **Arora M**. Tooth-Matrix Biomarkers to Reconstruct Critical Periods of Brain Plasticity. *Cell: Trends in Neuroscience.* 2017 Jan;40(1):1-3.

Joshy G, **Arora M**, Korda RJ, Chalmers J, Banks E. Is poor oral health a risk marker for incident cardiovascular disease hospitalisation and all-cause mortality? Findings from 172 630 participants from the prospective 45 and Up Study. *BMJ Open*. 2016 Aug 30;6(8):e012386.

Hare DJ, **Arora M**, Jenkins NL, Finkelstein DI, Doble PA, Bush AI. Is early-life iron exposure critical in neurodegeneration? *Nature Reviews Neurology*. 2015 Sep;11(9):536-44.

Margaret Baron, M.D., Ph.D.

Professor of Medicine (Hematology and Medical Oncology), Developmental and Regenerative Biology, and Oncological Sciences

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

Lab/Location: Annenberg 24-68

Email: margaret.baron@mssm.edu

Research Interests: The research in the Baron lab combines embryology and stem cell biology, with a focus on hematopoietic development. The lab has a longstanding interest in embryonic hematopoiesis and more recently has been studying mechanisms regulating the development and maturation of adult-type (definitive) erythroid progenitors.

Type of Research: Basic/Translational

Publications:

Barminko, J., Reinholt, B., and **Baron, M.H**. Development and differentiation of the erythroid lineage in mammals. *Dev Comp Immunol* 2016; 58, 18-29.

Baron, M.H., and Barminko, J. Chromatin Condensation and Enucleation in Red Blood Cells: an Open Question. *Dev Cell* 2016; 36: 481-482.

Zhang, H., Nieves, J.L., Fraser, S.T., Isern, J., Douvaras, P., Papatsenko, D., D'Souza, S., Lemischka, I.R., Dyer, M.A., and **Baron, M.H.** Expression of Podocalyxin separates the hematopoietic and vascular potentials of mouse ES cell-derived mesoderm. *Stem Cells* 2014; 32(1): 191-203.

Vacaru, A., Isern, J., Fraser, S.T., and **Baron, M.H.** Analysis of primitive erythroid cell proliferation and enucleation using a cyan fluorescent reporter in transgenic mice. *Genesis* 2013; 51(11): 751-62.

Isern, J., He, Z., Fraser, S.T., Nowotschin, S., Ferrer-Vaquer, A., Moore, R., Hadjantonakis, A.-K., Schulz, V., Tuck, D., Gallagher, P.G., and **Baron, M.H.** Single Lineage Transcriptome Analysis Reveals Key Regulatory Pathways in Primitive Erythroid Progenitors in the Mouse Embryo, *Blood* 2011; 117: 4924-4934.

Keith Benkov, M.D.

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

Medical Director, Children's Inflammatory Bowel Disease Center

Lab/Location:
5 E. 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:

Solomon AB, Reed R, **Benkov K**, Kingsbery J, Lusman SS, Malter LB, Levine J, Rabinowitz S, Wolff M, Zabar S, Weinshel E. Using the Objective Structured Clinical Exam (OSCE) to Assess ACGME Competencies in Pediatric Gastroenterology Fellows. *J Pediatr Gastroenterol Nutr.* 2017 Apr;64(4): 92-5.

Carlsen K, Haddad N, Gordon J, Phan BL, Pittman N, **Benkov K**, Dubinsky MC,Keefer L. Self-efficacy and Resilience Are Useful Predictors of Transition eadiness Scores in Adolescents with Inflammatory Bowel Diseases. *Inflamm Bowel Dis.* 2017 Mar;23(3):341-346.

Gordon J, Ramaswami A, Beuttler M, Jossen J, Pittman N, Lai J, Dunkin D, **Benkov K**, Dubinsky M. EBV Status and Thiopurine Use in Pediatric IBD. *J Pediatr Gastroenterol Nutr*. 2016 May;62(5):711-4.

Rosen D, Annunziato R, Colombel JF, Dubinsky M, **Benkov K**. Transition of Inflammatory Bowel Disease Care: Assessment of Transition Readiness Factors and Disease Outcomes in a Young Adult Population. *Inflamm Bowel Dis.* 2016 Mar;22(3):702-8.

Reigada LC, Satpute A, Hoogendoorn CJ, Cohen BH, Lai J, Bao R, Dubinsky MC, **Benkov KJ**. Patient-reported Anxiety: A Possible Predictor of Pediatric Inflammatory Bowel Disease Health Care Use. *Inflamm Bowel Dis.* 2016 Sep;22(9):2127-33.

M. Cecilia Berin, Ph.D.

Associate Professor of Pediatrics (Allergy and Immunology)

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

Lab/Location: Hess CSM 5-301

Email: cecilia.berin@mssm.edu

Research Interests: Dr. Berin studies mechanisms of tolerance and allergy to foods. Using mouse models of food allergy as well as samples from patients enrolled in clinical trials, her goal is to understand how allergic sensitization to foods occurs, and to identify ways to manipulate the immune response to re-establish immune tolerance.

Type of Research: Basic/Translational

Publications:

Goswami R, Blazquez AB, Kosoy R, Rahman A, Nowak-Wegrzyn A, **Berin MC**. Systemic innate immune activation in food protein-induced enterocolitis syndrome. *J Allergy Clin Immunol.* 2017 Jun;139(6):1885-1896.e9.

Tordesillas L, Mondoulet L, Blazquez AB, Benhamou PH, Sampson HA, **Berin MC**. Epicutaneous immunotherapy induces gastrointestinal LAP(+) regulatory T cells and prevents food-induced anaphylaxis. *J Allergy Clin Immunol*. 2017 Jan;139(1):189-201.e4.

Kosoy R, Agashe C, Grishin A, Leung DY, Wood RA, Sicherer SH, Jones SM, Burks AW, Davidson WF, Lindblad RW, Dawson P, Merad M, Kidd BA, Dudley JT, Sampson HA, **Berin MC**. Transcriptional Profiling of Egg Allergy and Relationship to Disease Phenotype. *PLoS One*. 2016 Oct 27;11(10):e0163831.

Tordesillas L, Rahman AH, Hartmann BM, Sampson HA, **Berin MC**. Mass cytometry profiling the response of basophils and the complete peripheral blood compartment to peanut. *J Allergy Clin Immunol*. 2016 Dec;138(6):1741-1744.e9.

Tordesillas L, Goswami R, Benedé S, Grishina G, Dunkin D, Järvinen KM, Maleki SJ, Sampson HA, **Berin MC**. Skin exposure promotes a Th2-dependent sensitization to peanut allergens. *J Clin Invest*. 2014 Nov;124(11):4965-75.

James J. Bieker, Ph.D.

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:

Planutis A, Xue L, Trainor CD, Dangeti M, Gillinder K, Siatecka M, Peters LL, Perkins AC, **Bieker JJ**, Neomorphic effects by the *neonatal anemia* (*Nan*-EKLF) mutation contribute to deficits throughout development. *Development.* 2017 Feb 1;144(3):430-440.

Gnanapragasam MN, McGrath KI, Catherman S, Xue L, Palis J, and **Bieker JJ**, EKLF/KLF1-regulated cell cycle exit is essential for erythroblast enucleation. *Blood.* 2016; 128:1631-1641. [highlighted in *Hematopoiesis News*]

Perkins A, Xu X, Higgs DR, Patrinos GP, Arnaud L, **Bieker JJ**, and Philipsen S, "Krüppeling" erythropoiesis: an unexpected broad spectrum of human red blood cell disorders due to *KLF1* variants. *Blood.* 2016; 127:1856-1862. [highlighted in *Hematopoiesis News*]

Aimola IA, Inuwa HM, Nok AJ, Mamman AI, and **Bieker JJ**, Cis-vaccenic acid induces differentiation and up-regulates gamma globin synthesis in K562, JK1, and transgenic mice erythroid progenitor stem cells. *European Journal of Pharmacology.* 2016; 776:9-18. [highlighted in *Hematopoiesis News*]

Lohmann F*, Dangeti M*, Soni S, Chen X, Planutis A, Baron MH, Choi K, and **Bieker JJ**, The DEK oncoprotein is a critical component of the EKLF/KLF1 enhancer in erythroid cells. *Molecular and Cellular Biology.* 2015; 35:3726-3738. [*co-first authors] [highlighted in *Exp Hem* 43, 827 (15)]

Dusan Bogunovic, Ph.D.

Assistant Professor, Department of Microbiology

Lab/Location: Annenberg 16-10

Email:
dusan.bogunovic@mssm.edu

Research Interests: Dr. Bogunovic's research focuses on human immunogenetics. He studies individuals with severe clinical presentations of infections usually causing mild or no clinical disease. The hypothesis of the lab is that inter-individual variability in susceptibility to infectious agents can also be explained by the immune genetic composition of the host.

Type of Research Basic/Translational

Publications:

Hermann M, **Bogunovic D**. ISG15: In Sickness and in Health. *Trends Immunol.* February 2017. pii: S1471-4906(16)30181-8.

Roberts EW, Broz ML, Binnewies M, Headley MB, Nelson AE, Wolf DM, Kaisho T, **Bogunovic D**, Bhardwaj N, Krummel MF. Critical Role for CD103(+)/CD141(+) Dendritic Cells Bearing CCR7 for Tumor Antigen Trafficking and Priming of T Cell Immunity in Melanoma. *Cancer Cell.* 2016 Aug 8;30(2):324-36.

Meuwissen ME, Schot R, Buta S, Oudesluijs G, Tinschert S, Speer SD, Li Z, van Unen L, Heijsman D, Goldmann T, Lequin MH, Kros JM, Stam W, Hermann M, Willemsen R, Brouwer RW, Van IJcken WF, Martin-Fernandez M, de Coo I, Dudink J, de Vries FA, Bertoli Avella A, Prinz M, Crow YJ, Verheijen FW, Pellegrini S, **Bogunovic D**, Mancini GM. Human USP18 deficiency underlies type 1 interferonopathy leading to severe pseudo-TORCH syndrome. *The Journal of Experimental Medicine.* 2016 Jun 27;213(7):1163-74.

Speer SD, Li Z, Buta S, Payelle-Brogard B, Qian L, Vigant F, Rubino E, Gardner TJ, Wedeking T, Hermann M, Duehr J, Sanal O, Tezcan I, Mansouri N, Tabarsi P, Mansouri D, Francois-Newton V, Daussy CF, Rodriguez MR, Lenschow DJ, Freiberg AN, Tortorella D, Piehler J, Lee B, García-Sastre A, Pellegrini S, **Bogunovic D.** ISG15 deficiency and increased viral resistance in humans but not mice. *Nature Communications.* 2016 May 7:11496.

Bogunovic D. Type I Interferons in Newborns-Neurotoxicity versus Antiviral Defense. *MBio.* 2016 May 17;7(3). pii: e00639-16.

Brian D. Brown, Ph.D.

Associate 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, 5th S-117

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Research Interests: Dr. Brown is deciphering the molecular networks that regulate the immune system, and exploiting this information to develop strategies that can enhance or subdue immune responses. The goal of his work is to develop a vaccine that can educate the immune system to prevent or reverse autoimmune diseases, such as type I diabetes.

Type of Research: Basic/Translational

Publications:

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.

Brown BD, Merad M. Archives and citation miss equal authors. *Nature.* 2015 Dec. 16;528(7582):333.

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

Israelow B, Mullokandov G, Agudo J, Sourisseau M, Bashir A, **Brown BD** and Evans MJ. Hepatitis C virus genetics affects miR-122 requirements and response to miR-122 inhibitors. *Nature Communications.* 2014 Nov 18;5:5408.

Agudo JA, Ruzo A, Tung N, Salmon H, Leboeuf M, Hashimoto D, Becker C, Garrett-Sinha LA, Baccarini A, Merad M, **Brown BD**. The microRNA-126/VEGFR2 axis controls the innate response to pathogen-associated nucleic acids. *Nature Immunology.* 2014 Jan;15(1):54-62.

Supinda Bunyavanich, M.D., M.P.H.

Associate 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

Email: supinda.bunyavanich@mssm.edu

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:

Savage JH, Lee-Sarwar KA, Sordillo J, **Bunyavanich S**, Zhou Y, O'Connor G, Sandel M, Bacharier L, Zeiger R, Sodergren E, Weinstock GM, Gold DR, Weiss ST, Litonjua AA. A Prospective Microbiome-wide Association Study of Food Sensitization and Food Allergy in Early Childhood. *Allergy*. 2017 Jun 20. [Epub ahead of print]

Egan M, Lee T, Andrade J, Grishina G, Mishoe M, Gimenez G, Sampson HA, **Bunyavanich S**. Partially Hydrolyzed Whey Formula Intolerance in Cow's Milk Allergic Patients. *Pediatric Allergy and Immunology.* 2017 Jun;28(4):401-405.

Huang YJ, Marsland BJ, **Bunyavanich S**, O'Mahony L, Leung DY, Muraro A, Fleisher TA. The Microbiome in Allergic Disease: Current Understandings and Future Opportunities. 2017 PRACTALL Document of the American Academy of Allergy, Asthma and Immunology and the European Academy of Allergy and Clinical Immunology. *Journal of Allergy and Clinical Immunology*. 2017 Apr;139(4):1099-1110.

Bunyavanich S, Shen N, Grishin A, Wood R, Burks W, Dawson P, Jones SM, Leung D, Sampson H, Sicherer S, Clemente JC. Early-life gut microbiome composition and milk allergy resolution. *Journal of Allergy and Clinical Immunology*. 2016 Oct;138(4):1122-1130.

Sann J, **Bunyavanich S,** Wang J. Epinephrine Autoinjector Prescribing Patterns in an Urban Pediatric Population. *Journal of Allergy and Clinical Immunology: In Practice*. 2016 Sep-Oct;4(5):989-90.

Joseph Buxbaum, Ph.D.

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:

Kosmicki JA, Samocha KE, Howrigan DP, Sanders SJ, Slowikowski K, Lek M, Karczewski KJ, Cutler DJ, Devlin B, Roeder K, **Buxbaum JD**, Neale BM, MacArthur DG, Wall DP, Robinson EB, Daly MJ. Refining the role of de novo protein-truncating variants in neurodevelopmental disorders by using population reference samples. *Nat Genet.* 2017 Apr;49(4):504-510.

Jamison JM, Fourie E, Siper PM, Trelles MP, George-Jones J, Buxbaum Grice A, Krata J, Holl E, Shaoul J, Hernandez B, Mitchell L, McKay MM, **Buxbaum JD**, Kolevzon A. Examining the Efficacy of a Family Peer Advocate Model for Black and Hispanic Caregivers of Children with Autism Spectrum Disorder. *J Autism Dev Disord.* 2017 May;47(5):1314-1322.

Harony-Nicolas H, Kay M, Hoffmann JD, Klein ME, Bozdagi-Gunal O, Riad M, Daskalakis NP, Sonar S, Castillo PE, Hof PR, Shapiro ML, Baxter MG, Wagner S, **Buxbaum JD**. Oxytocin improves behavioral and electrophysiological deficits in a novel Shank3-deficient rat. *Elife.* 2017 Jan 31;6.

Sicherman N, Loewenstein G, Tavassoli T, **Buxbaum JD**. Grandma knows best: Family structure and age of diagnosis of autism spectrum disorder. *Autism*. 2016 Dec 1.

Ionita-Laza I, McCallum K, Xu B, **Buxbaum JD**. A spectral approach integrating functional genomic annotations for coding and noncoding variants. *Nat Genet*. 2016 Feb;48(2):214-20.

Minji Byun, Ph.D.

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)

Email: minji.byun@mssm.edu

Research Interests: Byun laboratory is interested in understanding the genetic basis of immune dysregulation disorders. Using various cutting-edge human genetics tools including next-gen sequencing, we identify germline and somatic mutations in patients with rare and severe immune dysregulation disorders. We then conduct functional studies of the candidate sequence variants to evaluate the evidence supporting their causality and to elucidate immunological mechanisms underlying the disease.

Type of Research: Basic/Translational

Publications:

Belkaya S*, Kontorovich AR*, **Byun M***, Mulero-Navarro S, Bajolle F, ... Gelb BD, Casanova JL. Autosomal Recessive Cardiomyopathy Presenting as Acute Myocarditis. *Journal of the American College of Cardiology*. 2017; 69(13):1653-1665. (*Co-first authors)

Byun M*, Ma CS, Akcay A, Pedergnana V, Palendira U, ... Croft M, Tangye SG, Casanova JL. Inherited human OX40 deficiency underlying classic Kaposi sarcoma of childhood. *Journal of Experimental Medicine. 2013;* 210(9):1743-59. (*Corresponding author)

Bolze A, Mahlaoui N, **Byun M**, Turner B, ... Conley ME, Selleri L, Casanova JL. Ribosomal Protein SA Haploinsufficiency in Humans with Isolated Congenital Asplenia. *Science*. 2013; 340(6135):976-8.

Bogunovic D, **Byun M**, Durfee LA, Abhyankar A, ... Gros P, Huibregtse JM, Abel L, Boisson-Dupuis S, Casanova JL. Mycobacterial Disease and Impaired IFN-γ Immunity in Humans with Inherited ISG15 Deficiency. *Science*. 2012; 337(6102):1648-8.

Byun M*, Abhyankar A, Lelarge V, ... Abel L, Casanova JL*. Whole-exome sequencing-based discovery of STIM1 deficiency in a child with fatal classic Kaposi sarcoma.*Journal of Experimental Medicine.* 2010; 207(11):2307-12. (*Corresponding authors)

Ross L. Cagan, Ph.D.

