MEDICAL SCHOOL
UNIVERSITY OF MICHIGAN

DEPARTMENT OF
HUMAN GENETICS

HUMAN GENETICS

NEWSLETTER ISSUE 25 • APRIL 2023

The Department of Human Genetics Fall Retreat 2022, Ralph A. MacMullan Conference Center

IN THIS ISSUE

ADVANCING THE DEPARTMENT OF HUMAN GENETICS' MISSION

Greetings!

Alumni, Colleagues, and Friends of the Department of Human Genetics

The Department of Human Genetics (DHG) has experienced an exciting year on many levels! We hope that you will enjoy browsing through this newsletter to read about the accomplishments of our faculty, trainees, and staff, the exciting research being performed in DHG, and our broad efforts to advance our mission in genetics research and education in a healthy and fun environment.

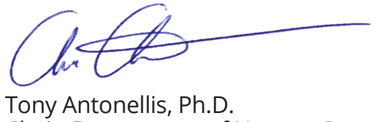
A primary goal of our department is to generate knowledge via our research programs. Over the past year, members of the department published 142 manuscripts in outstanding journals and many of these studies were directed by our students and post-doctoral fellows. In recognition for their remarkable achievements, many individuals were honored with promotions, and departmental honors, and prestigious awards.

Toward building strong research programs, the department is actively recruiting new faculty to join us in Ann Arbor. We are grateful to the 2021-2022 faculty search committee (Dr. Stephanie Bielas, Dr. Sundeep Kalantry [Chair], Dr. Jeffrey Kidd, Dr. John Moran, and Dr. JoAnn Sekiguchi) and to all of our faculty, trainees, and staff for a productive season last year! As a result, we are delighted to welcome two new Assistant Professors: Dr. Agnieszka Lukaszewicz in January 2023 and Dr. Xinjun Zhang in February 2023. We are excited to see Agnieszka and Jun launch their research programs and to see their accomplishments in the years to come; please join us in welcoming them to DHG! We are also grateful to the 2022-2023 faculty search committee (Dr. Stephanie Bielas, Dr. Dave Burke [Chair], Dr. Sue Hammoud, Dr. Jacob Kitzman, and Dr. Rajesh Rao) and the entire DHG community for another promising search this year!

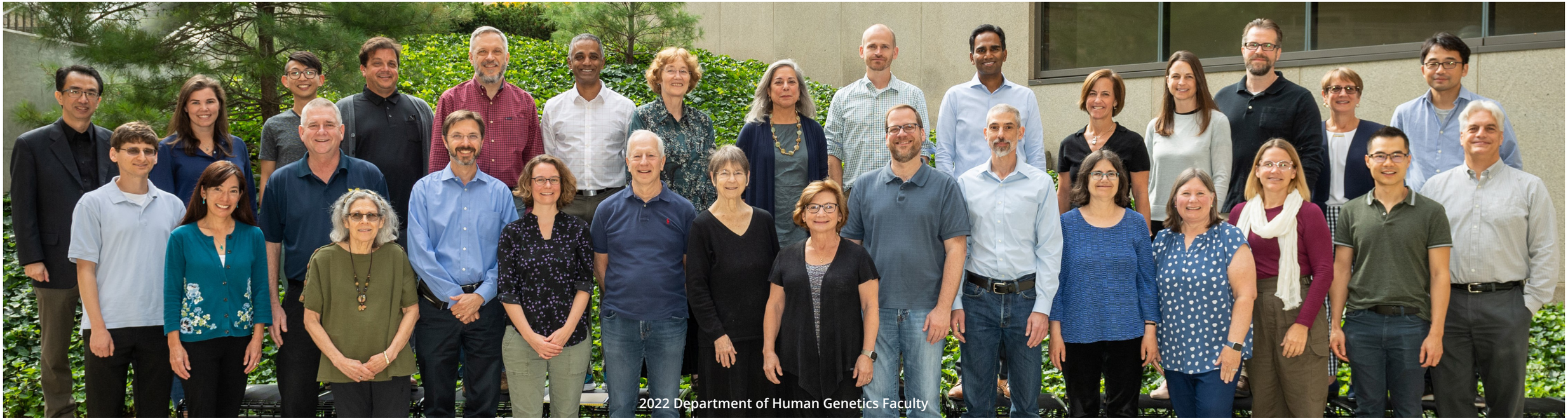
An equally important goal of our department is to train the next generation of scientists and clinicians through our post-doctoral program and our Master's, Genetic Counseling, and Ph.D. graduate programs. This year we welcomed six Ph.D. students, eight Genetic Counseling students, three Master's students, and six post-doctoral fellows. A major strength in the Department is the successful completion of training in genetics. As testament to this, we graduated 19 trainees from our graduate and post-doctoral programs this year and each individual has secured a position in their field of interest. Indeed, our alumni have succeeded in many subdisciplines of genetics in industry, government, and academia.