Professor of Cell, Developmental and Regenerative Biology and Director, Center for Personalized Cancer Therapeutics
School of Biological Sciences

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Annenberg 25-40

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Research Interests: The Cagan lab uses Drosophila to explore cancer, diabetes, and rare Mendelian diseases with the goal of developing drug therapeutics designed to account for whole animal complexity. Using current human sequencing efforts, they have developed multigenic cancer models designed to capture the complexity observed in human disease. In addition, the lab has developed a collaborative platform that combines fly genetics with medicinal and computational chemistry to build a new generation of 'polypharmacology' leads designed to address disease complexity.

Type of Research: Basic/Translational

Publications:

Levinson S and **Cagan R**. Drosophila Cancer Models Identify Functional Differences between Ret Fusions. *Cell Reports* 2016 Sep 13;16(11):3052-61.

Bangi E, Murgia C, Teague A, Sansom O, and **Cagan R**. Functional exploration of colorectal cancer genomes using Drosophila. *Nature Communications* 2016 Nov 29;7:13615.

Levine B and **Cagan R**. Drosophila Lung Cancer Models Identify Trametinib Plus A Statin as a Candidate Therapeutic. *Cell Reports* 2016.

Na J, Sweetwyne M, Park A, Susztak, K, and Ross L. **Cagan, R**. Diet Induced Podocyte Dysfunction in Drosophila and in Mammals. *Cell Reports* 2015 Jul 28;12(4):636-47.

Hirabayashi S and **Cagan R**. Salt-Inducible Kinases Mediate Nutrient-Sensing To Link Dietary Sugar and Tumorigenesis in Drosophila. *eLife* 2015 17;4.

Chen-Leng Cai, Ph.D.

Associate Professor of Cell, Developmental and Regenerative Biology

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Hess CSM 7-105

Email: chenleng.cai@mssm.edu

Research Interests: The main research interests in the Cai laboratory are to define the molecular and cellular mechanisms underlying heart development, disease and regeneration. Specifically, we aim to understand how distinct origins of cardiac progenitor cells form the heart, whether these progenitor cells contribute to heart repair or regeneration upon injury. In addition, we try to understand how diverse signals, especially transcriptional factors, regulate heart formation and function.

Type of Research: Basic/Translational

Publications:

Cai CL, Molkentin JD. The Elusive Progenitor Cell in Cardiac Regeneration: Slip Slidin' Away. *Circ Res.* 2017 Jan 20;120(2):400-406.

Yan J, Zhang L, Sultana N, Oh JG, Wu B, Hajjar RJ, Zhou B, **Cai CL**. A series of robust genetic indicators for definitive identification of cardiomyocytes. *Journal of Molecular and Cellular Cardiology*. 2016 Jun 3;97:278-285.

Sultana N, Zhang L, Yan J, Chen J, ... **Cai CL**. Resident c-kit(+) cells in the heart are not cardiac stem cells. *Nature Communications*. 2015 Oct 30;6:8701.

Yan J, Sultana N, Zhang L, Park DS, ... **Cai CL**, Generation of a tamoxifen inducible *Tnnt2*^{MerCreMer} knock-in mouse model for cardiac studies. *Genesis.* 2015 Jun;53(6):377-86.

Zhang L, Nomura-Kitabayashi A, Sultana N, Cai W, Cai X, Moon AM, **Cai CL**, Mesodermal Nkx2.5 is necessary and sufficient for early second heart field development. *Dev Biol.* 2014 Jun 1;390(1):68-79.

Cai X, Zhang W, Hu J, ... **Cai CL**, Tbx20 acts upstream of Wnt signaling to regulate endocardial cushion formation and valve remodeling during mouse cardiogenesis. *Development.* 2013 Aug;140(15):3176-87.

Patrizia Casaccia, M.D,. Ph.D.

Professor of Neuroscience, Genetics and Genomics, Neurology; Chief, Center of Excellence for Myelin Repair

Institute Affiliation:
Mindich Child Health and Development Institute

Lab/Location: Icahn 10th Floor, Room 70F

Email: patrizia.casaccia@mssm.edu

Research Interests: Dr. Casaccia's lab adopts state-of-the art molecular and cellular techniques to define key questions related to environment/gene interaction in physiological brain development and in pathological conditions. Her research addresses mechanisms relevant to pathogenesis and treatment of neurodevelopmental disorders characterized by impaired myelin formation as detected in premature babies, genetic disorders, traumatic brain injury.

Type of Research: Basic and Clinical Translational

Publications:

Liu J, Moyon S, Hernandez M, **Casaccia P**. Epigenetic control of oligodendrocyte development: adding new players to old keepers. Curr Opin *Neurobiol*. 2016 Aug;39:133-8.

Laitman BM, Asp L, Mariani JN, ...**Casaccia P**, John GR. TheTranscriptional Activator Krüppel-like Factor-6 Is Required for CNS Myelination. *PLoS Biol*. 2016 May 23;14(5):e1002467.

Gacias M, Gaspari S, Santos PM, ...**Casaccia P**. Microbiota-driven transcriptional changes in prefrontal cortex override genetic differences in social behavior. *Elife*. 2016 Apr 20;5.

Moyon S, Huynh JL, Dutta D, ...**Casaccia P**. Functional Characterization of DNA Methylation in the Oligodendrocyte Lineage. *Cell Rep*. 2016 Apr 13. pii: S2211-1247(16)30331-X.
Liu J, Dupree JL, Gacias M, Frawley R, Sikder T, Naik P, **Casaccia P**. Clemastine Enhances Myelination in the Prefrontal Cortex and Rescues Behavioral Changes in Socially Isolated Mice. *J Neurosci*. 2016 Jan 20;36(3):957-62.

Hernandez M, Patzig J, Mayoral SR, Costa KD, Chan JR, **Casaccia P**. Mechanostimulation Promotes Nuclear and Epigenetic Changes in Oligodendrocytes. *J Neurosci*. 2016 Jan 20;36(3):806-13.

Mirna Chehade, M.D., M.P.H.

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

Email: mirna.chehade@mssm.edu

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:

Kagalwalla AF, Wechsler JB, Amsden K... **Chehade M**. Efficacy of a 4-Food Elimination Diet for Children With Eosinophilic Esophagitis. *Clin Gastroenterol Hepatol.* 2017 June 8.

Groetch M, Venter C, Skypala I... **Chehade M**. Dietary Therapy and Nutrition Management of Eosinophilic Esophagitis: a Work Group Report of the American Academy of Allergy, Asthma and Immunology. *J Allergy Clin Immunology in Practice.* 2017;5:312-24.

Chehade M, Sher E. Medical Therapy versus Dietary Avoidance in Eosinophilic Esophagitis: Which Approach is Better? *Allergy and Asthma Proceedings.* 2017;38:170-6.

Riffle ME, Polydorides AD, Niakan J, **Chehade M**. Eosinophilic Esophagitis and Esophageal Granular Cell Tumor: An Unexpected Association. *Am J Surg Pathol.* 2017;41:616-21.

Moawad FJ, Cheng E, Schoepfer A... **Chehade M**. Eosinophilic esophagitis: current perspectives from diagnosis to management. *Ann N Y Acad Sci.* 2016; 1380: 204-17.

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

Email: jia.chen@mssm.edu

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:

Gopalakrishnan K, Teitelbaum SL, Lambertini L, ...**Chen J.** Changes in mammary histology and transcriptome profiles by low-dose exposure to environmental phenols at critical windows of development. *Environ Res*. 2017;152:233-243.

Hu JZ, Raikhel V, Gopalakrishnan K, Fernandez HH, ...**Chen J**. Effect of postnatal low-dose exposure to environmental chemicals on the gut microbiome in a rodent model. *mBio*. 2016;4(1):26.

Teitelbaum SL, Li Q, Lambertini L, ...**Chen J**. Paired Serum and Urine Concentrations of Biomarkers of Diethyl Phthalate, Methyl Paraben, and Triclosan in Rats. *Environ Health Perspect*. 2015, 124(1):39-45

Kappil MA, Green BB, Armstrong DA, Sharp AJ, Lambertini L, Marsit CJ, **Chen J**. Placental Expression Profile of Imprinted Genes Impacts Birth Weight. *Epigenetics*. 2015, 10(9):842-9

Li Q, Kappil MA, Li A, Dassanayake PS, ...**Chen J.** Exploring the associations between microRNA expressionprofiles and environmental pollutants in human placenta from the National Children's Study (NCS). *Epigenetics*. 2015 10(9):793-802.

Jaime Chu, M.D.

Assistant Professor of Pediatrics (Hepatology)

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

Lab/Location: Annenberg 25-34

Email: jaime.chu@mssm.edu

Research Interests: Dr. Chu's research is focused on investigating a novel intersection of p53 and congenital disorders of glycosylation (CDG). Children with CDG have defects in N-glycosylation and present with debilitating, multi-systemic disease, including liver fibrosis. Her lab studies the role of sugar metabolism in liver fibrosis, and in embryonic and cancer cell survival.

Type of Research: Basic/Translational

Publications:

Shtraizent N*, DeRossi C*, Nayar S, Sachidanandam R, Katz LS, Prince A, Koh AP, Vincek A, Hadas Y, Hoshida Y, Scott DK, Eliyahu E, Freeze HH, Sadler KC, **Chu J**. MPI depletion enhances O-GlcNAcylation of p53 and suppresses the Warburg effect. *Elife*. 2017 Jun 23;6. pii: e22477.

Bambino K, **Chu J**. Zebrafish in Toxicology and Environmental Health. *Curr Top Dev Biol*. 2017;124:331-367.

DeRossi C, Vacaru A, Rafiq R, Cinaroglu A, Imrie D, Nayar S, Baryshnikova A, Milev MP, Stanga D, Kadakia D, Gao N, **Chu J**, Freeze HH, Lehrman MA, Sacher M, Sadler KC. trappc11 is required for protein glycosylation in zebrafish and humans. *Mol Biol Cell.* 2016 Apr 15;27(8):1220-34.

Chu J, Mir A, Gao N, Rosa S, Monson C, Sharma V, Steet R, Freeze HH, Lehrman MA, Sadler KC. A zebrafish model of congenital disorders of glycosylation with phosphomannose isomerase deficiency reveals an early opportunity for corrective mannose upplementation. *Dis Model Mech*. 2013 Jan;6(1):95-105.

Chu J, Loughlin EA, Gaur NA, SenBanerjee S, Jacob V, Monson C, Kent B, Oranu A, Ding Y, Ukomadu C, Sadler KC. UHRF1 phosphorylation by cyclin A2/cyclin-dependent kinase 2 is required for zebrafish embryogenesis. *Mol Biol Cell.* 2012 Jan;23(1):59-70.

Barbara Coffey, M.D., M.S.

Professor of Psychiatry, Chief of the Tics and Tourette's Clinical and Research Program

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: 1240 Park Avenue, 1-3

Email: barbara.coffey@mssm.edu

Research Interests: Dr. Coffey has focused on the clinical course, comorbidity, phenomenology, and treatment of Tourette Disorder.

Type of Research: Clinical/Translational

Publications:

Murphy TK, Fernandez TV, **Coffey B**J, Rahman O, Gavaletz A, Hanks CE, Tillberg CS, Gomez LI, Sukhodolsky DG, Katsovich L, Scahill L. Extended-Release Guanfacine Does Not Show a Large Effect on Tic Severity in Children with Chronic Tic Disorders. *J Child Adolesc Psychopharmacol.* 2017 Jul 19.

Garcia-Delgar B, Morer A, Luber MJ, **Coffey BJ**. Obsessive Compulsive Disorder, Tics and Autoinflammatory Diseases: Beyond PANDAS. *J Child Adolesc Psychopharmacol.* 2016 Nov;26(9):847-850.

Abdulkadir M, Tischfield JA, King RA, Fernandez TV, Brown LW, Cheon KA, **Coffey BJ**, ...Song J, Stolte AM, Tübing J, van den Ban E, Visscher F, Wanderer S, Woods M, Zinner SH, State MW, Heiman GA, Hoekstra PJ, Dietrich A. Pre- and perinatal complications in relation to Tourette syndrome and co-occurring obsessive-compulsive disorder and attention-deficit/hyperactivity disorder. *J Psychiatr Res.* 2016 Nov;82:126-35.

Freed RD, **Coffey BJ**, Mao X, Weiduschat N, Kang G, Shungu DC, Gabbay V. Decreased Anterior Cingulate Cortex γ-Aminobutyric Acid in Youth With Tourette's Disorder. *Pediatr Neurol*. 2016 Dec;65:64-70.

Charlotte Cunningham-Rundles, M.D., Ph.D.

Professor of Immunology, Medicine and Pediatrics; Acting Chief of Clinical Immunology, Department of Medicine

Lab/Location: Icahn 1120

Email: charlotte.cunningham-rundles@mssm.edu

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:

Mayor PC, Eng KH, Singel KL, Abrams SI, Odunsi K, Moysich KB, Fuleihan R, Garabedian E, Lugar P, Ochs HD, Bonilla FA, Buckley RH, Sullivan KE, Ballas ZK, **Cunningham-Rundles C**, Segal BH. Cancer in primary immunodeficiency diseases: Cancer incidence in the United States Immune Deficiency Network Registry. *J Allergy Clin Immunol.* 2017 Jun 9. 30925-9.

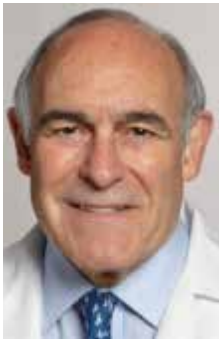
Cunningham-Rundles C. Primary Immunodeficiency: New Insights and Practical Clinical Approaches. *J Allergy Clin Immunol Pract.* 2016 Nov;4:1109-1110

Maffucci P, Filion CA, Boisson B, ...**Cunningham-Rundles C**. Genetic Diagnosis Using Whole Exome Sequencing in Common Variable Immunodeficiency. *Front Immunol*. 2016 Jun 13;7:220.

Cantaert T, Schickel JN, Bannock JM, Ng YS, Kilic SS, Ochs HD, **Cunningham-Rundles C**, ...Nonoyama S, Durandy A, Meffre E. Decreased somatic hypermutation induces an impaired peripheral B cell tolerance checkpoint. *J Clin Invest*. 2016 Nov 1;126(11):4289-4302.

Leven EA, Maffucci P, Ochs HD, Scholl PR, Buckley RH, Ramesh M, **Cunningham-Rundles C**. Hyper IgM Syndrome: a Report from the USIDNET Registry. *J Clin Immunol*. 2016 Jul;36(5):490-501.

Kuehn HS, Boisson B, **Cunningham-Rundles C**, ...Kumnovics A, Conley ME, Rosenzweig SD. Loss of B Cells in Patients with Heterozygous Mutations in IKAROS. *N Engl J Med*. 2016 Mar 17;374(11):1032-43.



Robert J. Desnick, Ph.D., M.D.

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:

Balwani M, Wang B, Anderson KE, Bloomer J, Bissell DM, Bonkovsky HL, Phillips J, and **Desnick, RJ.** Acute Hepatic Porphyrias: Recommendations for evaluation and long term management. *Hepatology*. [Epub June 12, 2017].

Balwani M, Hetanshi N, Anderson KE, Bissell D, ... and **Desnick, RJ.** Clinical, biochemical, and genetic characterization of North American patients with Erythropoietic Protoporphyria and X-Linked Protoporphyria. *JAMA Dermatol.* [Epub June 14, 2017].

Hsu TR, Hung SC, Chang FP, Yu WC, ...**Desnick RJ**, and Niu, DM. Later onset Fabry disease, cardiac damage progress in silence: Experience with a highly prevalent mutation. *J Am Coll Cardiol.* 68:2554-2563, 2016.

Chen B, Solis-Villa C, Hakenberg J, Qiao W, Srinivasan RR, Yasuda M, Balwani MC, Doheny D, Peter I, Chen R, and **Desnick, RJ.** Acute Intermittent Porphyria: Predicted pathogenicity of *HMBS* variants indicates extremely low penetrance of the autosomal dominant disease. *Hum Mut.* 11: 1215-1222, 2016.

Langendonk JG, Balwani MC, Anderson KE, Bonkovsky HL ...and **Desnick, RJ.** Afamelanotide for Erythropoietic Protoporphyria. *N Engl J Med.* 373: 48-59, 2015.

Angela Diaz, M.D., Ph.D., M.P.H.

Professor of Pediatrics (Adolescent Medicine) and Preventive Medicine

Lab/Location: 320 East 94th St.

Email: angela.diaz@mssm.edu

Research Interests: Dr. Diaz's research interests focus on adolescent related issues, including cervical, anal and oral HPV persistence and risk factors among adolescent girls, the impact of physical and sexual abuse on the health and mental well being of adolescents, adolescent disclosure of abuse in primary care settings and sexual and reproductive health.

Type of Research: Clinical/Translational

Publications:

Diaz A., Clayton, E.W, Simon, P. Confronting Commercial Sexual Exploitation and Sex Trafficking of Minors. *JAMA Pediatrics*. 2015; 168(9) 791-792.

Bachorik, A, Friedman, J, Nucci-Sack, A, Horowitz, C, **Diaz A**. Adolescent and young adult women's knowledge of and attitudes toward etonogestrel implants. *Journal of Pediatric and Adolescent Gynecology.* August 2014; In press. (Accepted manuscript)

Diaz A., Petersen, A. Institute of Medicine Report: New Directions in Child Abuse and Neglect Research. *JAMA Pediatrics.* 2014; 168(2): 101-102.

Yavorsky, R, Hollman, D, Steever, J, Soghomonian, C, **Diaz A**., Strickler, H, Schlect, N, Burk, R, Ochner, C. Prevalence of Sexually Transmitted Infections in At-Risk Adolescent Females at a Comprehensive Stand-Alone Adolescent Health Center in New York City. *Clin Pediatr (Phila).* 2014; May 7;53(9):890-895.

Braun-Corville, D, Schlect, N, Burk, R, Strickler, H, Rojas, M, Lorde-Rollins, E, Nucci-Sack, A, Hollman, D, Linares, O, **Diaz A**., Strategies for Conducting Adolescent Health Research in the Clinical Setting: The Mount Sinai Adolescent Health Center HPV Experience. *Journal of Pediatric and Adolescent Gynecology.* August 2013. October 2014; 27(5) e103-e108.

George A. Diaz, M.D., Ph.D.

Professor of Genetics and Genomic Sciences and Pediatrics

Institute Affiliation: Icahn Institute of

Lab/Location: IMI 14-52

Email: george.diaz@mssm.edu

Research Interests: The main research interests of the Diaz laboratory and clinical research group are to define the genetic basis underlying mendelian disorders, particularly inborn errors of metabolism. 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.

Type of Research: Clinical/Translational

Publications:

Sanderson SC, Linderman MD, Suckiel SA, Zinberg R, Wasserstein M, Kasarskis A, **Diaz GA**, Schadt EE. Psychological and behavioural impact of returning personal results from whole-genome sequencing: the HealthSeq project. *Eur J Hum Genet*. 2017 Feb;25(3):280-292.

Lee B, **Diaz GA**, Rhead W, Lichter-Konecki U, Feigenbaum A, Berry SA, ...Mokhtarani M, Scharschmidt BF. Glutamine and hyperammonemic crises in patients with urea cycle disorders. *Mol Genet Metab*. 2016 Jan;117(1):27-32.

Auer PL, Teumer A, Schick U, O'Shaughnessy A, Lo KS, ... Schmidt F, Turcot V, Völker U, Völzke H, Greinacher A, Hsu L, Tardif JC, **Diaz GA***, Reiner AP, Lettre G. Rare and low-frequency coding variants in CXCR2 and other genes are associated with hematological traits. *Nat Genet.* 2014 Jun;46(6):629-34. (*Co-corresponding author)

Weisfeld-Adams JD, Bender HA, Miley-Åkerstedt A, ...Peter I, Frank Y, **Diaz GA**. Neurologic and neurodevelopmental phenotypes in young children with early-treated combined methylmalonic acidemia and homocystinuria, cobalamin C type. *Mol Genet Metab*. 2013 Nov;110(3):241-7.

Diaz GA, Krivitzky LS, Mokhtarani M, ... Coakley DF, Scharschmidt BF, Lee B. Ammonia control and neurocognitive outcome among urea cycle disorder patients treated with glycerol phenylbutyrate. *Hepatology*. 2013 Jun;57(6):2171-9.

Marla Dubinsky, M.D.

Professor of Pediatrics
Professor of Medicine

Lab/Location: 17 East 102nd Street, 5th Floor, Area D

Email: marla.dubinsky@mssm.edu

Research Interests: Dr. Dubinsky's main research interests are the influence of genetics and immune responses on the variability in clinical presentations of early-onset 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:

Singh N, Rabizadeh S, Jossen J, Pittman N, Check M, Hashemi G, Phan BL, Hyams JS, **Dubinsky MC**. Multi-Center Experience of Vedolizumab Effectiveness in Pediatric Inflammatory Bowel Disease. *Inflamm Bowel Dis*. 2016; 22:2121-2126

Dubinsky MC, Phan BL, Singh N, Rabizadeh S, Mould DR. Pharmacokinetic Dashboard-Recommended Dosing Is Different than Standard of Care Dosing in Infliximab-Treated Pediatric IBD Patients. *AAPS J*. 2017; 19:215-222.

Kugathasan S, Denson L, Walters T, Kim MO, Marigorta U, Schirmer M, Mondal K, Liu C, Stephens M, Baldassano R, Markowitz J, Xavier R, Aronow B, Gibson G, Hyams J, **Dubinsky M.** Prediction of Complicated Disease Course for Children Newly Diagnosed with Crohn's Disease: A Multicenter Inception Cohort Study. *Lancet.* 2017; 389:1710-1718.

Dubinsky MC, Hyams JS, Baldassano RN, Colletti RB, Cucchiara S, Escher J, Faubion W, Fell J, Gold BD, Griffiths A, Koletzko S, Kugathasan S, Markowitz J, Ruemmele FM, Veereman G, Winter H, Masel N, Shin CR, Tang KL, Thayu M. Infliximab Is Not Associated With Increased Risk of Malignancy or Hemophagocytic Lymphohistiocytosis in Pediatric Patients With Inflammatory Bowel Disease. *Gastroenterology.* 2017;152: 1901-1914.

Mahadevan, U, Vermeire, S, Lasch, K, Abhyankar, B, Bhayat, F, Blake, A, **Dubinsky, M.** Vedolizumab exposure in pregnancy: outcomes from clinical studies in inflammatory bowel disease. *Aliment Pharmacol Ther*. 2017; 45:941-950.

Nicole C. Dubois, Ph.D.

Assistant Professor of
Cell, Developmental and
Regenerative Biology

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

Lab/Location: Hess CSM, 8th Floor

Email: nicole.dubois@mssm.edu

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:

Bardot E, Calderon D, Santoriello F, Han S, Cheung K, Jadhav B, Burtscher I, Artap S, Jain R, Epstein J, Lickert H, Gouon-Evans V, Sharp AJ, **Dubois NC**. Foxa2 identifies a cardiac progenitor population with ventricular differentiation potential. *Nat. Commun*. 2016 Oct 3.

Bardot E, Tzavaras N, Benson DL, **Dubois N**. Quantitative whole-mount immunofluorescence analysis of cardiac progenitor populations in mouse embryos. *J Vis Exp.* 2017; in press.

Magadum A, Ding Y, He L, Kim T, Vasudevarao MD, Long Q, Yang K, Wickramasinghe N, Renikunta HV, **Dubois NC**, Weidinger G, Yang Q, Engel FB. Live cell screening platform identifies PPARδ as a regulator of cardiomyocytes proliferation and cardiac repair. *Cell Res.* 2017 Jun 16.

Calderon D, Bardot E, **Dubois N**. Probing early heart development to instruct regenerative therapy. *Dev Dyn*. 2016 Oct 3.

Timothy J. Cashman, Rebecca Josowitz, Bruce D. Gelb, ...**Nicole C. Dubois**, and Kevin D. Costa. Construction of Defined Human Engineered Cardiac Tissues to Study Mechanisms of Cardiac Cell Therapy. *J Vis Exp.* 2016 Mar 1;(109):e53447.

Dani Dumitriu, M.D., Ph.D.

Assistant Professor of
Neuroscience

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Hess 10th Floor

Email: dani.dumitriu@mssm.edu

Research Interests:
Dr. Dumitriu studies the neurobiological basis for resilience to social stress in a mouse model. Her lab utilizes a combination of state-of the art techniques, including viral-mediated circuit mapping, high resolution confocal microscopy of dendritic spines, quantitative whole-brain immunohistochemistry, and graph theory analysis of network dynamics.

Type of Research: Basic/Translational

Publications:

Pereira AC, Lambert HK, Grossman YS, **Dumitriu D**, Waldman R, Jannetty SK, Calakos K, Janssen WG, McEwen BS, Morrison JH. Glutamatergic regulation prevents hippocampal-dependent age-related cognitive decline through dendritic spine clustering. *Proc Natl Acad Sci* 2014; Dec 30; 111(52): 18733-8

Young ME, Ohm DT, **Dumitriu D**, Rapp PR, Morrison JH. Differential effects of aging on dendritic spines in visual cortex and prefrontal cortex of the rhesus monkey. *Neuroscience* 2014; Aug 22; 274:33-43

Dumitriu D, Berger SI, Hamo C, Hara Y, Bailey M, Grossman YS, Janssen WG, Morrison JH. Vamping: Stereology-based automated quantification of fluorescent puncta size and density. *J Neurosci Methods* 2012; Jun 7; 209(1):97-105

Dumitriu D, Laplant Q, Grossman Y, Dias C, Janssen WG, Morrison JH, Nestler EJ. Subregional, dendritic compartment, and spine subtype specificity in cocaine-regulation of dendritic spines in the nucleus accumbens. *J Neurosci* 2012; May 16; 32(20):6957-66

Dumitriu D, Rodriguez A, Morrison JH. High-throughput, detailed, cell-specific neuroanatomy of dendritic spines using microinjection and confocal microscopy. *Nat Prot* 2011; Aug 25; 6(9): 1391-411

David Dunkin, M.D.

Assistant Professor of Pediatrics (Gastroenterology and Nutrition)

Institute Affiliation: Mindich Child Health and Development Institute

Lab: Icahn 11-26

Email: david.dunkin@mssm.edu

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. Using animal models, he is investigating the mechanisms of epicutaneous exposure leading to the induction of tolerance to antigens. The goal is to apply this knowledge towards the treatment of diseases including food allergies and IBD. In addition, Dr. Dunkin and his collaborators in the Center for Chinese Medicine are investigating the use of Chinese herbal therapies in both murine models and in humans for the treatment of IBD.

Type of Research: Basic/Translational

Publications:

Dunkin DS, Berin MC, Mondoulet L, Tobar S, Yeretssian G, Tordesillas L, Iuga A, Larcher T, Guillespie V, Benhamou PH, Colombel JF, Sampson HA. Epicutaneous Tolerance Induction to a Bystander Antigen Abrogates Colitis and Ileitis in Mice, *Inflammatory Bowel Diseases.* June 2017.

Julia Gordon, Archana Ramaswami, Marc Beuttler, Jacqueline Jossen, Nanci Pittman, Joanne Lai, **David Dunkin**, Keith Benkov, Marla Dubinsky: EBV Status and Thiopurine Use in Pediatric IBD, *Journal of Pediatric Gastroenterology and Nutrition*. December 2015.

Lisa Eiland, M.D.

Assistant Professor of Pediatrics (Newborn Medicine)

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Mount Sinai West, 1000 10th Avenue, 10th Floor

Email: lisa.eiland@mountsinai.org

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:

Eiland L, Romeo RD, Stress and the developing adolescent brain. Neuroscience. 2013 Sep 26;249:162-71.

Eiland L, McEwen BS, Early Life Stress Followed by Subsequent Adult Chronic Stress Potentiates Anxiety and Blunts Hippocampal Structural Remodeling. Hippocampus. 2012 Jan; 22(1): 82-91.

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. Psychoneuroendochrinology. 2012 Jan; 37(1):39-47.

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

Vilma Gabbay, M.D., M.S.

Associate Professor of Psychiatry and Neuroscience
Chief, Pediatric Mood and Anxiety Disorders Program

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Behavioral Science Unit, 1240 Park Ave (Lab Entrance: 96th Street)

Email: vilma.gabbay@mssm.edu

Research Interests: Dr. Gabbay studies the neurological and immunological mechanisms that contribute to the development and maintenance of mood disorders in youth. Her research efforts utilize an array of sophisticated, cutting-edge techniques, including functional magnetic resonance (MR) imaging, MR spectroscopy, immunological and genetic assays, and comprehensive clinical evaluations.

Type of Research: Clinical/Translational

Publications:

Gabbay V, Bradley KA, Mao X, Ostrover R, Kang G, & Shungu D. Anterior Cingulate Cortex γ-Aminobutyric Acid Deficits in Youth with Depression. *Translational Psychiatry.* 2017 (In Press).

Bradley KA, Case JA, Freed RD, Stern ER, & **Gabbay V**. Neural Correlates of RDoC Reward Constructs in Adolescents with Diverse Psychiatric Symptoms: A Reward Flanker Task Pilot Study. *Journal of Affective Disorders.* 2017; 216:36-45.

Van Dam NT, O'Connor D, Marcelle E, Ho EJ, Craddock RC, Tobe RH, **Gabbay V**, Hudziak JJ, Castellanos FX, Leventhal BL, Milham MP. Data-driven phenotypic categorization for neurobiological analyses: Beyond DSM-5 labels. *Biological Psychiatry.* 2017; 81 no. 6: 484-494.

Freed RD, Coffey BJ, Mao X, Weiduschat N, Kang, G, Shungu D, & **Gabbay V**. Decreased Anterior Cingulate Cortex GABA in Youth with Tourette's Disorder. *Pediatric Neurology*. 2016; 65: 64-70.

Parvaz MA, **Gabbay V**, Malaker P, Goldstein RZ. Objective and Specific Tracking of Anhedonia via Event-Related Potentials in Individuals with Cocaine Use Disorders. *Drug and Alcohol Dependence.* 2016; 164: 158-165.

Maida P. Galvez, M.D., M.P.H.

Associate Professor of Departments of Environmental Medicine and Public Health and Pediatrics

Institute Affiliation: Institute for Exposomic Research

Lab/Location: 17 East 102nd St., 2nd Floor

Email: maida.galvez@mssm.edu

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:

Windham GC, Lum R, Voss R, Wolff M, Pinney SM, Teteilbaum SL, Sosnoff CS, Dobraca D, Biro F, Hiatt RA, Greenspan LC, **Galvez MP**, Kushi LH. Age at Pubertal Onset in Girls and Tobacco Smoke Exposure during Pre- and Post-natal Susceptibility Windows. *Epidemiology*. 2017 Jun 28.

Galvez MP, Balk SJ. Environmental Risks to Children: Prioritizing Health Messages in Pediatric Practice. *Pediatr Rev*. 2017 Jun;38(6):263-279.

Horowitz CR, Shameer K, Gabrilove J, Atreja A, Shepard P, Goytia CN, Smith GW, Dudley J, Manning R, Bickell NA, **Galvez MP.** Accelerators: Sparking Innovation and Transdisciplinary Team Science in Disparities Research. *Int J Environ Res Public Health*. 2017 Feb 23;14(3). pii: E225.

Wolff MS, Pajak A, Pinney SM, Windham GC, **Galvez MP,** Rybak M, Silva MJ, Ye X, Calafat AM, Kushi LH, Biro FM, Teitelbaum SL; Associations of urinary phthalate and phenol biomarkers with menarche in a multiethnic cohort of young girls. Breast Cancer and Environment Research Program. *Reprod Toxicol*. 2017Jan;67:56-64.

Vangeepuram N, Ramos MA, Fei K, Fox AM, Horowitz CR, Kleinman LC, **Galvez MP.** Are Parental Perceptions of Child Activity Levels and Overall Health More Important than Perceptions of Weight? *Matern Child Health J*. 2016 Jul;20(7):1456-63.

Adolfo Garcia-Ocana, Ph.D.

Professor of Medicine (Endocrinology, Diabetes and Bone Diseases)

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

Lab/Location: Atran 5-02

Email: adolfo.g.ocana@mssm.edu

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:

A.I. Sacaan, S. Thibault, M. Hong, N.K. Guthalu, T. Nichols , R. Li, C. Rosselot, W. Evering, R. Fenutria, A.Vitsky, T. Brown, M. Finkelstein, **A. Garcia-Ocaña**, N. Khan, A.F. Stewart, R.C. Vasavada. The Effects of Inhibition of Cyclin-Dependent Kinase 4/6 on Glucose and Pancreatic Beta Cell Homeostasis in Young and Aged Rats. *Molecular Cancer Research,* in press, 2017.

R.E. Stamateris, R.B. Sharma, C.P. O'Donnell, **A. Garcia-Ocana**, and L.C. Alonso. Glucose induces pancreatic beta cell cyclin D2 expression and activates proliferation via a pathway involving IRS2 and mTORC1. *Diabetes,* 65:981-995, 2016.

J. Lakshmipathi, J.C. Alvarez-Perez, C. Rosselot, G.P. Casinelli, R. Stamateris, F. Rausell-Palamos, C. O'Donnell, R.C. Vasavada, D.K. Scott, L.C. Alonso, **A. Garcia-Ocaña**. PKC-ζ is essential for pancreatic beta cell replication during insulin resistance by regulating mTOR and cyclin-D2. *Diabetes,* 65:1283-1296, 2016.

P. Wang, J.C. Alvarez-Perez, D.P. Felsenfeld, H. Liu, S. Sivendran, A. Bender, R.Sanchez, A. Kumar, D.K. Scott, **A. Garcia-Ocaña**, A.F. Stewart. Induction of Rodent and Human Pancreatic Beta Cell Replication by Inhibitors of Dual Specificity, Tyrosine-Regulated Kinase 1a. *Nat Medicine*, 21:383-388, 2015.

N.K. Guthalu, R. Fenutria, I. Pollack, A. Garcia-Ocaña, J. Penninger, R.C. Vasavada. Osteoprotegerin and Denosumab stimulate human beta cell proliferation through inhibition of the Receptor Activator of NF-κB Ligand pathway. *Cell Metab*, 22:77-85, 2015.

Bruce D. Gelb, M.D.

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

Institute Affiliation: Mindich Child Health and Development Institute

Lab: Hess CSM 8-301

Email: bruce.gelb@mssm.edu

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 Sep 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 Genet.* 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 Genet*. 2001; 29:465-4680.

Chris Gennings, Ph.D.

Professor of Environmental Medicine and Public Health

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

Lab/Location: CAM D3-134

Email: chris.gennings@mssm.edu

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:

Braun JM, **Gennings C**, Hauser R, Webster TF. What can epidemiological studies tell us about the impact of chemical mixtures on human health? *Environ Health Perspect* 2016; 124:A6-9.