Finally, we initiated a new training and professional development opportunity: the support of post-doctoral fellow and student attendance at the American Society of Human Genetics (ASHG) meeting, which is funded by the Jane S. Schultz, Ph.D. Education Fund and by your generous donations to this and other department funds. This past Fall, DHG supported the participation of 30 trainees in the ASHG meeting in Los Angeles, CA. It was wonderful to see them attend scientific sessions, participate in professional development events, and interact with alumni and colleagues of DHG, including many of you. We look forward to expanding this opportunity in collaboration with genetics departments at other institutions to build broad networks of early-career professionals studying genetics.

In closing, I want to thank each member of the Department for their creativity, collegiality, and support over the past year. I hope that you are all well and I look forward to seeing you in the near future!



Tony Antonellis, Ph.D.
Chair, Department of Human Genetics



2022 Department of Human Genetics Faculty

DEPARTMENT MISSION

The Department of Human Genetics at the University of Michigan Medical School is devoted to advancing the fields of genetics and genomics to further our understanding of biology and human disease. This mission is accomplished by: (1) generating knowledge through our research programs; and (2) providing mentored training in genetics to the next generation of scientists and clinicians. These goals are pursued with close attention to building a healthy and productive departmental community and to increasing inclusion, equity, and diversity in all areas.

DEPARTMENTAL RESEARCH

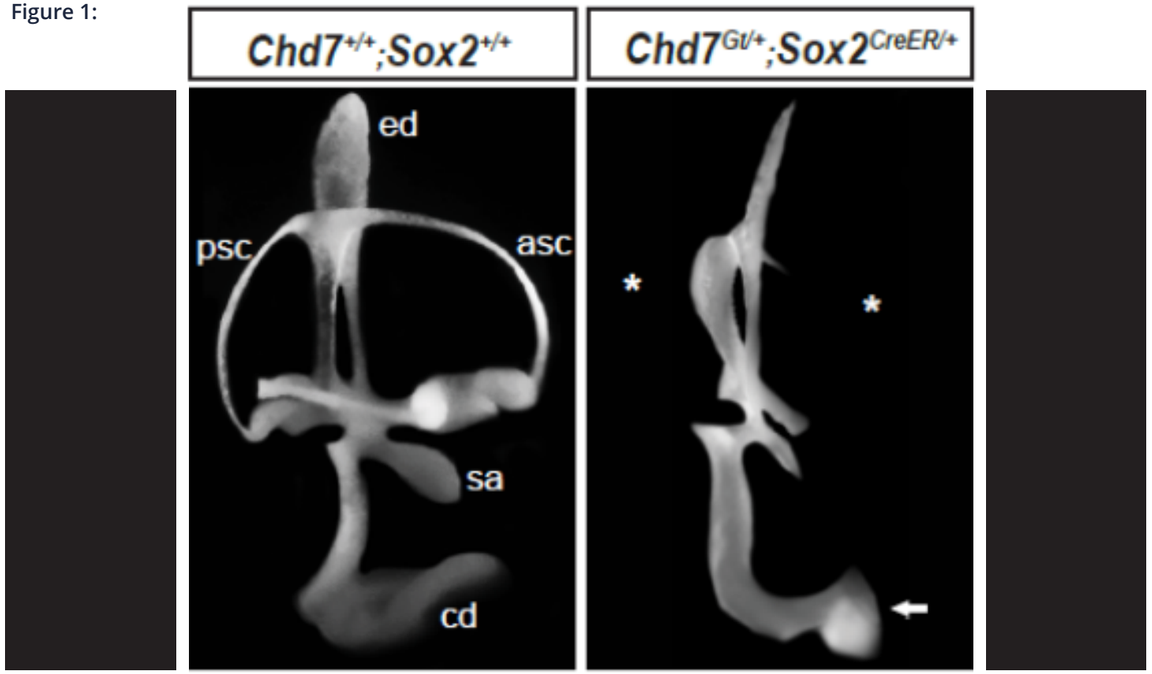
DONNA MARTIN, M.D., Ph.D.

Chair, Department of Pediatrics; Ravitz Foundation Endowed Professor of Pediatrics and Communicable Diseases; Professor of Human Genetics

"Gene-Gene Interactions in the Developing Ear"

The Martin Laboratory models epigenetic disorders to treat human disease. Using mice to explore mechanisms that affect hearing, vision, and brain development, they have defined multiple functions for CHD7, the gene encoding a chromatin remodeling protein that is affected in CHARGE syndrome, a congenital disorder and common cause of deafblindness. A current project focuses on gene-gene interactions between CHD7 and SOX2 during development of the inner ear. They found that loss of one copy of each gene results in severe malformations of the inner ear vestibular system, including the endolymphatic duct, saccule, and anterior and posterior semicircular canals (ed, sa, asc, psc in Figure 1.) and in the auditory system (cochlear duct, cd). Asterisks in the right image show semicircular canal abnormalities; arrow shows cochlear duct malformation. These inner ear defects are also associated with changes in number and organization of inner ear cochlear hair cells, cochlear progenitor cell cycle exit, and in misregulated expression of genes critical for inner ear development. These studies help define molecular pathways that could be targeted to treat human sensory impairments.