Czarnota J, Wheeler DC, **Gennings C**. Evaluating geographically weighted regression models for environmental chemical risk analysis. *Cancer Inform.* 2015; 14(Suppl 2):117-27.

Lioy PJ, Hauser R, **Gennings C**, Koch HM, Mirkes PE, Schwetz BA, Kortenkamp A. Assessment of phthalates/phthalate alternatives in children's toys and childcare articles: Review of the report including conclusions and recommendation of the Chronic Hazard Advisory Panel of the Consumer Product Safety Commission. *J Expo Sci Environ Epidemiol* 2015; 25(4): 343-53.

Czarnota J, **Gennings C**, Colt JS, De Roos AJ, Cerhan JR, Severson RK, Hartge P, Ward MH, Wheeler DC. Analysis of environmental chemical mixtures and Non-Hodgkin lymphoma risk in the NCI-SEER NHL study. *Environ Health Perspect* 2015; 123(10):965-70.

Carrico C, **Gennings C**, Wheeler DC, Factor-Litvak P. Characterization of weighted quantile sum regression for highly correlated data in a risk analysis setting. *J Agricultural, Biological, and Environmental Statistics* 2015; 20(1): 100-120.

Dorothy E. Grice, M.D.

Professor of Psychiatry; Director, OCD and Related Disorders Clinical and Research Program; Associate Director, Tics and Tourette's Clinical and Research Program

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

Lab/Location: 1425 Madison Avenue

Email: dorothy.grice@mssm.edu

Research Interests: Dr. Grice focuses on the phenomenology, genetics and biology of tic disorders, OCD and autism. Specific programs include epidemiological studies of genetic and environmental risks for OCD and tic disorders (Denmark and Sweden), molecular genetic studies of tic disorders and OCD, and characterization of genes implicated in risk for OCD and tic disorders.

Type of Research: Clinical/Translational

Publications:

Abdulkadir M, Londono D, Gordon D , Fernandez TV, Brown LW, Cheon KA, Coffey BJ, Elzerman L, Fremer C, Fründt O, Garcia-Delgar B, Gilbert DL, **Grice DE**, Hedderly T, Heyman I, ...Heiman GA, Hoekstra PJ, and Dietrich A. Investigation of previously implicated genetic variants in chronic tic disorders: a transmission disequilibrium test approach. *Eur Arch Psychiatry Clin Neurosci.* 2017 May 29.

Browne HA, Modabbernia A, Buxbaum JD, Hansen SN, Schendel DE, Parner ET, Reichenberg A, **Grice DE.** Prenatal Maternal Smoking and Increased Risk for Tourette Syndrome and Chronic Tic Disorders. *J Am Acad Child Adolesc Psychiatry.* 2016 Sep;55(9):784-91.

Abdulkadir M, Tischfield JA, ...**Grice DE**, Hagstrøm J, Hedderly T, ...Heiman GA, Hoekstra PJ, Dietrich A. Pre- and perinatal complications in relation to Tourette syndrome and co-occurring obsessive-compulsive disorder and attention-deficit/hyperactivity disorder. *J Psychiatr Res*. 2016 Nov;82:126-35.

Peter Heeger, M.D.

Professor of Medicine (Nephrology)

Institute Affiliations:
Immunology Institute; Recanati Miller Transplant Institute (Director of Research)

Lab/Location: Annenberg 21-32

Email: peter.heeger@mssm.edu

Research Interests: The focus of the Heeger research program is transplantation immunology and complement biology. The lab uses mouse models to identify mechanisms of immune injury and tolerance and then apply the findings to develop monitoring and treatment strategies in human transplant recipients with the long term goal of prolonging allograft survival and improving patient health.

Type of Research: Basic/Translational

Publications:

Chun N, Fairchild R, Li Y, Liu J, Zhang M, Baldwin WM III, **Heeger PS**. Complement dependence of murine costimulatory blockade-resistant cellular cardiac allograft rejection. *Am J Transplantation.* 2017 (in press).

Purroy C, Fairchild RL, Tanaka T, Baldwin WM III, Manrique J, Madsen J, Colvin R, Alessandrini A, Blazar BR, Fribourg M, **Heeger, PS***, Cravedi P*. Erythropoietin receptor mediated molecular crosstalk promotes T cell immunoregulation. *J Am Soc of Nephrology.* 2017; (in press). *co senior authors

Sheen J, Strainic M, Lui J, Zhang W, Yi Z, Medof, ME*, **Peter S. Heeger*** Toll like receptor-induced murine dendritic cell activation requires dendritic cell-intrinsic complement. *J Immunol. 2017;* 199: 278-291. *co-senior authors

Menon MC, Murphy B, **Heeger, PS.** Moving biomarkers toward clinical implementation in kidney transplantation. *J Am Soc of Nephrology. 2017;* 28:735-47.

Starling RC, Stehlik J, Baran DA, Armstrong B, Stone JR, Ikle D, Morrison Y, Bridges ND, ... **Heeger, PS** (for the CTOT-05 consortium). Multicenter Analysis of Immune Biomarkers and Heart Transplant Outcomes: Results of the Clinical Trials in Organ Transplantation-05 study. *Am J Transplantation. 2016;* 16:121-136.

Tom Hildebrandt, Psy.D.

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

Lab/Location:
1425 Madison Ave, 6th Floor

Email:
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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., & 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., & **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, & **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 M.D., M.P.H.

Professor, Department of Population Health Science and Policy
Professor, Department of Medicine
Co-Director, Center for Health Equity and Community Engaged Research

Lab/Location: East Building 2-42

Email: carol.horowitz@mssm.edu

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:

Sanderson S, Armand A, Myers M, Connolly J, **Horowitz CR**, Williams J, Jarvik G, ...Derveloy BD, Holm I. Public attitudes towards consent and data sharing in biobank research: a large multi-site experimental survey in the US. *Am J Hum Genet.* 2017 Feb 4. pii: S0002-9297(17)30021-6

Horowitz CR, Ferryman K, Negron R, ... Robinson, MA. Race, genomics and chronic disease: What patients with African ancestry have to say. *Journal of Healthcare for the Poor and Underserved.* 2017; 28; 248-60. (With invited commentary)

Horowitz CR, Shameer K, Gabrilove J, Atreja A, ... Manning R, Bickell NA, Galvez MP. Accelerators: Sparking innovation and transdisciplinary team science in disparities research. *J. Environ. Res. Public Health.* 2017; 14(3): 225.

Lunde B, Litman L, Jacobs A, **Horowitz CR**. "Just wear dark underpants mainly": Learning from adolescents' and young adults' experiences with early discontinuation of the contraceptive implant. *J Pediatr Adolesc Gynecol.* 2017.

Balakrishnan R, Kaplan B, Negron R, Fei K, Goldfinger J, **Horowitz CR**. Life after stroke in an urban minority population: A photovoice project. *J. Environ. Res. Public Health*. 2017 Mar 11;14(3).

Megan K. Horton, Ph.D., M.P.H.

Assistant Professor of Environmental Medicine and Public Health

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

Lab/Location: CAM 3rd Floor

Email: megan.horton@mssm.edu

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:

Horton MK, Bouselman S, Jones R, Sjodin A, Liu X, Whyatt R, Wapner R, Factor-Litvak P. Predictors of serum concentrations of polybrominated flame retardants among health pregnant women in an urban environment; a cross sectional study. *Env Health.* 2013; 12:23.

Horton MK, Kahn L, Perera F, Barr D, Rauh V. Does the home environment and the sex of the child modify the adverse effects of prenatal exposure to chlorpyrifos on child working memory? *Neurotoxicol Teratol.* 2013; 34(5): 534-41.

Rauh VS, Perera F, **Horton M**, Whyatt R, Bansal R, Hao X, Barr D, Slotkin T, Peterson B. Brain anomalies in children exposed prenatally to a common organophosphate pesticide. *Proc Natl Acad Sci.* 2012; 109(20): 7871-6.

Horton, MK, Rundle A, Camann D, Barr D, Rauh V, Whyatt RM. Impact of prenatal exposure to piperonyl butoxide and permethrin on 36-month neurodevelopment. *Pediatrics.* 2012; 127(3):e699-706.

Rauh V, Arunadajai S, **Horton M**, Perera F, Hoepner L, Barr D, Whyatt R. 7-year Neurodevelopmental Scores and Prenatal Exposure to Chlorpyrifos, a Common Agricultural Pesticide. *Environ Health Perspect.* 2011; 119(8):1196-201.

Ethylin Wang Jabs, M.D.

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

Lab/Location: Icahn 14-76

Email: ethylin.jabs@mssm.edu

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:

Di Gioia SA, Connors S, Matsunami N, Cannavino J, 23 authors, Collins FS, **Jabs EW**, Bönnemann CG, Olson EN, Moebius Syndrome Research Consortium, Carey JC, Robertson SP, Manoli I, Engle EC. A defect in myoblast fusion underlies Carey-Fineman-Ziter syndrome. *Nat Commun*. 2017; 8:16077.

Brinkley JF, Fisher S, Harris MP, Holmes G, Hooper JE, **Jabs EW**, *et al.* 11 more authors, FaceBase Consortium, and Chai Y. The FaceBase Consortium: A Comprehensive Resource for Craniofacial Researchers. *Development* 2016; 143:2677-88.

Kelly JJ, Esseltine JL, Shao Q, **Jabs EW,** Sampson J, Auranen M, Bai D, Laird DW. Specific functional pathologies of Cx43 mutations associated with oculodentodigital dysplasia. *Mol Biol Cell*. 2016; 27:2172-85.

Sanderson SC, Suckiel S, Zweig M, Bottinger EP, **Jabs EW**, Richardson LD. Development and evaluation of an online educational animation about whole genome sequencing for research participants, patients, and the general public. *Genet Med.* 2016; 18:501-12.

Allan C. Just, Ph.D.

Assistant Professor of Environmental Medicine and Public Health

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

Lab/Location: CAM D3-131

Email: allan.just@mssm.edu

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 AC, Miller RL, Perzanowski MS, Rundle AG, Chen Q, Jung KH, Hoepner L, Camann DE, Calafat AM, Perera FP, Whyatt RM. Vinyl flooring in the home is associated with children's airborne butylbenzyl phthalate and urinary metabolite concentrations. *J Expo Sci Environ Epidemiol*. 2015 Nov-Dec;25(6):574-9.

Just AC, Wright RO, Schwartz J, Coull BA, Baccarelli A, Tellez-Rojo MM, Emily Moody, Yujie Wang, Alexei Lyapustin, and Itai Kloog. Using high-resolution satellite aerosol optical depth to estimate daily PM2.5 geographical distribution in Mexico City. *Environ Sci Technol.* 2015 Jul 21;49(14):8576-84.

Chen J*, **Just AC***, Schwartz J, Hou L, Jafari N, Sun Z, Baccarelli A, Lin X. CpGFilter: Model-based CpG probe filtering with replicates for epigenome-wide association studies. *Bioinformatics.* 2016 Feb 1;32(3):469-71. *indicates equal contribution

Rosa MJ, **Just AC**, Tamayo Y Ortiz M, Schnaas L, Svensson K, Wright RO, Téllez Rojo MM, Wright RJ. Prenatal and postnatal stress and wheeze in Mexican children: Sex-specific differences. *Ann Allergy Asthma Immunol*. 2016 Jan 25.

Sanders AP, Burris HH, **Just AC**, Motta V, Amarasiriwardena C, Svensson K, Oken E, Solano-Gonzalez M, Mercado-Garcia A, Pantic I, Schwartz J, Tellez-Rojo MM, Baccarelli AA, Wright RO. Altered miRNA expression in the cervix during pregnancy associated with lead and mercury exposure. *Epigenomics*. 2015 Sep;7(6):885-96.

Alex Kolevzon, M.D.

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

Institute Affiliation: Friedman Brain Institute

Lab/Location: Icahn, 4-32

Email: alexander.kolevzon@mssm.edu

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:

Gu X, Zhou TJ, Anagnostou E, Soorya L, **Kolevzon A**, Hof PR, Fan J. Heightened Brain Response to Pain Anticipation in High-Functioning Adults with Autism Spectrum Disorder. *Eur J Neurosci*. 2017 Apr 27.

Siper PM, **Kolevzon A**, Wang AT, Buxbaum JD, Tavassoli T. A clinician-administered observation and corresponding caregiver interview capturing DSM-5 sensory reactivity symptoms in children with ASD. *Autism Res.* 2017 Mar 11.

Rankine J, Li E, Lurie S, Rieger H, Fourie E, Siper PM, Wang AT, Buxbaum JD, **Kolevzon A**. Language ENvironment Analysis (LENA) in Phelan-McDermid Syndrome: Validity and Suggestions for Use in Minimally Verbal Children with Autism Spectrum Disorder. *J Autism Dev* Disord. 2017 Mar 2.

Jamison JM, Fourie E, Siper PM, Trelles MP, George-Jones J, Buxbaum Grice A, Krata J, Holl E, Shaoul J, Hernandez B, Mitchell L, McKay MM, Buxbaum JD, **Kolevzon A**. Examining the Efficacy of a Family Peer Advocate Model for Black and Hispanic Caregivers of Children with Autism Spectrum Disorder. *J Autism Dev Disord*. 2017 Feb 6.

Muzar Z, Lozano R, **Kolevzon A**, Hagerman RJ. The neurobiology of the Prader-Willi phenotype of fragile X syndrome. *Intractable Rare Dis Res*. 2016 Nov;5(4):255-261.

Amy R. Kontorovich, M.D., Ph.D.

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

Lab/Location: Hess CSM 8-301

Email: amy.kontorovich@mountsinai.org

Research Interests: Dr. Kontorovich studies the role of human genetic factors in the pathogenesis of myocarditis. We use human induced pluripotent stem cell-derived cardiomycotes and CRISPR/Cas9 gene editing to model myocarditis *in vitro*. In parallel, we use genomic approaches to study myocarditis in affected cohorts.

Type of Research: Basic/Translational

Publications:

Belkaya, S., **Kontorovich, A.,** Byun, M., Bajolle, F., Mulero-Navarro, S., Josowitz, R., Itan, Y., Lorenzo, L., Boucherit, S., Laux, D., Poupelin, E., Di Filippo, S., Abel, L., Zhang, S-Y., Bonnet, D., Gelb, B. and Casanova, J-L. Autosomal recessive cardiomyopathy presenting as acute myocarditis. *Journal of the American College of Cardiology*. 69(13) :1653-65, 2017.

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

Robert S. Krauss, Ph.D.

Professor of Developmental and Regenerative Biology and Oncological Sciences

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

Lab: Annenberg 25-70

Email: robert.krauss@mssm.edu

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:

Hong M, Srivastava K, Kim S, Allen BL, Leahy DJ, Hu P, Roessler E, **Krauss RS**, Muenke M. BOC is a modifier gene in holoprosencephaly. *Hum Mutat*. 2017 Jul 4.

Hong M, **Krauss RS**. Ethanol itself is a holoprosencephaly-inducing teratogen. *PLoS One*. 2017 Apr 25;12(4):e0176440.

Joseph GA, Lu M, Radu M, Lee JK, Burden SJ, Chernoff J, **Krauss RS**. Group I Paks promote skeletal myoblast differentiation in vivo and in vitro. *Mol. Cell. Biol.* 2017; [MCB.00222-16, Epub ahead of print].

Krauss RS, Hong M. Gene-environment interactions and the etiology of birth defects. *Curr. Top. Dev. Biol.* 2016; 116:569-580.

Philip J. Landrigan, M.D., M.Sc., D.I.H.

Professor of Environmental Medicine and Public Health; Professor of Pediatrics and Dean for Global Health

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

Lab/Location: Annenberg 21-102

Email: phil.landrigan@mssm.edu

Research Interests: Dr. Landrigan has a strong interest in discovering how environmental exposures in prenatal and early postnatal life – in particular, to toxic chemicals – influence health and development in children and across the entire human lifespan. He has studied the developmental toxicity of heavy metals, pesticides and endocrine disruptors. He is currently studying the impacts of global pollution on child health and co-chairs a Lancet Commission on Pollution & Health.

Type of Research: Clinical/Translational

Publications:

Grandjean P, **Landrigan PJ**. Neurobehavioural effects of developmental toxicity. *Lancet Neurol* 2014; 13:330-338.

Landrigan PJ, Etzel RA (Editors). *Textbook of Children's Environmental Health.* London: Oxford University Press, 2013.

Heindel JJ, Balbus J, Birnbaum L, Brune-Drisse MN, Grandjean P, Gray K, **Landrigan PJ**, Sly PD, Suk W, Cory Slechta D, Thompson C, Hanson M. Developmental Origins of Health and Disease: Integrating Environmental Influences. *Endocrinology,* Mini Review 1-5, 2015. .

Laborde A, Tomasina F, Bianchi F, Bruné M-N, Buka I, Comba P, Corra L, Cori L, Dufffert CM, Harari R, Iavarone I, McDiarmid MA, Gray KA, Sly PD, Soares A, Suk WA, **Landrigan PJ**. Children's Health in Latin America: The Influence of Environmental Exposures. *Environ Health Perspect* 123:201-209, 2015.

Sly PD, Carpenter DO, Van den Berg M, Stein RT, **Landrigan PJ**, Brune-Drisse MN, Suk W. Health Consequences of Environmental Exposures: Causal Thinking in Global Environmental Epidemiology. *Ann Glob Health* 82(1):3-9, 2016.

Landrigan PJ, Goldman LR. Children's Vulnerability to Toxic Chemicals: A Challenge and Opportunity to Strengthen Health and Environmental Policy. *Health Affairs* 2011;30(5):1-10.