Figure 1:



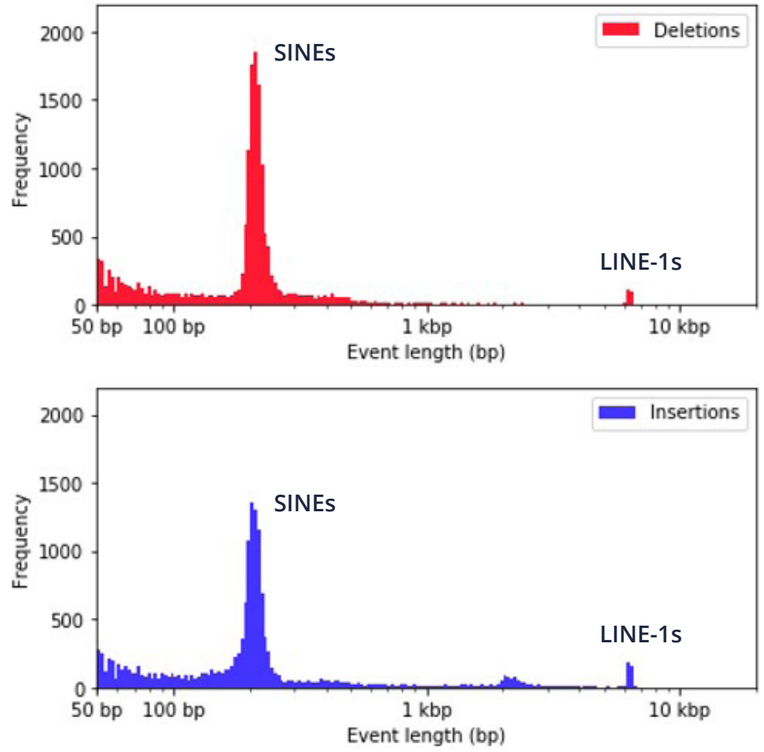
JEFF KIDD, Ph.D.

Professor of Human Genetics
Professor of Computational Medicine and Bioinformatics

"Mobile Elements Dominate Differences Among Canines"

The Kidd Lab studies dogs and wolves to understand genomes evolve and encode different phenotypes. Recently, the Kidd Lab and collaborators used PacBio long-read sequencing technology to compare the genomes of two breed dogs, a Great Dane and a Boxer (Halo et al. 2021 PNAS). The differences between the genomes are dominated by mobile elements that are present in one dog but not the other. The two dog genomes show an 8- to 17-fold increase in mobile element differences relative to humans, highlighting the major contribution of mobile elements to canine genome diversity. Working with colleagues in the Moran Lab, an intact LINE-1 retrotransposon was isolated from the Great Dane genome and shown to be capable of mobilizing itself in a cultured cell assay. Ongoing research projects include efforts to characterize the rate of new mobile element insertions, define sequences critical for element activity, explore the evolution of these elements across related species, and define the contribution of mobile elements to canine phenotypes including cancer.

Figure 2:



PRESENT IN BOXER

PRESENT IN GREAT DANE

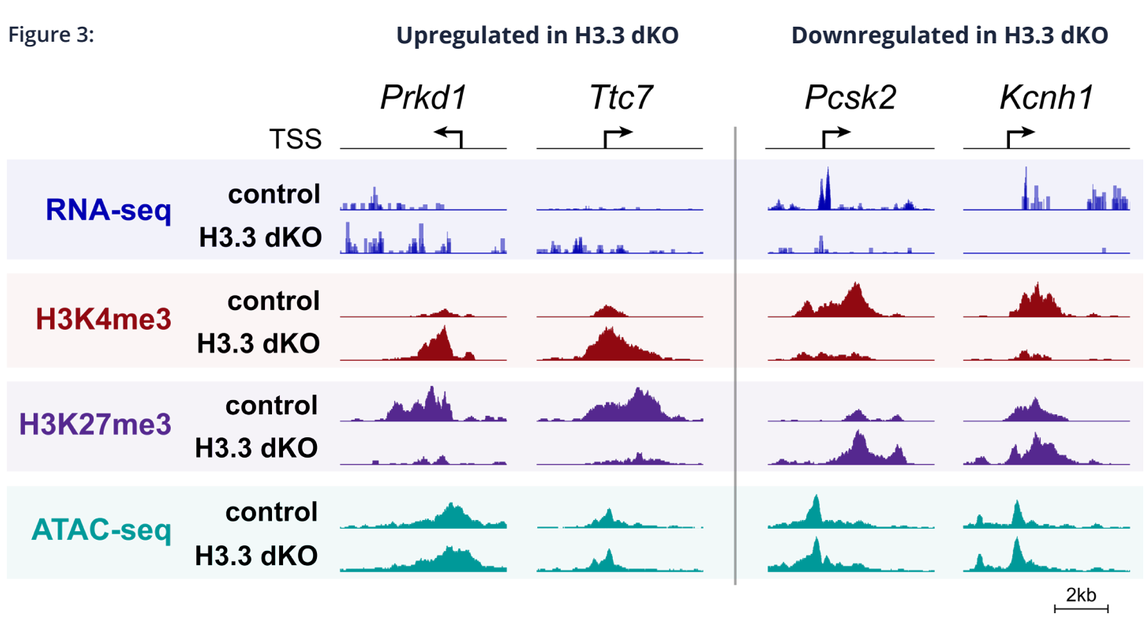
"Postmitotic Accumulation of Histone Variant H3.3 in New Cortical Neurons Establishes Neuronal Chromatin, Transcriptome, and Identity"