Xiu-Min Li, M.D., M.S.
Professor of Pediatrics
(Allergy and Immunology)

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

Lab/Location: Altenburg 17-25 and 17-80

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Research Interests: Dr. Li's research focuses on understanding the mechanisms underlying the pathogenesis of allergic diseases including food allergy and allergic asthma, and on developing novel therapies for these diseases, including immunomodulators, natural products, and novel active compounds isolated from natural products.

Type of Research: Basic/Translational

Publications:

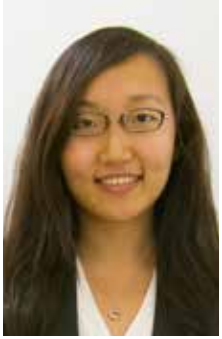
Srivastava K, Song Y, Yang N, Liu C, Nowak-Wegrzyn A, Sampson HA and **Li X-M**. B-FAHF-2 plus oral immunotherapy (OIT) is safer and more effective than OIT alone in a murine model of concurrent peanut/tree nut allergy. *Clin Exp Allergy.* 2017 Apr 11.

Yang N, Srivastava K, Song, Y, Liu C, Cho S, Chen Y, **X-M Li.** Berberine as a chemical and pharmacokinetic marker of the butanol-extracted food allergy herbal formula-2. *International Immunopharmacology.* 2017 Feb 13;45:120-127.

Liu C, Yang N, Chen X, Tversky J, Zhan J, Chehade M, Miller RL, **Li XM.** The Flavonoid 7,4' Dihydroxyflavone Prevents Dexamethasone Paradoxical Adverse Effect on Eotaxin Production by Human Fibroblasts. *Phytother Res.* 2017 Jan 19.

Smith PK, Masilamani M, **Li X-M,** Sampson H. "The False Alarm" hypothesis. Food allergy is associated with high dietary advanced glycation end products and pro-glycating dietary sugars that mimic alarmins. *J Allergy Clin Immunol.* 2016; Jul 15. pii: S0091-6749(16)30618-2.

Srivastava K, Siefert A, Fahmy TM , Caplan MJ, **Li X-M** and Sampson HA. Investigation of peanut oral immunotherapy using CpG/Peanut-nanoparticles in a murine model of peanut allergy. *J Allergy Clin Immunol.* 2016;138(2):536-543.



Shelley H. Liu, Ph.D.
Assistant Professor, Center for Biostatistics, Department of Population Health Science and Policy

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: 1425 Madison Ave, 2nd Floor

Email: shelley.liu@mountsinai.org

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:

Liu SH, Erion G, Novitsky V, DeGruttola V. Viral genetic linkage analysis in the presence of missing data. *PLoS ONE.* 2015 10(8): e0135469.

Ruth J.F. Loos, Ph.D.

Professor of Environmental Medicine and Public Health; Director, Genetics of Obesity and Related Metabolic Traits Program

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

Lab/Location: Annenberg 18-80

Email: ruth.loos@mssm.edu

Research Interests: Dr. Loos' interests focus on the identification of genetic loci contributing to risk of obesity and related metabolic traits. She has led several large-scale gene-discovery efforts for obesity-related traits and has contributed to similar efforts for metabolic traits. Increasingly, her gene discovery work focuses on the identification of low-frequency variants through the implementation exomechip and sequencing projects, in particular in non-white ancestry populations. Her work also assesses the predictive value of established genetic loci and their interaction with lifestyle factors.

Type of Research: Translational

Publications:

Graff M, Scott RA, Justice AE, ...Hirschhorn JN, Klein RJ, Johnson AD, Borecki IB, Franks PW, North KE, Cupples LA, **Loos RJF**, Kilpeläinen TO. Genome-wide physical activity interactions in adiposity - A meta-analysis of 200,452 adults. *PLoS Genet.* 2017 Apr 27;13(4):e1006528.

Justice AE, Winkler TW, Feitosa MF, ...Heid IM, Mohlke KL, Marchini J, **Loos RJF**, ...North KE, Cupples LA. Genome-wide meta-analysis of 241,258 adults accounting for smoking behaviour identifies novel loci for obesity traits. *Nat Commun*. 2017 Apr 26;8:14977.

Ng MCY, Graff M, Lu Y, Justice AE, ...Wilson JG, Bowden DW, Cupples LA, Haiman CA, **Loos RJF**, North KE. Discovery and fine-mapping of adiposity loci using high density imputation of genome-wide association studies in individuals of African ancestry: African Ancestry Anthropometry Genetics Consortium. *PLoS Genet.* 2017 Apr 21;13(4):e1006719.

Marouli E, Graff M, Medina-Gomez C, ...**Loos RJ**, Frayling TM, Hirschhorn JN, Deloukas P, Lettre G. Rare and low-frequency coding variants alter human adult height. *Nature.* 2017 Feb 9;542(7640):186-190.

Ried JS, Jeff M J, Chu AY, Bragg-Gresham JL, van Dongen J, ...Hirschhorn JN, Müller-Nurasyid M, **Loos RJ**. A principal component meta-analysis on multiple anthropometric traits identifies novel loci for body shape. *Nat Commun.* 2016 Nov 23;7:13357.

Roberto Lucchini, M.D.

Director, Division of Occupational and Environmental Medicine
Professor of Preventive Medicine

Institute Affiliation: Institute for Exposomic Research

Lab/Location: CAM D3-112

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Research Interests: Dr. Lucchini's research focuses on neurotoxic effects from occupational and environmental exposure to chemicals including manganese, lead, mercury, PCB, solvents, pesticides. A variety of motor, cognitive, sensory and endocrine outcomes are related to the exposure in different age groups including children, workers, and elderly.

Type of Research: Clinical/Translational

Publications:

Rosa MJ, Benedetti C, Peli M, Donna F, Nazzaro M, Fedrighi C, Zoni S, Marcon A, Zimmerman N, Wright R, **Lucchini R**. Association between personal exposure to ambient metals and respiratory disease in Italian adolescents: a cross-sectional study. *BMC Pulm Med*. 2016 Jan 12;16(1):6.

Wahlberg K, Kippler M, Alhamdow A, Rahman M, Smith DR, Vahter M, **Lucchini R**. Common polymorphisms in the solute carrier SLC30A10 are associated with blood manganese and neurological function. *Toxicol Sci*. 2016 Feb;149(2):473-83.

Iannilli E, Gasparotti R, Hummel T, Zoni S, Benedetti C, Fedrighi C, Tang CY, Van Thriel C, **Lucchini RG**. Effects of Manganese exposure on olfactory functions in teenagers: a pilot study. *PLoS One*. 2016 Jan 14;11(1):e0144783.

Lucas EL, Bertrand P, Guazzetti S, Donna F, Peli M, Jursa TP, **Lucchini R**, Smith DR. Impact of ferromanganese alloy plants on household dust manganese levels: Implications for childhood exposure. *Environ Res*. 2015 Mar 3;138C:279-290

Zoni S, **Lucchini RG**. Manganese exposure: cognitive, motor and behavioral effects on children: a review of recent findings. *Curr Opin Pediatr*. 2013 Apr;25(2):255-60.

Nadia Micali, M.D., Ph.D., MSc
Associate Professor, Psychiatry

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location:
Icahn Buliding 4th floor

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Research Interests: Dr. Micali's research focuses on developmental risk mechanisms for eating and weight disorders, including inter-generational risk. Using population-based and clinical studies her goal is to determine how eating behaviors, eating and weight disorders develop across childhood and adolescence, in order to improve early intervention, prevention and treatment.

Type of Research: Clinical/Translational

Publications:

Robinson L, Aldridge V, Clark EM, Misra M, **Micali N**. Pharmacological treatment options for low Bone Mineral Density and secondary osteoporosis in Anorexia Nervosa: A systematic review of the literature. *Journal of Psychosomatic Research*. 2017 Jul;98:87-97.

Brown M, Robinson L, Campione GC, Wuensch K, Hildebrandt T*, **Micali N**. Intolerance of Uncertainty in Eating Disorders: A Systematic Review and Meta-Analysis. *European Eating Disorders Review*. 2017 May 23. (* Joint senior authors)

Barona M, Taborelli E, Corfield F, Pawlby S, Easter A, Schmidt U, Treasure J, **Micali N**. Neurobehavioural and cognitive development in infants born to mothers with eating disorders. *J Child Psychol Psychiatry*. 2017 Apr 28.

Doucet, G. E., Rasgon, N., McEwen, B. S., **Micali, N**. * and Frangou, S.* Elevated Body Mass Index is associated with increased integration and reduced cohesion of sensory-driven and internally-guided resting-state functional brain networks. *Cerebral Cortex*. 2017 jan 23. (* Joint senior authors)

Micali N, Martini MG, Thomas JJ, Eddy KT, Kothari R, Russell E, Bulik CM, Treasure J. Lifetime and 12- month prevalence of eating disorders amongst women in mid-life: a population-based study of diagnoses and risk factors. *BMC Medicine*. 2017;15(1):12.

Marek Mlodzik, Ph.D.
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

Email: marek.mlodzik@mssm.edu

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:

Chmurzynska A, **Mlodzik MA**. Genetics of fat intake in the determination of body mass. *Nutr Res Rev.* 2017 Jun;30(1):106-117.

Wu J, **Mlodzik M**. Wnt/PCP Instructions for Cilia in Left-Right Asymmetry. *Dev Cell.* 2017 Mar 13;40(5):423-424.

Weber U, **Mlodzik M**. APC/C$^{Fzr/Cdh1}$-Dependent Regulation of Planar Cell Polarity Establishment via Nek2 Kinase Acting on Dishevelled. *Dev Cell.* 2017 Jan 9;40(1):53-66.

Carvajal-Gonzalez JM, Mulero-Navarro S, **Mlodzik M**. Centriole positioning in epithelial cells and its intimate relationship with planar cell polarity. *Bioessays.* 2016 Dec;38(12):1234-1245.

Carvajal-Gonzalez JM, Mulero-Navarro S, Smith M, **Mlodzik M**. A Novel Frizzled-Based Screening Tool Identifies Genetic Modifiers of Planar Cell Polarity in Drosophila Wings. *G3 (Bethesda).* 2016 Dec 7;6(12):3963-3973.

Hirofumi Morishita, M.D. Ph.D.

Assistant Professor of Psychiatry, Neuroscience, and Ophthalmology

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

Lab/Location: Hess CSM 9-113

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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:

Morishita H, Arora M, Tooth-matrix biomarkers to reconstruct critical periods of brain plasticity. *Trends in Neurosciences.* 2017. Jan 27; 40 (1):1-3.

Smith M, Burman P, Sadahiro M, Kidd B, Dudley J, **Morishita H**. Integrative analysis of disease signatures shows inflammation disrupts juvenile experience dependent cortical plasticity. *eNeuro* 2017 Jan 18;3(6). pii: ENEURO.0240-16.2016.

Sajo M, Ellis-Davies GC, **Morishita H**. Lynx1 limits dendritic spine turnover in the adult visual cortex. *Journal of Neuroscience.* 2016 Sep7, 36(36):9472-9478.

Koike H, Demars MP, Short JA, Nabel EM, Akbarian S, Baxter MG, **Morishita H**. Chemogenetic Inactivation of Dorsal Anterior Cingulate Cortex Neurons Disrupts Attentional Behavior in Mouse. *Neuropsychopharmacology.* 2016. Mar, 41 (4) 1014-23.

Morishita H, Miwa JM, Heintz N, Hensch TK. Lynx1, a cholinergic brake, limits plasticity in adult visual cortex. *Science*. 2010 Nov 26;330(6008):1238-40.

Eric Nestler, M.D.

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

Institute Affiliation: Friedman Brain Institute (Director)

Lab/Location: Annenberg 21-32

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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:

Bagot, RC, Cates, HM, Purushothaman, I, Lorsch, ZS, Walker, DM, Wang, J, Huang, X, Schlüter, OM, ...Shen, L, Zhang, B, **Nestler, EJ**. Circuit-wide transcriptional profiling reveals brain region-specific gene networks regulating depression susceptibility. *Neuron.* 2016 90:969-983.

Calipari, ES, Juarez, B, Morel, C, Walker, DM, Cahill, ME, Ribeiro, E, Roman-Ortiz, C, Ramakrishnan, C, Deisseroth, K, Han, MH, **Nestler, EJ**. Dopaminergic dynamics underlying sex-specific cocaine reward. *Nat. Commun. 2017* 8:13877.

Peña, CJ, Kronman, HG, Walker, DM, Cates, HM, Bagot, RC, Purushothaman, I, Issler, O, Loh, Y-HE, Leong, T, Kiraly, DD., Goodman, E, Neve, RL, Shen, L, **Nestler, EJ**. Early life stress confers lifelong susceptibility in mice via ventral tegmental area OTX2. *Science.* 2017 356:1185-1188.

Maria I. New, M.D.

Professor of Pediatrics (Endocrinology) and Genetics & Genomic Sciences

Director, Adrenal Steroid Disorders Program

Lab/Location: Annenberg 4th Floor

Email: maria.new@mssm.edu

Research Interests: Dr. New is interested in discovering and then understanding the genetic causes of adrenal steroid disorders, including congenital adrenal hyperplasia (CAH). Her research emphasizes genotype/phenotype correlation and prenatal diagnosis and treatment.

Type of Research: Clinical/Translational

Publications:

Liu T, Zhang H, Sun L, Zhao D, ...**New MI**, Zaidi M, Yuen T, Liu C. FSIP1 binds HER2 directly to regulate breast cancer growth and invasiveness. *Proc Natl Acad Sci U S A.* 2017 Jul 18;114(29):7683-7688.

Gurgov S, Bernabé KJ, Stites J, Cunniff CM, Lin-Su K, Felsen D, **New MI**, Poppas DP. Linking the degree of virilization in females with congenital adrenal hyperplasia to genotype. *Ann N Y Acad Sci.* 2017 Jun 22.

Liu P, Ji Y, Yuen T, Rendina-Ruedy E, DeMambro VE, Dhawan S, Abu-Amer W, Izadmehr S, Zhou B, Shin AC, Latif R, Thangeswaran P, Gupta A, Li J, Shnayder V, Robinson ST, Yu YE, Zhang X, Yang F, Lu P, Zhou Y, Zhu LL, Oberlin DJ, Davies TF, Reagan MR, Brown A, Kumar TR, Epstein S, Iqbal J, Avadhani NG, **New MI**, ... Zaidi M. Blocking FSH induces thermogenic adipose tissue and reduces body fat. *Nature.* 2017 Jun 1;546(7656):107-112.

Sakamaki JI, Wilkinson S, Hahn M, Tasdemir N, O'Prey J, Clark W, Hedley A, Nixon C, Long JS, **New M**, ...Ryan KM. Bromodomain Protein BRD4 Is a Transcriptional Repressor of Autophagy and Lysosomal Function. *Mol Cell.* 2017 May 18;66(4):517-532.e9.

Meyer-Bahlburg HFL, Khuri J, Reyes-Portillo J, Ehrhardt AA, **New MI**. Stigma Associated with Classical Congenital Adrenal Hyperplasia in Women's Sexual Lives. *Arch Sex Behav*. 2017 May 18.

Jeffrey H. Newcorn, M.D.

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

Lab/Location:
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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. *J Am Acad Child Adolesc 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 Feb 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 randomized-withdrawal maintenance of efficacy study 2016. *J Child Psychiatr Psychol*. Jun;57(6):717-28.

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

Anna Nowak-Wegrzyn, M.D., Ph.D.

Associate Professor of Pediatrics (Allergy and Immunology)

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

Lab/Location: Jaffe Food Allergy Institute

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Research Interests: Dr. Nowak-Wegrzyn has a special interest in food allergy. Her research focuses on egg and milk allergy treatment and pathophysiology of food protein-induced enterocolitis syndrome (FPIES).

Type of Research: Clinical/Translational

Publications:

Agyemang A, Feuille E, Tang J, Steinwandtner I, Sampson H, **Nowak-Wegrzyn A**. Outcomes of 84 consecutive open food challenges to extensively heated (baked) milk in the allergy office. *J Allergy Clin Immunol Pract*. 2017 Jun 29. pii: S2213-2198(17)30378-1.

Goswami R, Blazquez AB, Kosoy R, Rahman A, **Nowak-Wegrzyn A**, Berin MC. Systemic innate immune activation in food protein-induced enterocolitis syndrome. *J Allergy Clin Immunol*. 2017 Jun;139(6):1885-1896.e9. 28192147

Nowak-Wegrzyn A, Chehade M, Groetch ME, Spergel JM, Wood RA, Allen K, Atkins D, Bahna S, Barad AV, Berin C, Brown Whitehorn T, Burks AW, Caubet JC, Cianferoni A, Conte M, Davis C, Fiocchi A, Grimshaw K, Gupta ...Turner PJ, Venter C, Westcott-Chavez AA, Greenhawt M. International consensus guidelines for the diagnosis and management of food protein-induced enterocolitis syndrome: Executive summary-Workgroup Report of the Adverse Reactions to Foods Committee, American Academy of Allergy, Asthma & Immunology. *J Allergy Clin Immunol.* 2017 Apr;139(4):1111-1126.e4.

Nowak-Wegrzyn A, Szajewska H, Lack G. Food allergy and the gut. *Nat Rev Gastroenterol Hepatol.* 2017 Apr;14(4):241-257.

Coro Paisán-Ruiz, Ph.D.