OWEN FUNK, Ph.D.

Graduate Student, Ken Kwan Lab '21
Department of Human Genetics

The Kwan Lab studies the transcriptional and chromatin regulatory mechanisms that specify neuronal identities during brain development. In his thesis research in the Kwan Lab, Dr. Owen Funk (Ph.D. '21) discovers surprising functions for the histone H3 variant, H3.3, in enabling both deposition and removal of chromatin modifications in new neurons to establish the neuronal transcriptome (Funk et al., PNAS, 2022). He finds that newborn cortical neurons substantially accumulate H3.3 immediately postmitosis. Co-deletion of H3.3 genes H3f3a and H3f3b from new neurons: a) abrogates de novo H3.3 deposition; b) markedly alters the acquisition of the chromatin landscape; and c) causes widespread disruptions to the establishment of the neuronal transcriptome. Thus, preexisting H3 histones are insufficient for establishing neuronal chromatin; de novo H3.3 is essential. The significance of this study is underscored by the finding that thousands of genes are disrupted by loss of new H3.3; these broad expression changes coincide with robust phenotypes in neuronal identities and axon pathfinding.

Figure 3:



Funk OH, Qalieh Y, Doyle DZ, Lam MM, Kwan KY (2022). Postmitotic accumulation of histone variant H3.3 in new cortical neurons establishes neuronal chromatin, transcriptome, and identity.
Proc Natl Acad Sci USA, 119, e2116956119

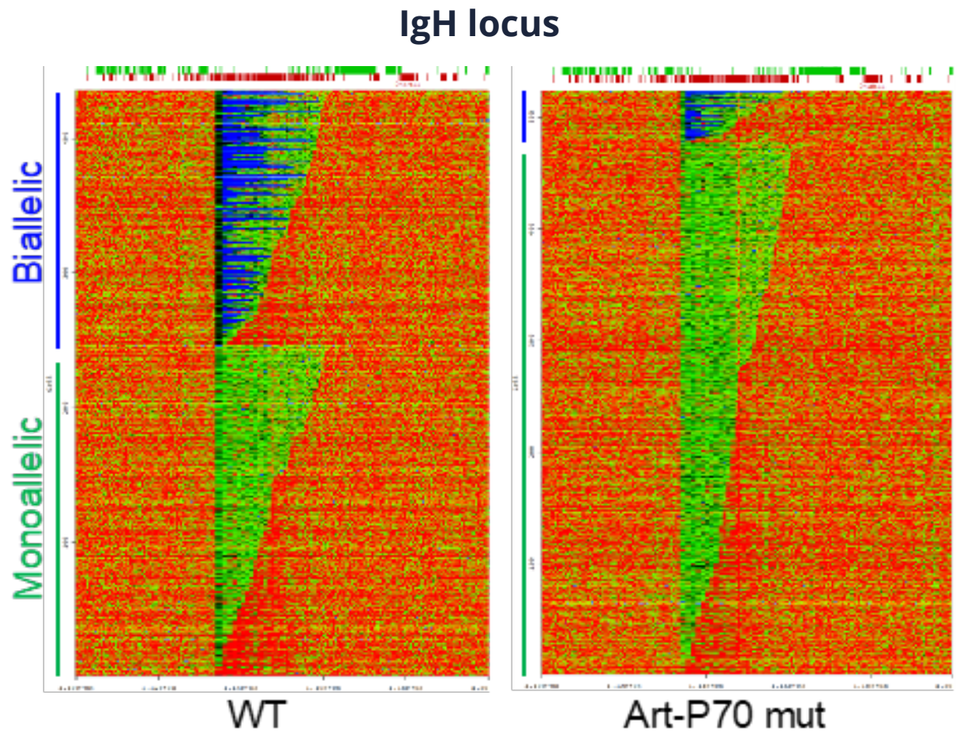
"DNA Repair Defects Underlying Human Disease"

JOANN SEKIGUCHI, Ph.D.