Assistant Professor of Neurology, Genetics and Genomic Sciences, and Psychiatry

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

Lab/Location: Annenberg 22-38

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Research Interests: Dr. Paisan-Ruiz's laboratory focuses on elucidating and understanding the molecular basis underlying and contributing to movement disorders, such as Parkinson's disease, atypical parkinsonism, and essential tremor. By collaborating with internationally recognized physicians and employing state-of-art molecular techniques, her research team has identified the first pathogenic mutations in genes underlying Mendelian forms of movement disorders.

Type of Research: Basic/Translational

Publications:

Taghavi S, Chaouni R, Tafakhori A, Azcona LJ, Firouzabadi SG, Omrani MD, ...Habibi A, Taherian-Esfahani Z, Darvish H, **Paisán-Ruiz C**. A Clinical and Molecular Genetic Study of 50 Families with Autosomal Recessive Parkinsonism Revealed Known and Novel Gene Mutations. *Mol Neurobiol*. 2017 May 13.

Sanchez E, Darvish H, Mesias R, Taghavi S, Firouzabadi SG, Walker RH, Tafakhori A, **Paisán-Ruiz C**. Identification of a Large DNAJB2 Deletion in a Family with Spinal Muscular Atrophy and Parkinsonism. *Hum Mutat.* 2016 Nov;37(11):1180-1189.

Bergareche A, Bednarz M, Sánchez E, ...Jurkat-Rott K, Marti-Masso JF, **Paisán-Ruiz C**. SCN4A pore mutation pathogenetically contributes to autosomal dominant essential tremor and may increase susceptibility to epilepsy. *Hum Mol Genet*. 2015 Dec 15;24(24):7111-20.

Sánchez E, Bergareche A, Krebs CE, Gorostidi A, Makarov V, Ruiz-Martinez J, Chorny A, Lopez de Munain A, Marti-Masso JF, **Paisán-Ruiz C**. SORT1 Mutation Resulting in Sortilin Deficiency and p75(NTR) Upregulation in a Family With Essential Tremor. *ASN Neuro*. 2015 Aug 21;7(4). pii: 1759091415598290.

Dalila Pinto, Ph.D.

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

Lab/Location: Hess CSM 8-115

Email: dalila.pinto@mssm.edu

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:

Sagar A, **Pinto D**,...Cook EH. De novo unbalanced translocation (4p duplication/8p deletion) in a patient with autism, OCD, and overgrowth syndrome. *Am J Med Genet A* 2017; 173(6):1656-1662.

Marshall C, Howrigan D,...Holmans P, **Pinto D**, et al. Contribution of copy number variants to schizophrenia from a genome-wide study of 41,321 subjects. *Nature Genet* 2017, 49,27–35.

Fromer M,...**Pinto D**,...Katsanis N, Domenici E, Devlin B, Sklar P. Gene expression elucidates functional impact of polygenic risk for schizophrenia. *Nat Neurosci* 2016;19(11):1442-1453.

Lopes F, Barbosa M,...**Pinto D**, Maciel P. Identification of novel genetic causes of Rett syndrome-like phenotypes. *J Med Genet* 2016; 53(3):190-9. Editor's choice: *Cover of J Med Genet*.

Pinto D, et al. Convergence of genes and cellular pathways dysregulated in autism spectrum disorders. *Am J Hum Genet* 2014, 94(5):677-94.

Francesco Ramirez, D.Sc.

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

Lab/Location:
Annenberg 19-66

Email:
francesco.ramirez@mssm.edu

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:

Lee JJ, Galatioto J, Rao S, **Ramriez F**, Costa KD. Losartan attenuates degradation of aorta and lung tissue micromechanics in a mouse model of severe Marfan syndrome. *Ann Biomed Eng*. 2016;44:2994-3006.

Feruzzi J, Bersai MR, Mecham RP, **Ramirez F**, Yanagisawa H, Tellides G, Humphrey JD. Loss of elastic fiber integrity compromises common carotid artery function: Implications for vascular aging. *Artery Res*. 2016;14:41-52.

Bellini C., Komeva A., Zilberberg L, **Ramirez F**, Rifkin DB., Humphrey J. Differential ascending and descending aortic mechanics parallel aneurysmal propensity in a mouse model of Marfan syndrome. *J. Biomech*. 2016;49:2383-2389.

Smaldone S, Bigarella CL, del Solar M, Ghaffari S, **Ramirez F.** Fibrillin-1 microfibrils influence adult bone marrow hematopoiesis. *Matrix Biol*. 2016;52-54:88-94.

Smaldone S, Clayton N, del Solar M, Pasqual-Gonzales G, Cheng S, Wentworth B, **Ramirez F.** Fibrillin-1 regulates skeletal stem cell differentiation by modulating TGFb activity within the marrow niche. *J. Bone Miner. Res.* 2016;31:86-97.

Robert Rapaport, M.D.

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

Lab/Location:
Annenberg 4 Room 4-81

Email:
robert.rapaport@mountsinai.org

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:

McCormack SE, Li D, Kim YJ, Lee JY, Kim SH, **Rapaport R**, Levine MA. Digenic Inheritance of PROKR2 and WDR11 Mutations in Pituitary Stalk Interruption Syndrome. *J Clin Endocrinol Metab.* 2017 Apr 27.

Zeve D, Regelmann MO, Holzman IR, **Rapaport R**. Small at Birth, but How Small? The Definition of SGA Revisited. *Horm Res Paediatr.* 2016;86(5):357-360.

Rapaport R. Focus on Pediatric Endocrinology: Time to Revisit Some Established Challenges and Explore New Ones. *Endocrinol Metab Clin North Am.* 2016 Jun;45(2):xvii-xviii.

Romero CJ, Mehta L, **Rapaport R.** Genetic Techniques in the Evaluation of Short Stature. *Endocrinol Metab Clin North Am.* 2016 Jun;45(2):345-58.

Goldis M, Waldman L, Marginean O, Rosenberg HK, **Rapaport R.** Thyroid Imaging in Infants. *Endocrinol Metab Clin North Am*. 2016 Jun;45(2):255-66.

Avi Reichenberg, Ph.D.

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

Email: avi.reichenberg@mssm.edu

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:

Mollon J, **Reichenberg** A. Cognitive development prior to onset of psychosis. *Psychol Med.* 2017 Jul 24:1-12.

Fryk JJ, Marks DC, Hobson-Peters J, Watterson D, Hall RA, Young PR, **Reichenberg** S, ...Seltsam A, Faddy HM. Reduction of Zika virus infectivity in platelet concentrates after treatment with ultraviolet C light and in plasma after treatment with methylene blue and visible light. *Transfusion.* 2017 Jul 17.

Viktorin A, Uher R, Kolevzon A, **Reichenberg** A, Levine SZ, Sandin S. Association of Antidepressant Medication Use During Pregnancy With Intellectual Disability in Offspring. *JAMA Psychiatry*. 2017 Jul 12.

Pilecka I, Sandin S, **Reichenberg** A, Scragg RKR, David A, Weiderpass E. Sun Exposure and Psychotic Experiences. *Front Psychiatry*. 2017 Jun 19;8:107.

Feng X, Moy AJ, Nguyen HTM, Zhang J, Fox MC, Sebastian KR, **Reichenberg** JS, Markey MK, Tunnell JW. Raman active components of skin cancer. *Biomed Opt Express*. 2017 May 4;8(6):2835-2850.

Michael Rendl, M.D.

Associate Professor,
Department of Developmental and Regenerative Biology, Department of Dermatology

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

Lab/Location: Atran 7-10C

Email: michael.rendl@mssm.edu

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:

Steiner F, Hauser-Kronberger C, **Rendl** G, Rodrigues **M**, Pirich C. Expression of Tenascin C, EGFR, E-Cadherin, and TTF-1 in Medullary Thyroid Carcinoma and the Correlation with RET Mutation Status. *Int J Mol Sci.* 2016 Jul 9;17(7). pii: E1093

Rendl G, Rettenbacher L, Holzmannhofer J, Datz L, Hauser-Kronberger C, Fastner G, Öfner D, Sedlmayer F, Pirich C. Assessment of response to neoadjuvant radiochemotherapy with F-18 FLT and F-18 FDG PET/CT in patients with rectal cancer. *Ann Nucl Med*. 2015 Apr;29(3):284-94.

Tsai SY, Sennett R, Rezza A, Clavel C, Grisanti L, Zemla R, Najam S, **Rendl M**. Wnt/β-catenin signaling in dermal condensates is required for hair follicle formation. *Developmental biology.* 2014 Jan; 385(2).

Grisanti L, Rezza A, Clavel C, Sennett R, **Rendl M**. Enpp2/Autotaxin in dermal papilla precursors is dispensable for hair follicle morphogenesis. *The Journal of investigative dermatology.* 2013 Oct; 133(10).

Jeffrey M. Saland, M.D., M.S.C.R.

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

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Annenberg 14-22

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Research Interests:
Dr. Saland participates in local and multicenter clinical studies of chronic kidney disease. He has focused on disorders of lipoprotein metabolism and cardiovascular complications in children with CKD. Dr. Saland has also been active in developing treatment for children with atypical hemolytic uremic syndrome.

Type of Research: Clinical/Translational

Publications:

Zheng LY, Sanders AP, **Saland JM**, Wright RO, Arora M. Environmental exposures and pediatric kidney function and disease: A systematic review. *Environ Res.* 2017 Jul 17;158:625-648.

Fuhrman DY, Schneider MF, Dell KM, Blydt-Hansen TD, Mak R, **Saland JM**, Furth SL, Warady BA, Moxey-Mims MM, Schwartz GJ. Albuminuria, Proteinuria, and Renal Disease Progression in Children with CKD. *Clin J Am Soc Nephrol*. 2017 Jun 7;12(6):912-920.

Quigley R, **Saland JM**. Transient antenatal Bartter's Syndrome and X-linked polyhydramnios: insights from the genetics of a rare condition. *Kidney Int*. 2016 Oct;90(4):721-3.

Saland JM, Satlin LM, Zalsos-Johnson J, Cremers S, Ginsberg HN. Impaired postprandial lipemic response in chronic kidney disease. *Kidney Int.* 2016 Jul;90(1):172-80.

Annunziato RA, Parbhakar M, Kapoor K, Matloff R, Casey N, Benchimol C, Hotchkiss H, Nair V, **Saland J**. Can transition to adult care for transplant recipients be improved by intensified services while patients are still in pediatrics? *Prog Transplant*. 2015 Sep;25(3):236-42.

Hugh A. Sampson, M.D.

Kurt Hirschhorn Professor of Pediatrics (Allergy & 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:

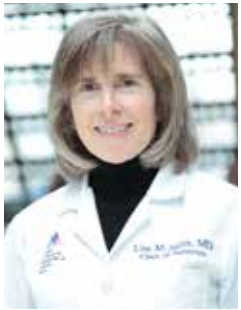
Tordesillas L, Rahman AH, Hartmann BM, **Sampson HA**, Berin MC. Mass cytometry profiling the response of basophils and the complete peripheral blood compartment to peanut. *J Allergy Clin Immunol*. 2016 Dec;138(6):1741-1744.e9.

Jones SM, Sicherer SH, Burks AW, Leung DY, Lindblad RW, Dawson P, Henning AK, Berin MC, Chiang D, Vickery BP, Pesek RD, Cho CB, Davidson WF, Plaut M, **Sampson HA**, Wood RA; Consortium of Food Allergy Research. Epicutaneous immunotherapy for the treatment of peanut allergy in children and young adults. *J Allergy Clin Immunol*. 2016 Oct 20. pii: S0091-6749(16)30966-6.

Caubet JC, Lin J, Ahrens B, Gimenez G, Bardina L, Niggemann B, **Sampson HA**, Beyer K. Natural tolerance development in cow's milk allergic children: IgE and IgG4 epitope binding. *Allergy*. 2017 Mar 27.

Frischmeyer-Guerrerio PA, Masilamani M, Gu W, Brittain E, Wood R, Kim J, Nadeau K, Jarvinen KM, Grishin A, Lindblad R, **Sampson HA**. Mechanistic correlates of clinical responses to omalizumab in the setting of oral immunotherapy for milk allergy. *J Allergy Clin Immunol*. 2017 Apr 13. pii: S0091-6749(17)30589-4.

Tordesillas L, Berin MC, **Sampson HA**. *Immunity*. 2017 Jul 18;47(1):32-50.



Lisa M. Satlin, M.D.

Professor (Nephrology) and Chair of Pediatrics

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Annenberg 14-18, -19

Email: lisa.satlin@mssm.edu

Research Interests:
Dr. Satlin's developmental physiology lab focuses on exploring the molecular mechanisms underlying the ability of the maturing kidney to adjust sodium and potassium balance during periods of somatic growth, and the role of variations in urinary flow rate in the mechanoregulation of ion channels and transport proteins in the kidney in health and disease.

Type of Research: Basic/Translational

Publications:

Carrisoza-Gaytán R., Wang L., Schreck C., Kleyman T.R., Wang W., and **L.M. Satlin**. The mechanosensitive BKα/β1 channel localizes to cilia of principal cells in rabbit cortical collecting duct (CCD). *Am J Physiol Renal Physiol*. 2017 Jan 1;312(1):F143-F156.

Carrisoza-Gaytan R, Carattino MD, Kleyman T, and **Satlin LM**. An unexpected journey: conceptual evolution of mechanoregulated potassium transport in the distal nephron. *Am. J. Physiol. Cell Physiol.* 2016; 310:C243-59

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. *Am. J. Physiol. Renal Physiol.* 2016; 310:F15-26

Wei Y, Liao Y, Zavilowitz B, Ren J, Liu W, Chan P, Rohatgi R, Estilo G, Jackson EK, Wang W, and **Satlin LM**. Angiotensin type 2 receptor regulates ROMK-like K channel activity in renal cortical collecting duct during high dietary potassium adaptation. *Am. J. Physiol. Renal Physiol.* 2014;307:F833-43.

Carrisoza-Gaytán R, Liu Y, Flores D, Else D, Lee HG, Rhodes G, Sandoval R, Kleyman T, Lee F, Molitoris B, **Satlin LM***, Rohatgi R*. Effects of biomechanical forces on signaling in the cortical collecting duct (CCD). *Am. .J Physiol. Renal Physiol.* 2014;307:F195-204 (*, contributed equally to this work)

Flores D, Liu Y, Liu W, **Satlin LM**, and Rohatgi R. Flow induced prostaglandin E2 release regulates Na and K transport in the collecting duct. *Am. J. Physiol. Renal Physiol.* 303: F632-8, 2012 (named as *2012 AJP: Renal Paper of the Year*)

Kurt P. Schulz, Ph.D.

Assistant Professor of Psychiatry

Lab/Location: 19 East 98th St., 5th Floor

Email: kurt.schulz@mssm.edu

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:

Schulz KP, Bedard AV, Fan J, Hildebrandt TB, Stein MA, Ivanov I, Halperin JM, Newcorn JH. Striatal activation predicts differential therapeutic responses to methylphenidate and atomoxetine. *J Am Acad Child Adolesc Psychiatry*. 2017;56(7):602-609

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*. 2017;90:1-11 (*, contributed equally to this work).

Hildebrandt T, Grotzinger A, **Schulz K**. Anorexia nervosa, emotional go/no-go, and the distinct effect of testosterone. *Int J Eat Disord*. 2016;49:69-76

Berlin HA, **Schulz KP**, Zhang S, Turetzky R, Rosenthal D, Goodman W. Neural correlates of emotional response inhibition in obsessive-compulsive disorder: A preliminary study. *Psychiatry Res*. 2015;234:259-264.

Bédard AC, **Schulz KP**, Krone B, Pedraza J, Duhoux S, Halperin JM, Newcorn JH. Neural mechanisms underlying the therapeutic actions of guanfacine treatment in youth with ADHD: a pilot fMRI study. *Psychiatry Res*. 2015;231:353-356.

Donald Scott, Ph.D.

Professor of Medicine (Endocrinology)

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

Lab/Location: Atran 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 two transcription factors, ChREBP and Myc. The Myc/ChREBP relationshio reflects fundamental cellular adaptations to varying metabolic environments, and is applicable to a wide range of diseases, including diabetes, cancer, cardiovascular disease and aging.

Type of Research: Basic/Translational

Publications:

Shtraizent N, Nayar S, DeRossi C, Sachidanandam R, Katz LS, Prince A, Koh AP, HoshidaY, **Scott DK**, Eliyahu E, Freeze HH, Sadler KC, Chu J. MPI depletion enhances the O-GlcNAcylation of p53 and suppresses the Warburg Effect. 2017 (in press, *eLife*).

Zhang P, Argmann C, Chu T, Dedousis N, Sipula I, Li L, Bunce KD, Shaw PA, O'Doherty RM, Peters DG, **Scott, D.K.** Hepatic Metabolic Gene Expression in Obesity is Regulated by DNA Methylation Mediated Alterations in Transcription Rates. *Mol Metab*. 2017 6:327-339.

Edmunds LR, Otero PA, Sharma L, D'Souza S, Dolezal JM, David S, Lu ...Kratz LE, Yates NA, Goetzman EP, **Scott DK,** Duncan AW, Prochownik, EV. Abnormal Lipid Processing but Normal Long-Term Repopulation Potential of *myc-/-. Oncotarget*. 2016 21: 30379-30395.

Lakshmipathi J, Alvarez-Perez R, Rosselot, C, Casinelli JC, Stamateris GP, Rausell-Palamos RF, Vasavada RC, **Scott DK,** Alonso LC, García-Ocana, A. PKC-ζ is essential for pancreatic beta cell replication during insulin resistance by regulating mTOR and cyclin-D2. *Diabetes.* 2016 65: 1283-1296.

Andrew Sharp, Ph.D.

Associate 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:

Bardot E, Calderon D, Santoriello F, Han S, Cheung K, Jadhav B, Burtscher I, Artap S, Jain R, Epstein J, Lickert H, Gouon-Evans V, **Sharp AJ,** Dubois NC. Foxa2 identifies a cardiac progenitor population with ventricular differentiation potential. *Nat Commun.* 2017 Feb 14;8:14428.

McKean DM, Homsy J, Wakimoto H, Patel N, Gorham J, de Palma S, Ware J , Zaidi S, Ma W, Patel N, Lifton RP, Chung WK, Kim R, Shen Y, **Sharp AJ**, Brueckner M, Seidman JG, Gelb BD, Seidman CE (2016) Loss of RNA expression and allele-specific expression associated with congenital heart disease. *Nature Comms* 7:12824

Barber JCK, **Sharp AJ**, Hollox EJ, Christine Tyson C (2016) Copy number variation of the *REXO1L1* gene cluster; euchromatic deletion variant or susceptibility factor? *Eur J Hum Genet* 25:8-9

Joshi R, Garg P, Zaitlen N, Lappalainen T, ...Wassink T, **Sharp AJ** (2016) DNA methylation profiling of uniparental disomy subjects provides a map of parental epigenetic bias in the human genome. *Am J Hum Genet* 99:555-66

Peter CJ, Fischer LK, Garg P, Kundakovic M, Ginns EI, Galdzicka M, Bryce CP, Medford G, **Sharp AJ**, Galler JR, Akbarian S (2016) Long-term and intergenerational DNA methylation signatures of early childhood malnutrition associated with impaired cognition and attention. *Biological Psych* 80: 765-774

Eyal Shemesh, M.D.

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

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: Icahn 6th 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:

Shemesh E, Duncan S, Anand R, Shneider BL, Alonso EM, Mazariegos GV, Venick RS, Annunziato RA, Bucuvalas JC. Trajectory of adherence behavior in pediatric and adolescent liver transplant recipients - the MALT cohort. *Liver Transpl.* 2017 Aug 5.

Shemesh E, Kleinman LC. Asthma: The past, future, environment, and costs. *J Allergy Clin Immunol*. 2017 Apr 20. pii: S0091-6749(17)30659-0.

Leven EA, Annunziato R, Helcer J, Lieber SR, Knight CS, Wlodarkiewicz C, Soriano RP, Florman SS, Schiano TD, **Shemesh E**. Medication adherence and rejection rates in older vs younger adult liver transplant recipients. *Clin Transplant*. 2017 Jun;31(6).

Shemesh E, Bucuvalas JC, Anand R, Mazariegos GV, Alonso EM, Venick RS, Reyes-Mugica M, Annunziato RA, Shneider BL. The Medication Level Variability Index (MLVI) Predicts Poor Liver Transplant Outcomes: A Prospective Multi-Site Study. *Am J Transplant*. 2017 Mar 20.

Shemesh E, D'Urso C, Knight C, Rubes M, Picerno KM, Posillico AM, Atal Z, Annunziato RA, Sicherer SH. Food-Allergic Adolescents at Risk for Anaphylaxis: A Randomized Controlled Study of Supervised Injection to Improve Comfort with Epinephrine Self-Injection. *J Allergy Clin Immunol Pract*. 2017 Mar - Apr;5(2):391-397.

Scott H. Sicherer, M.D.

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

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

Lab/Location: Icahn L6-87

Email:scott.sicherer@mssm.edu

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:

Shemesh E, D'Urso C, Knight C, Rubes M, Picerno K, Posillico A, Atal Z, Annunziato RA, **Sicherer SH**. Food-allergic adolescents at risk for anaphylaxis: A randomized controlled study of supervised injection to improve comfort with epinephrine self-injection. *J Allergy Clin Immunol Pract* 2017; 5:391-97.

Sicherer SH, Wood RA, Vickery BP, Perry TT, Jones SM, Leung DY, Blackwell B, Dawson P, Burks AW, Lindblad R, Sampson HA. Impact of Allergic Reactions on Food-Specific IgE Concentrations and Skin Test Results. *J Allergy Clin Immunol Pract* 2016;4:239-245.

Davis N, Egan M, **Sicherer SH**. Factors resulting in deferral of diagnostic oral food challenges. *J Allergy Clin Immunol Pract* 2015; 3:811-12.

Rosen J, Albin S, **Sicherer SH**. Creation and validation of web-based food allergy audiovisual educational materials for caregivers. *Allergy Asthma Proc*. 2014;35:178-84.

Sicherer SH, Wood RA, Vickery BP, Jones SM, Liu AH, Fleischer DM, Dawson P, Mayer L, Burks AW, Grishin A, Stablein D, Sampson HA. The natural history of egg allergy in an observational cohort. *J Allergy Clin Immunol* 2014;133:492-499.

Philippe M. Soriano, Ph.D.

Professor of Developmental and Regenerative Biology and Oncological Sciences

Institute Affiliation: Tisch Cancer Institute (Associate Director)

Lab/Location: Annenberg 25-70

Email: philippe.soriano@mssm.edu

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-the-art 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:

Molotkov A, Mazot P, Brewer JR, Cinalli RM, **Soriano, P.** Distinct roles for FGFR1 and FGFR2 in primitive endoderm development and exit from pluripotency. *Dev. Cell* 2017; 41:511-526.

Fantauzzo KA, **Soriano P**. PDGFRβ regulates craniofacial development through functional homodimers and heterodimers with PDGFRα. *Genes Dev.* 2016; 30:2443-2458.

Brewer JR, Molotkov A, Mazot P, Hoch RV, **Soriano P**. Fgfr1 regulates development through the combinatorial use of signaling proteins. *Genes Dev.* 2015; 29:1863-1874.

Vasudevan HN, Mazot P, He F, **Soriano P**. Receptor tyrosine kinases modulate distinct transcriptional programs by differential usage of intracellular pathways. *eLife.* 2015; 4:10.7554/eLife.07186.

Vasudevan HN, **Soriano P**. SRF regulates craniofacial development through selective recruitment of MRTF cofactors by PDGF signaling. *Dev. Cell.* 2014; 31:332-344.

Andrew F. Stewart, M.D.

Irene and Dr. Arthur M. Fishberg Professor of Medicine

Institute Affiliation: Diabetes, Obesity and Metabolism Institute (Director)

Lab/Location: Atran 5

Email: andrew.stewart@mssm.edu

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 H, Bender A, Wang P, Inabnet WB, Libutti SK, Arnold A, Lambertini L, Stang MT, Chen H, MD, Kasai Y, Mahajan M, Kinoshita Y, Fernandez-Ranvier G, Becker TC, Takane KK, Karakose E, Walker LA, Saul S, Chen R, PhD, Scott DK, Ferrer J, Antipin Y, Donovan M, Uzilov AV, Reva B, PhD, Schadt EE, Losic B, Argmann C, **Stewart AF**. Insights into Human Beta Cell Regeneration for Diabetes via Integration of Molecular Landscapes in Human Insulinomas. *Nature Communicaitons.* 2017 (in revision).

Akerman I, Tu Z, Beucher A, Rolando DMY, Sauty-Colace C, Benzara M, Nakic N, Yang J, Wang H, Pasquali L, Moran I, Garcia-Hurtado J, Castro N, Gonzalez R, **Stewart AF**, Bonner C, Piemonti L, Berney T, Argmann C, Schadt E, Kerr-Conte J, Pattou F, Ravassard P, Ferrer J. Human pancreatic β-cell lncRNAs control cell-specific regulatory networks. *Cell Metabolism.* 2017 25:400-411.

Chen H, Kleinberger JW, Takane KK, Salim F, Fiaschi-Taesch NM, Pappas K, Parsons R, Jiang J, Zhang Y, Liu H, Wang P, Bender AS, Frank SJ, **Stewart AF**. Augmented stat5 signaling bypasses multiple impediments to lactogen-mediated proliferation in human beta cells. *Diabetes. 2015* 64:3784-97.

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 high-throughput chemical screen reveals that harmine-mediated inhibition of DYRK1A increases human pancreatic beta cell replication. *Nature Medicine.* 2015 21:383-388.

Annemarie Stroustrup, M.D., M.P.H.

Associate Professor of Pediatrics (Newborn Medicine) and Environmental Medicine and Public Health, and Obstetrics, Gynecology and Reproductive Science; Interim Chief, Division of Newborn Medicine

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

Lab/Location: P6-332

Email: annemarie.stroustrup@mssm.edu

Research Interests: Dr. Stroustrup's research focuses on modifiable causes of adverse outcomes following preterm birth or neonatal illness. She is particularly interested in understanding the impact of the hospital environment on neurodevelopmental outcomes of NICU graduates.

Type of Research: Clinical/Translational

Publications:

Stroustrup A, Tetelbaum SL, Aschner JL. The canary in the coal mine: The value of preterm environmental health cohorts. 2017; *in press*.

Stern E, Cohen N, Odom E, **Stroustrup, A**, Gupta S, Saltzman DH, Rebarber A, Fox NS. Long-term outcomes of twins based on gestational age at delivery. *J Mat-Fetal & Neo Med* 2017; *in press*.

Weintraub AS, Geithner EM, **Stroustrup A**, Waldman ED. Compassion fatigue, burnout, and compassion satisfaction in neonatologists in the U.S. *J Perinatol* 2016;36(11):1021-1026.

Stroustrup A, Hsu HH, Svensson K, Schnaas L, Cantoral A, Gonzalez MS, Torres-Calapiz M, Amarasiriwardena C, Bellinger DC, Coull BA, Tellez-Rojo MM, Wright RO, Wright RJ. Toddler Temperament and Prenatal Exposure to Lead and Maternal Depression. *Environ Health* 2016;15(1):71.

Scharf RJ, **Stroustrup A,** DeBoer MD. Growth and development in children born very low birth weight. *Arch Dis Child Fetal Neonatal Ed* 2016;101(5):F433-8.

Shanna H. Swan, Ph.D.

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:

Sathyanarayana S, Butts S, Wang C**,** Barrett E, Nguyen R, Schwartz SM, Haaland W, **Swan SH**; TIDES Team. Early Prenatal Exposure, Sex Steroid Hormones, and Birth Outcomes. *J Clin Endocrinol Metab.* 2017 Jun 1;102(6):1870-1878.

Hay-Schmidt A, Finkielman OTE, Jensen BAH, ...**Swan SH**, Bornehag CG, Brunak S, Jegou B, Kristiansen K, Kristensen DM. Prenatal exposure to paracetamol/acetaminophen and precursor aniline impairs masculinisation of male brain and behaviour. *Reproduction.* 2017 Aug;154(2):145-152.

Skakkebaek NE, Rajpert-De Meyts E, Buck Louis GM, ...**Swan SH**, Sapra KJ, Ziebe S, Priskorn L, Juul A. Male Reproductive Disorders and Fertility Trends: Influences of Environment and Genetic Susceptibility. *Physiological Reviews*. 2016 Jan; 96(1).

Lassen TH, Frederiksen H, Kyhl HB, **Swan SH**, Main KM, Andersson AM, Lind DV, ...Jensen TK. Prenatal Triclosan Exposure and Anthropometric Measures including Anogenital Distance in Danish Infants. *Environmental Health Perspectives.* 2016 Feb.

Martino-Andrade AJ, Liu F, Sathyanarayana S, Barrett ES, Redmon JB, Nguyen RH, Levine H, **Swan SH**. Timing of prenatal phthalate exposure in relation to genital endpoints in male newborns. *Andrology*. 2016 Apr.

Susan L. Teitelbaum, Ph.D.

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 2nd Floor West Tower, Room D2-132

Email: susan.teitelbaum@mssm.edu

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:

Stingone JA, Buck Louis GM, Nakayama SF, Vermeulen RC, Kwok RK, Cui Y, Balshaw DM, **Teitelbaum SL**. Toward Greater Implementation of the Exposome Research Paradigm within Environmental Epidemiology. *Annu Rev Public Health*. 2017 Mar 20;38:315-327.

Deierlein AL, Wolff MS, Pajak A, Pinney SM, Windham GC, Galvez MP, Rybak M, Calafat AM, Kushi LH, Biro FM, **Teitelbaum SL**; and the Breast Cancer and Environment Research Program. Phenol concentrations during childhood and subsequent measures of adiposity among young girls. *Am J Epidemiol*. 2017 May 19.

Mervish NA, **Teitelbaum SL**, Pajak A, Windham GC, Pinney SM, Kushi LH, Biro FM, Wolff MS. Peripubertal dietary flavonol and lignan intake and age at menarche in a longitudinal cohort of girls. *Pediatr Res*. 2017 Jun 14.

Stingone JA, Mervish N, Kovatch P, McGuinness DL, Gennings C, **Teitelbaum SL**. Big and disparate data: considerations for pediatric consortia. *Curr Opin Pediatr*. 2017 Apr;29(2):231-239.

Houten SM, Chen J, Belpoggi F, Manservisi F, Sánchez-Guijo A, Wudy SA, **Teitelbaum SL**. Changes in the Metabolome in Response to Low-Dose Exposure to Environmental Chemicals Used in Personal Care Products during Different Windows of Susceptibility. *PLoS One*. 2016 Jul 28;11(7):e0159919.

Nita Vangeepuram, M.D., M.P.H.

Assistant Professor, Pediatrics

Location: Annenberg 4th Floor

Email:
nita.vangeepuram@mssm.edu

Research Interests: Dr. Vangeepuram aims to lead national efforts to prevent and treat childhood obesity and related conditions in underserved, ethnic-minority youth by leveraging the assets of community-academic partnerships. Current grant funding includes a career development award (K23, funded by NIDDK) which supports training and a study using community-based participatory research methodology as well as novel methods (peer education and mobile health technologies) to develop a model for diabetes prevention for at-risk youth. If proven effective, this model may be further tested and disseminated to other vulnerable communities with high disease burden.

Type of Research: Clinical/Translational

Publications:

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. *Contemp Clin Trials.* 2017 Mar 23;57:23-28.

Vangeepuram N, Ramos M, Fox A, Fei K, Horowitz CR, Kleinman LC, Galvez MP. Are Parental Perceptions of Child Activity Levels and Overall Health More Important than Perceptions of Weight? *Matern Child Health J*. 2016 Jul;20(7):1456-63.

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. *Prev Chronic Dis*. 2016 Jan 28;13:E14.

Vangeepuram N, Carmona J, Arniella G, Horowitz CR, Burnet D. Use of Focus Groups to Inform a Youth Diabetes Prevention Model. *J Nutr Educ Behav*. 2015 Nov-Dec;47(6):532-539.e1.

Vangeepuram N, Mervish N, Galvez MP, Brenner B, Wolff MS. Dietary and physical activity behaviors of New York City children from different ethnic minority subgroups. *Acad Pediatr*. 2012 Nov-Dec;12(6):481-8.

Rupangi Vasavada, Ph.D.

Associate Professor of Medicine (Endocrinology, Diabetes and Bone Disease)

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

Lab/Location: Atran 5-02

Email:
rupangi.vasavada@mssm.edu

Research Interests: Dr. Vasavada's research has focused on understanding the pathways and mechanisms that regulate pancreatic beta cell growth, survival, and function, in normal beta cell physiology and in the pathophysiological settings of diabetes and islet transplantation, specifically centered on the role of growth factors and the signaling and molecular pathways through which they mediate their effects.

Type of Research: Basic/Translational

Publications:

Mozar A, Lin H, Williams K, Chin C, Guthalu NK, Stewart AF, Garcia-Ocana A, **Vasavada RC**. Parathyroid Hormone-Related peptide (1-36) enhances beta cell regeneration and increases beta cell mass in a mouse model of partial pancreatectomy. *PLOS ONE*. 2016; 11:e0158414.

Lakshmipathi J, Alvarez-Perez JC, Rosselot C, Casinelli GP, Stamateris R, Rausell-Palamos F, O'Donnell CP, **Vasavada RC**, Scott DK, Alonso LC, Garcia-Ocaña A. PKC ζ activity is essential for pancreatic beta cell replication during insulin resistance by regulating mTOR activation and cyclinD2 expression. *Diabetes*. 2016; 65:1283-1296.

Guthalu NK, Fenutria R, Pollack I, Orthofer M, Garcia-Ocaña A, Penninger J, **Vasavada RC**. Osteoprotegerin and Denosumab stimulate human beta cell proliferation through inhibition of the Receptor Activator of NF-κB Ligand (RANKL) pathway. *Cell Metabolism*. 2015; 22:77-85.

Wang P, Fiaschi-Taesch NM, **Vasavada RC**, Scott DK, Garcia-Ocaña A, Stewart AF. Advances and Challenges in Human Beta Cell Proliferation for Diabetes. *Nature Reviews Endocrinology.* 2015; 11:201-212.

Mozar A, Guthalu NK, Pollack I, Fenutria R, **Vasavada RC**. The role of PTHrP in pancreatic beta cells and implications for diabetes pathophysiology and treatment. *Clinical Reviews in Bone and Mineral Metabolism.* 2014; 12:165-177.

Alfin G. Vicencio, M.D.

Associate Professor of Pediatrics (Pulmonology) and Chief of the Division of Pulmonology

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

Email: alfin.vicencio@mssm.edu

Research Interests: Dr. Vicencio is investigating sub-clinical 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:

Spencer CY, Harkin T and **Vicencio AG**. Cryotherapy to treat and prevent airway stenosis in an adolescent with granulomatosis with polyangiitis. *Pediatric Pulmonology.* 2017; in press.