Associate Professor of Human Genetics
Associate Professor of Internal Medicine

Research in the Sekiguchi Lab focuses on elucidating mechanisms that maintain genome stability in mammalian cells. We have generated novel mouse models harboring gene-targeted null, hypomorphic, and conditional alleles in DNA repair genes that are mutated in human disease, including immunodeficiencies, neurodegeneration, and tumorigenesis, and are studying their impact on genome maintenance and disease initiation and progression. Our work has established novel roles for the DNA nucleases, Artemis and SNM1B/Apollo, during the repair of double strand breaks and replication associated DNA damage. We also defined critical roles for the Mre11 DNA nuclease in preventing accumulation of oncogene-induced DNA damage. Recent work in the Sekiguchi Lab has focused on unraveling the interplay between Artemis and Mre11 in suppressing aberrant antigen receptor rearrangements and potentially oncogenic translocations using a combination of genetic, cellular, biochemical and genomic approaches. Knowledge of the mechanisms underlying aberrant chromosomal rearrangements may ultimately lead to improved diagnosis and treatment of diseases associated with DNA repair-deficiencies.

Figure 4:



10X Genomics scCNV analyses of IgH rearrangements in WT and Artemis mutant B cells

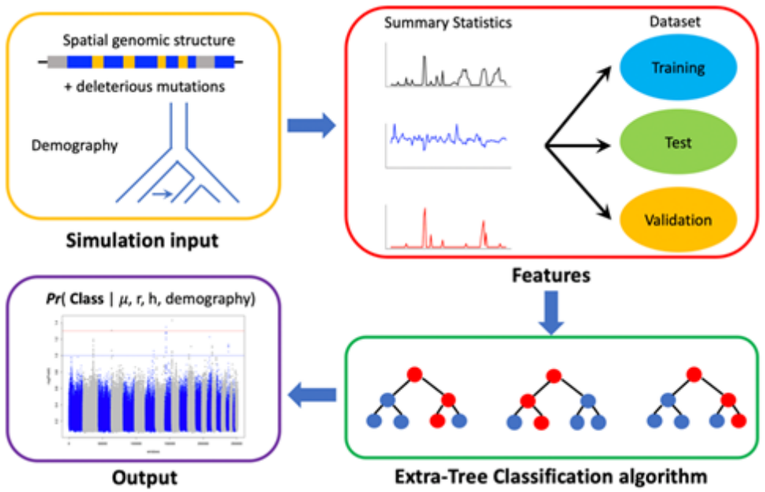
The Zhang Lab

XINJUN (JUN) ZHANG, Ph.D.

Assistant Professor of Human Genetics

Admixture, or gene flow between populations, is one of the most ubiquitous and vital evolutionary mechanisms that shaped human evolutionary history and genetic diversity. At the Zhang Lab, we integrate population genetics theories, statistical and computational methods, and empirical human genomics data to solve outstanding questions in human evolution and health that pertain to the interactions between admixture and natural selection. Ancient DNA studies revealed that archaic hominins, such as Neanderthals and Denisovans, admixed with modern human ancestors and facilitated local adaptations in some populations – a phenomenon known as Adaptive Introgression. Most state-of-the-art methods detect adaptive introgression by identifying outliers in one or more summary statistics, which is vulnerable to a high false-negative rate. Non-adaptive processes that can mimic genomic signals of adaptive introgression are also typically unaccounted for in the null models of existing methods, which can inflate false positive rate. Our Lab developed a machine learning method called MaLAdapt, which combines information from biologically meaningful features to capture a powerful composite signature of adaptive introgression across the genome. Compared to existing methods, MaLAdapt is especially powerful at detecting adaptive introgression with mild beneficial effects, and is robust to non-adaptive confounders and demographic misspecification. Furthermore, MaLAdapt outperforms existing methods based on validation of simulations and empirical signals. We applied MaLAdapt to empirical human genomic data and discovered novel adaptive introgression loci in worldwide non-African populations, including genes enriched in functionally important biological pathways regulating metabolism and immune responses.

Figure 5: Schematic overview of the MaLAdapt workflow



For more information about research in our lab, please visit www.zhanglabpopgen.org

NEW HUMAN GENETICS FACULTY

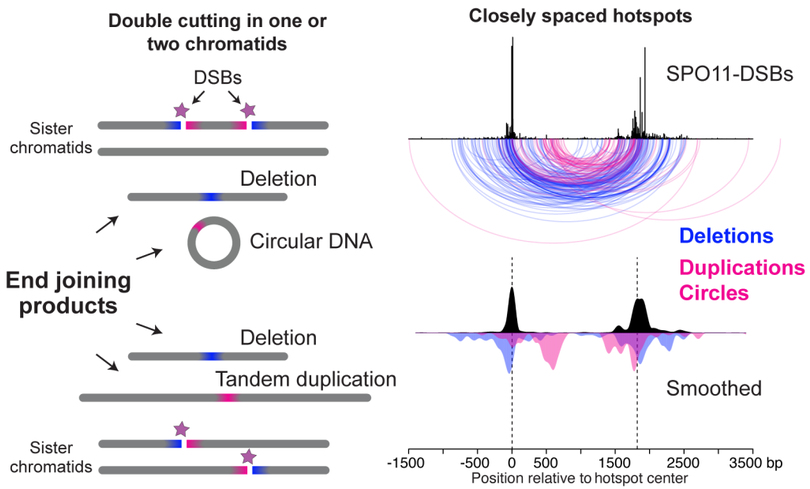
The Lukaszewicz Lab

AGNIESZKA LUKASZEWICZ, Ph.D.