Spencer CY, Millman J, Veiga K and **Vicencio AG**. Airway Autoimmune Inflammatory Response (AAIR) Syndrome: an asthma-autoimmune overlap syndrome. *Pediatrics.* 2017; in press.

Kasachkov M and **Vicencio AG**. Foreign body removal is getting "cooler". *Pediatric Pulmonology.* 2016 Jul 5.

Mast cells and exosomes in hyperoxia-induced neonatal lung disease. Veerappan A, Thompson M, Savage AR, Silverman ML, Chan WS, Sung B, Summers B, Montelione KC, Benedict P, Groh B, **Vicencio AG**, Peinado H, Worgall S, Silver RB. American Journal of Physiology - Lung Cell and *Molecular Physiology*. 2016 Jun 1;310(11):L1218-32.

O'Brien CE, Tsirilakis K, Santiago MT, Goldman DL and **Vicencio AG.** Heterogeneity of lower airway inflammation in children with severe-persistent asthma. *Pediatric Pulmonology*. 2015 Mar 4.

Martin J. Walsh, Ph.D.

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

Email: martin.walsh@mssm.edu

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:

Cheung KL, Zhang F, Jaganathan A, Sharma R, Zhang Q, Konuma T, Shen T, Lee JY, Ren C, Chen, CH, Lu G, Olson M R, Zhang W, Kaplan MH, Littman DR, **Walsh M J,** Xiong H, Zeng L, Zhou M-M. Distinct roles of Brd2 and Brd4 in potentiating the transcriptional program for Th17 cell differentiation. *Molecular Cell* 2017 65:1068-1080.e5.

Di Cecilia S, Zhang F, Sancho F, Li S, Aguilo F, Sun Y, Rengasamy M, Zhang W, Del Vecchio L, Salvatore F, and **Walsh MJ**. *RBM5-AS1* is critical for self-renewal of colon cancer stem-like cells. *Cancer Research* 2016; (in press).

Zhang F, Ren C, Lau KK, Zheng Z, Lu G, Yi Z, Zhao G, Zhang S, Zhang B, Sobie EA, Zhang W, and **Walsh M J.** A network medicine approach to build a comprehensive atlas for the prognosis of human cancer. *Briefings in Bioinformatics.* 2016.

Guo H, Ahmed M, Zhang F, Yao CQ, Li S, Liang Y, Hua J, ...Feng FY, Boutros PC, Freedman M, ***Walsh M J,*** and He HH. Modulation of long noncoding RNAs by risk SNPs underlying genetic predispositions to prostate cancer. *Nature Genetics* 2016 48:1142-50. *co-corresponding author.

Aguilo F, Zhang F, Sancho A, Fildago M, DiCecilia S, Vashisht A, Lee D-F, Chen C-H, ...**Walsh MJ.** Coordination of m6A mRNA methylation and gene transcription by Zfp217 regulates pluripotency and reprogramming *Cell Stem Cell* 2015 17: 689-704.

Jianlong Wang, Ph.D.

Associate Professor
of Developmental and
Regenerative Biology

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

Lab/Location: Atran 7-10D

Email: jianlong.wang@mssm.edu

Research Interests: Our lab studies the molecular mechanisms underlying pluripotency and reprogramming. We employ both proteomic and genomic approaches to study protein interaction and transcriptional regulatory networks that govern stem cell pluripotency and somatic cell reprogramming. Insights from these studies will facilitate efficient generation and optimal propagation of pluripotent cells for disease therapeutics and regenerative medicine.

Website: www.stemcellwanglab.com

Type of Research: Basic

Publications:

Faiola F, Yin N, Fidalgo M, Huang X, Saunders A, Ding J, Guallar D, Dang B, and **Wang J**. NAC1 regulates somatic cell reprogramming by conrolling E-cadherin expression. *Stem Cell Reports. 2017;* accepted.

Huang X and **Wang, J.** Mitotic bookmarking: maintaining the stem cell identity during mitosis. *Cell Stem Cell.* 2017;20, 741-742.

Huang X and **Wang, J.** A determined "hesitation" on H3K27me3 empowers stem cells to differentiate. *Molecular Cell.* 2017; 66, 165–166.

Saunders A, Li D, Faiola F, Huang X, Fidalgo M, Guallar D, Ding J, Yang F, Xu Y, Zhou H, and **Wang, J.** Context-dependent functions of NANOG phosphorylation in pluripotency and reprogramming. *Stem Cell Reports.* 2017; 8(5):1115-1123.

Pan F, Wingo TS, Zhao Z, Street C, Yu M, Qu G, Ortega JR, Li L, Faiola F, Li L, Nguyen L, Wang J, Makishima H, Chen S, Weeks O, Liu S, Maciejewski JP, Ni H, **Wang J**, He C, Li GM, Aifantis I, Yang FC, Jin P, and Xu M. Tet2 loss leads to hypermutagenicity in haematopoietic stem/progenitor cells. *Nat. Communications*. 2017;8:15102.

Julie Wang, M.D.

Associate Professor of Pediatrics
(Allergy and Immunology)

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

Lab/Location: Icahn 6

Email: julie.wang@mssm.edu

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:

Tsuang A, Demain H, Patrick K, Pistiner M, **Wang J**. Epinephrine use and training in schools for food-induced anaphylaxis among non-nursing staff. *J Allergy Clin Immunol Pract*. 2017 [in press].

Ross J, Fishman J, **Wang, J**. Internet and food allergy: What patients are seeking and what they do with the information*. J Allergy Clin Immunol Pract.* 2017;5:494-495.

Gau J, **Wang J**. Rate of Food Introduction after a Negative Oral Food Challenge- Pediatric Population. *J Allergy Clin Immunol Pract.* 2017;5:475-476.

Zelig A, Harwayne-Gidansky I, Gault A, **Wang J**. Educational and electronic medical record interventions do not improve management of food allergies in a pediatric clinic. *Allergy Asthma Proc.* 2016 Sep;37:404-8.

Sann J, Bunyavanich S, **Wang J**. Epinephrine autoinjector prescribing patterns in an urban pediatric population. *J Allergy Clin Immunol Pract.* 2016 Sep-Oct;4:989-90.

Bryn D. Webb, M.D.

Assistant Professor of Genetics and Genomic Sciences
Assistant Professor of Pediatrics

Institute Affiliation: Icahn Institute for Genomics and Multiscale Biology

Lab/Location: Icahn 14-76

Email: bryn.webb@mssm.edu

Research Interests: The main research interests of the Webb laboratory are the identification of genetic etiologies of congenital anomalies, including congenital facial weakness and Moebius syndrome. Additionally, Dr. Webb studies nuclear-encoded mitochondrial disorders; specifically, she has received NIH funding to better elucidate the pathophysiology and tissue specificity of mitochondrial aminoacyl tRNA synthetase disorders.

Type of Research: Basic/Translational

Publications:

Lake NJ*, **Webb BD*,** Stroud DA*, Richman TR*, Ruzzenente B, ...Falk MJ, Metodiev MD, Thorburn DR. Biallelic mutations in MRPS34 lead to instability of the small mitoribosomal subunit and Leigh syndrome, *Am J Hum Genet.* (in press). (*co-first authors).

Di Gioia SA, Connors S, Matsunami N, Cannavino J, Rose MF, Gilette NM, Artoni P, de Macena Sobreira NL, Chan WM, **Webb BD**, Robson CD, ... Bönnemann CG, Olson EN; Moebius Syndrome Research Consortium, Carey JC, Robertson SP, Manoli I, Engle EC., A defect in myoblast fusion underlies Carey-Fineman-Ziter syndrome. *Nature Communications*. 2017 Jul 6;8:16077.

Webb BD, Metikala S, Wheeler PG, Sherpa MD, Houten SM, Horb ME, Schadt EE. Heterozygous pathogenic variant in DACT1 causes an autosomal-dominant syndrome with features overlapping Townes-Brocks syndrome. *Hum Mutat*. 2017 Apr;38(4):373-377.

Shi L, **Webb BD**, Birch AH, Elkhoury L, McCarthy J, ... Edelmann L, Kornreich R. Comprehensive population screening in the Ashkenazi Jewish population for recurrent disease-causing variants. *Clin Genet*. 2017 Apr;91(4):599-604.

Webb BD, Wheeler PG, Hagen JJ, Cohen N, Linderman MD, ...Schadt EE. Novel, compound heterozygous, single-nucleotide variants in MARS2 associated with developmental delay, poor growth, and sensorineural hearing loss. *Hum Mutat.* 2015 Jun;36(6):587-92.

Karen M. Wilson, M.D., M.P.H., F.A.A.P.

Debra and Leon Black Division Chief and Professor of General Pediatrics, and Vice-Chair for Clinical and Translational Research

Institute Affiliation: Mindich Child Health and Development Institute

Lab/Location: 1184 5th Ave, 6th Floor

Email: karen.wilson@mssm.edu

Research Interests: Dr. Wilson studies the impact of secondhand tobacco and marijuana smoke on children, and how to help parents reduce their children's exposures to reduce or prevent respiratory illness.

Type of Research: Clinical/Translational

Publications:

Wilson KM, Torok MR, McMillen RC, Klein JD, Levy DE, Winickoff JP. Tobacco smoke incursions and resident satisfaction in multiunit housing with children. *Public Health Reports*. In press.

Parikh K, Berry J,Hall M, Mussman GM, Montalbano A, Thomson J, Morse R**, Wilson KM**, Shah SS. Racial and ethnic differences in pediatric readmissions for common chronic conditions. J. Pediatr. 2017 7(186):158-164.

Wilson KM, Torok MR, Wei B, Wang L, Robinson M, Sosnoff C, Blount B. Detecting biomarkers of secondhand marijuana smoke in young children. *Pediatr Res.* 2017 Apr;81(4):589-592.

Gold JM, Hall M, Shah SS, Thomson J, Subramony A, Mahant S, Mittal V, **Wilson** KM, Morse R, Mussman GM, Hametz P, Montalbano A, Parikh K, Ishman S, O'Neill M, Berry JG. Long length of stay in children with medical complexity. *J. Hosp Med. 2016.* 11 (11):750-756.

Rao S, Williams JT, Torok MR, Cunningham MA, Glode MP, **Wilson KM.** Missed opportunities for influenza vaccination among hospitalized children with influenza at a tertiary care facility. *Hosp Pediatr*. 2016. 6(9):513-9.

Birte Wistinghausen, M.D.

Assistant Professor of Pediatrics and Medical Director (Hematology/Oncology)

Institute Affiliations: Tisch Cancer Center; Mindich Child Health and Development Institute; Institute of Medical Education

Lab/Location: Annenberg, 4th Floor, Room 4-52

Email: birte.wistinghausen@mssm.edu

Research Interests: Dr. Wistinghausen is interested in the prevention and treatment of post-transplant lymphoproliferative disease (PTLD) in children who have received a solid organ transplant and in the role EBV virus plays in causing this disease. She is also working on defining the biology of and optimal treatment for B-lymphoblastic lymphoma. Lastly, she is interested in outcomes of survivors of childhood cancer.

Type of Research: Clinical/Translational

Publications:

Meyer JA, Zhou D, Mason CC, Downie JM, Rodic V, Abromowitch M, **Wistinghausen B**, Termuhlen AM, Angiolillo AL, Perkins SL, Lones MA, Barnette P, Schiffman JD, Miles RR. Genomic characterization of pediatric B-lymphoblastic lymphoma and B-lymphoblastic leukemia using formalin-fixed tissues. *Pediatr Blood Cancer*. 2017 Jul;64(7).

Llaurador G, McLaughlin L, **Wistinghausen B**. Management of post-transplant lymphoproliferative disorders. *Curr Opin Pediatr*. 2017 Feb;29(1):34-40.

Ramaswami A, Rosen DJ, Chu J, **Wistinghausen B**, Arnon R. Fulminant Liver Failure in a Child With β-Thalassemia on Deferasirox: A Case Report. *J Pediatr Hematol Oncol.* 2017 Apr;39(3):235-237.

Jossen J, Chu J, Hotchkiss H, **Wistinghausen B**, Iyer K, Magid M, Kamath A, Roayaie S, Arnon R. Epstein-Barr virus-associated smooth muscle tumors in children following solid organ transplantation: a review. *Pediatr Transplant.* 2015 Mar;19(2):235-43.

Weintraub L, Weiner C, Miloh T, Tomaino J, Joashi U, Benchimol C, Strauchen J, Roth M, **Wistinghausen B**. Identifying predictive factors for posttransplant lymphoproliferative disease in pediatric solid organ transplant recipients with Epstein-Barr virus viremia. *J Pediatr Hematol Oncol.* 2014 Nov;36(8):e481-6.

Mary S. Wolff, Ph.D.

Professor of Environmental Medicine and Public Health and Oncological Sciences

Institute Affiliation: Institute for Exposomic Research

Lab/Location: CAM D3-109

Email: mary.wolff@mssm.edu

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:

Doherty BT, Engel SM, Buckley JP, Silva MJ, Calafat AM, **Wolff MS**. Prenatal phthalate biomarker concentrations and performance on the Bayley Scales of Infant Development-II in a population of young urban children. *Environmental Research*. 2017;152:51-58.

Mervish NA, Teitelbaum SL, Pajak A, Windham GC, Pinney SM, Kushi LH, Biro FM, **Wolff MS**. Peripubertal dietary flavonol and lignan intake and age at menarche in a longitudinal cohort of girls. *Pediatr Res.* 2017 Jun 14.

Wolff MS, Buckley J, Engel SM, McConnell RS, Barr DB. Emerging exposures of developmental toxicants. *Curr Opin Pediatr*. 2017 Jan 5;29:218-224.

Deierlein AL, Wolff MS, Pajak A, Pinney SM, Windham GC, Galvez M, Silva M, Calafat AM, Kushi LH, Biro FM, Teitelbaum SL, and the Breast Cancer and Environment Research Program. Phenol concentrations during childhood and subsequent measures of adiposity among young girls. *Am J Epidemiol*. 2017 May 19.

Windham GC, Lum R, Voss R, **Wolff M**, Pinney SM, Teteilbaum SL, Sosnoff CS, Dobraca D, Biro F, Hiatt RA, Greenspan LC, Galvez M, Kushi LH. Age at Pubertal Onset in Girls and Tobacco Smoke Exposure during Pre- and Post-natal Susceptibility Windows. *Epidemiology*. 2017 Jun 28.

Robert O. Wright, M.D., M.P.H.

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

Institute Affiliation: Institute for Exposomic Research

Lab/Location: Atran 3-02

Email: robert.wright@mssm.edu

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:

Tauheed J, Sanchez-Guerra M, Lee JJ, Paul L, Ibne Hasan MO, Quamruzzaman Q, Selhub J, **Wright RO**, Christiani DC, Coull BA, Baccarelli AA, Mazumdar M. Associations between post translational histone modifications, myelomeningocele risk, environmental arsenic exposure, and folate deficiency among participants in a case control study in Bangladesh. *Epigenetics*. 2017 Apr 7:0.

Bello GA, Arora M, Austin C, Horton MK, **Wright RO**, Gennings C. Extending the Distributed Lag Model framework to handle chemical mixtures. *Environ Res.* 2017 Mar 31;156:253-264.

Wilson A, Chiu YM, Hsu HL, **Wright RO**, Wright RJ, Coull BA.Bayesian distributed lag interaction models to identify perinatal windows of vulnerability in children's health. *Biostatistics.* 2017 Feb 27.

Stroustrup A, Hsu HH, Svensson K, Schnaas L, Cantoral A, Solano González M, Torres-Calapiz M, Amarasiriwardena C, Bellinger DC, Coull BA, Téllez-Rojo MM, **Wright RO**, Wright RJ. Toddler temperament and prenatal exposure to lead and maternal depression. *Environ Health*. 2016 Jun 16;15(1):71.

Rosa MJ, Just AC, Guerra MS, Kloog I, Hsu HL, Brennan KJ, García AM, Coull B, Wright RJ, Téllez Rojo MM, Baccarelli AA, **Wright RO**. Identifying sensitive windows for prenatal particulate air pollution exposure and mitochondrial DNA content in cord blood. *Environ Int.* 2017 Jan;98:198-203.

Rosalind J. Wright, M.D., M.P.H.

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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Email:rosalind.wright@mssm.edu

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:

Rosa MJ, Just AC, Kloog I, ... Tellex Rojo MM, Wright RO, **Wright RJ**. Prenatal particulate matter exposure and wheeze in Mexican children: Effect modification by prenatal psychosocial stress. *Ann Allergy Asthma Immunol. (In press.)*

Lee AG, Chiu YM, Rosa MJ, ...Wright RO, Morgan WJ, **Wright RJ**. Association of prenatal and early childhood stress with reduced lung function in 7-year-olds. *Ann Allergy Asthma Immunol.* 2017 Jun 28. pii: S1081-1206(17)30463-5.

Bose S, Chiu YM, Hsu HL, ... Wright RO, Cohen S, Coull BA, **Wright RJ**. Prenatal nitrate exposure and childhood asthma: Influence of maternal prenatal stress and fetal sex. *Am J Respir Crit Care Med*. 2017 Jun 29.

Brunst KJ, Sanchez Guerra M, Gennings C, ... Wright RO, Baccarelli A, **Wright RJ**. Maternal lifetime stress and prenatal psychological functioning are associated with decreased placental mitochondrial DNA copy number in the PRISM study. *Am J Epidemiol.* 2017 Jun 8.

Karlsson O, Rodosthenous RS, Jara C, Brennan KJ, Wright RO, Baccarelli A, **Wright, RJ**. Detection of long non-coding RNAs in human breastmilk extracellular vesicles: Implications for early child development. *Epigenetics* 2016 Aug 5:0.

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