Assistant Professor of Human Genetics

The Lukaszewicz Lab studies *de novo* mutations arising in germ cells during meiosis. In meiosis, hundreds of programmed DNA double-strand breaks (DSBs) are formed by SPO11, preferentially at hotspots, to initiate homologous recombination genome-wide. Meiotic recombination is essential for proper chromosome segregation, and thus faithful genome transmission to future generations. However, DSBs are intrinsically mutagenic, and we showed that closely spaced DSBs (double cuts) can undergo nonhomologous end-joining in mice, leading to various mutational outcomes (Figure 6; Lukaszewicz et al., 2021, Cell). These events are enhanced when DSB regulation is disrupted by loss of ATM, emphasizing the importance of DSB control in meiosis. The Lukaszewicz Lab explores this mutagenic pathway, using genetic and molecular assays. We also apply deep sequencing and computational analyses to map mutational outcomes and their signatures locally and genome wide. Our goal is to illuminate the molecular mechanisms driving *de novo* mutations and understand their consequences on genome integrity and evolution. Furthermore, we are interested whether structural and copy number variants enriched at human DSB hotspots (Beyter at al., 2021, Nature Genetics) originate from double cutting and end joining. We will test this prediction experimentally in human germlines, and computationally by analyzing human population sequencing data. Importantly, meiotic recombination in mice and humans is shaped by PRDM9. This fast-evolving protein determines DSB hotspots – moving recombination away from promoters – predicting that mutational events may uniquely influence genome structure in PRDM9-dependent species. In this context, we are also curious whether existing structural variants at hotspots can disrupt homologous recombination and enforce aberrant DNA repair pathways. Moreover, in the future, we would like to elucidate a potential link between *de novo* meiotic mutations and rare genetic diseases, and the influence of parental age on germline mutagenesis.

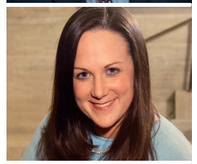
Figure 6:



DEPARTMENT OF HUMAN GENETICS ADMINISTRATIVE STAFF

Jeff Holden – Chief Department Administrator

Jeff works with Dr. Tony Antonellis (Dept Chair), faculty, students, and staff to lead our administrative team in the department. This includes financial, grant pre and post award, human resources, faculty affairs, strategic planning, facilities and equipment, development, and fundraising.



Ashley Andreae – Student Services Administrator

Genetics Training Program; Genetics & Genomics Ph.D. Program; Human Genetics M.S. Program

Ashley manages all aspects of services for students in the doctoral and master's programs noted above, from recruitment through graduation. She also provides administrative support for the

Jeff Creech – Purchasing Clerk Senior

Jeff processes supply orders for the Human Genetics Department and all affiliated research labs, which also includes processing invoice payments, follow-ups, as well as navigating shipping and billing issues.

Dhammika Dewasurendra – Research Administrator Lead

Dhammika coordinates grant pre and post awards for assigned faculty. She also manages the space usage tables for the department.

Ruth Halsey – Administrative Manager

Ruth manages the Department yearly operating budget, financial processing and approvals, reporting, internal controls, purchasing, human resources for administrative and research staff, and research administration for pre-award proposal submission and post-award project management.

Molly Martin – Student Services Administrator, GCP

Molly is the Student Services Administrator for the Genetic Counseling Program. She manages all aspects of student services from recruitment to graduation. She was previously the Student Services Administrator of the Genetics and Genomics Ph.D., Human Genetics MS, and Genetics T32 programs.

Jenny Russell – Marketing & Communication Specialist

Jenny manages the department website, newsletter, communication initiatives, events and seminars, and faculty laboratory websites. She promotes the department through graphic design and publications.

Tom Sorenson – Administrative Assistant to the Chair

Tom works directly with Dr. Tony Antonellis and the entire administrative staff to schedule, organize, and facilitate various department events. He is especially involved in planning visits for seminar speakers and faculty candidates. He began working at the University of Michigan in August 2022.

Shaina Vera – Research Administrator

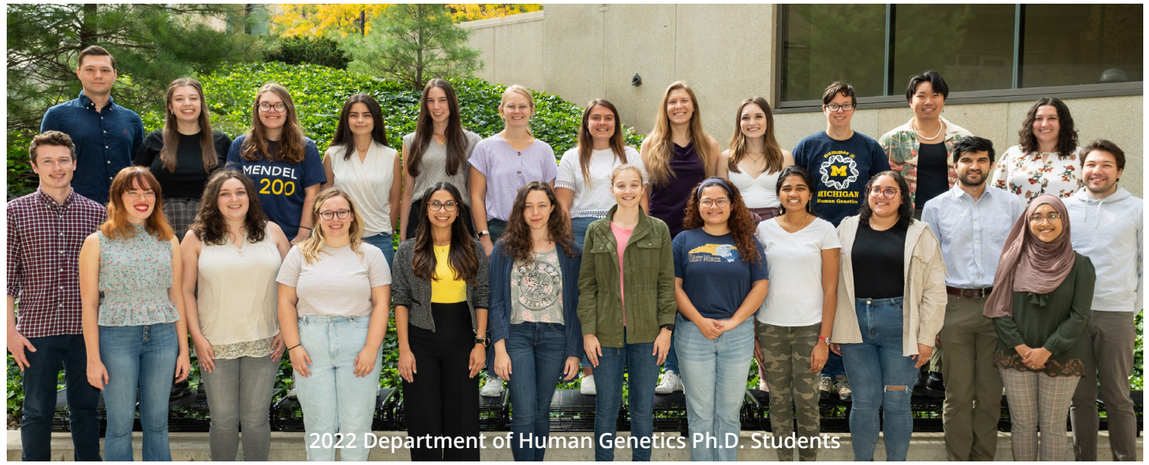
Shaina provides pre and post award support for assigned faculty, including assistance with the development of proposals, completion of applications, reconciliation of budgets and monitoring terms and conditions of subprojects/subcontracts.

ACADEMIC PROGRAMS

2022 Department of Human Genetics Graduate Students, Wiard's Orchards

GENETICS AND GENOMICS Ph.D. PROGRAM

The Genetics and Genomics Graduate Program is excited to welcome six new Ph.D. students in the 2022-2023 academic year. This new cohort includes two students who entered through the Pathway to Genetics and Genomics Doctorate Program for eligible Human Genetics M.S. students. In the past year, three students have completed Ph.D. dissertations and moved on to diverse positions in academia and industry. Our educational activities have returned to an in-person format. Most scientific conferences have returned to an in-person or hybrid format. With support from the Schultz Education Fund, 23 total students in their second year, third year, and fourth year, in addition to seven post-doctoral fellows, attended the annual meeting of the American Society of Human Genetics in Los Angeles, California. At the conference, trainees were separated into smaller groups to attend scientific sessions together and explore networking opportunities. The 2022-2023 entering class in the Program in Biomedical Sciences (PIBS) includes three students with an interest in the Genetics and Genomics Graduate Program. This winter, the Ph.D. admissions process returned to in-person recruitment, and we look forward to welcoming everyone into our community.

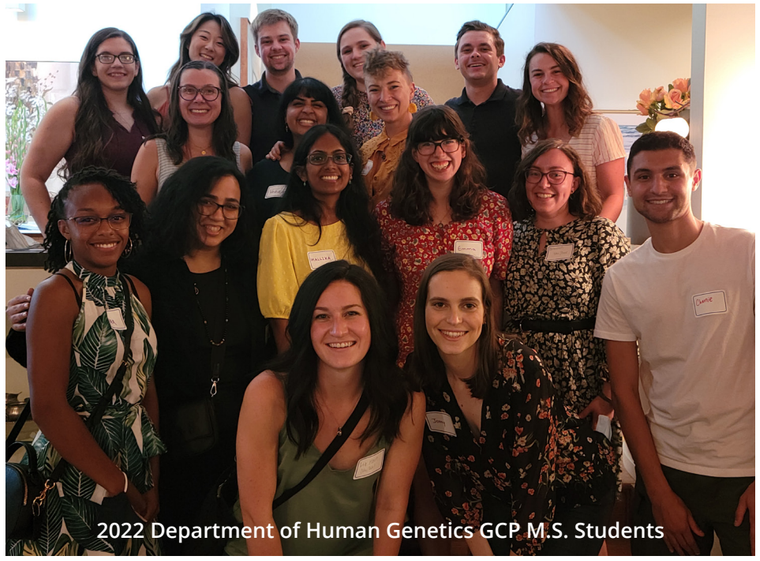


2022 Department of Human Genetics Ph.D. Students

GENETIC COUNSELING MASTER'S PROGRAM

The University of Michigan Genetic Counseling Program (UMGCP) has many accomplishments to celebrate. In April 2022, we graduated a class of eight stellar students who have begun exciting careers (see page 16). We were fortunate to keep three of the 2022 graduates in the state of Michigan, including one at Michigan Medicine (Anna Burton) and two nearby at the Children's Hospital of Michigan (Erika Chick and Samantha Glowacki). Other graduates in the class have ventured to ProMedica Flower Hospital (Lindsay Willard), the University of Iowa (Renata Thoeny and Hailey Nielsen), Dana-Farber Cancer Institute (Gabrielle Ernst), and MD Anderson Cancer Center (Gabi Chen). Celebration continued as all these graduates passed their ABGC boards in August 2022. Several of our recent graduates were able to join us at the annual National Society of Genetic Counselors Education Conference (NSGC) in Nashville, TN where many presented their thesis work. There, we hosted a GCP reunion which allowed us the opportunity to reconnect with over 50 alumni. Additionally, we were able to toast in honor of Beverly Yashar's commitment and leadership as the Director of the Genetic Counseling Program for the last 20-years and her transition to the Director of Research for the program. A special thank you to Monica Marvin for stepping into the role as Director and to Beth Dugan as Associate Director of the UMGCP!

In the Fall of 2022, we not only welcomed back our second-year students from their summer clinical rotations, but also welcomed eight new students from far and wide (including Singapore!), each of whom has brought an interesting perspective to their cohort and to our classroom. We returned to in-person seminars and hosted a multitude of speakers including Barbara Harrison, M.S., CGC from Howard University and Julie Culver, M.S., CGC - the 2022 recipient of the Diane Baker Alumni Award. As we enter 2023, we stay so grateful for the continued support of our faculty, staff, students, alumni, and the broader Michigan and genetic counseling communities.



2022 Department of Human Genetics GCP M.S. Students

It is with mixed emotions that Beverly Yashar, Ph.D., M.S., LCGC decided to step down as Director of the University of Michigan's Genetic Counseling Program (UMGCP). It has been an absolute pleasure working with Bev in her role as Director and we look forward to her continued involvement in the Genetic Counseling Program as the Director of Research. Congratulations Bev, on a remarkable tenure as UMGCP Director!

Over the past 20-years as the UMGCP Director, Beverly (Bev) Yashar has evolved the Genetic Counseling Program into a remarkably effective, top-tier training program for aspiring clinicians. She provided training, mentorship, and support to over 120 graduate students who have transitioned to productive careers and leadership roles within the profession of genetic counseling.

During her tenure, Bev spearheaded multiple important initiatives including the expansion of the program curriculum, establishing the Dual Degree MS/MPH Graduate Training Program, and fostering the development of skills in research methodology and productive collaborations. These efforts have resulted in extensive contributions to scholarship in the field of genetic counseling including publications, national and international presentations, and numerous awards from the National Society of Genetic Counselors and the Journal of Genetic Counseling. Bev's legacy as program director lives on as these UMGCP alumni make unique and important contributions in clinical care, research, policy, industry, and education.

BEVERLY YASHAR, Ph.D., M.S., LCGC

HUMAN GENETICS MASTER'S PROGRAM

The Master's Program (M.S.) in Human Genetics provides advanced training in human genetics and genomics through classroom instruction and cutting-edge research experience in faculty laboratories. Each year, the M.S. program admits a select cohort of outstanding students from a steadily increasing applicant pool, and our graduates are highly successful in pursuing a broad range of career paths. Over the past seven years, 100% of our 38 graduates have obtained employment or academic advancement in their area of choice, including three students who joined the University of Michigan Genetics and Genomics Ph.D. program through our recently created "Pathway to Ph.D." program. Human Genetics M.S. graduates have also gone on to Ph.D. programs at other top institutes (e.g., Michigan State, Vanderbilt, Stanford), medical school (e.g., Case Western Reserve, Michigan State, Ohio State), research positions in biotech (e.g., 23andMe, Invitae), academic research institutes (e.g., Michigan, Yale and Wisconsin Institute for Medical Research), and faculty positions at the University of Wisconsin and universities in Ghana and Nigeria. We are excited to welcome three new Master's students this year, Lovelyn Epelle (Human Genetics Master's Merit Award recipient), Hamza Islam and Audrey Widner. They joined two senior M.S. students, Eric Smith, M.D. and Dan Ciotlos (Biostatistics Ph.D. dual degree student), who are completing their second year in the program. All current M.S. students are engaged in human genetics research and will present their work at the departmental seminar series. We look forward to hearing about their discoveries and helping them achieve their career goals.

2022 Department of Human Genetics M.S. Students

SCAN TO LEARN MORE

HUMAN GENETICS STUDENTS

ACADEMIC YEAR 2022 - 2023

WELCOME FIRST YEAR STUDENTS!


Dominic Bazzano
Ph.D.


Matthew Blacksmith
Ph.D.


Allison Cale
Ph.D.


McKenna DeFoer
Ph.D.


Christina Del Greco
Ph.D.


Melissa Englund
Ph.D.


Maria (Cecilia) Gavilan
Ph.D.


Noah Helton
Ph.D.


Steve Ho
Ph.D.


Ann Marie Lawson
Ph.D.


Emily Koch
Ph.D.


Rebecca Malcore
Ph.D.


Sheila Marte
Ph.D.


Bailey Masser
Ph.D.


Breanna McBean
Ph.D.


Itzaira Mercado-Hernandez, Ph.D.


Sierra Mortimer
Ph.D.


Camille Mumm
Ph.D.


Anthony Nguyen
Ph.D.


Yanchao (Han) Pan
Ph.D.


William (Bill) Presley II
Ph.D.


Mashiat Rabbani
Ph.D.


Callie Swanepoel
Ph.D.


Kevin Toolan
Ph.D.


Catherine Tower
Ph.D.


Megan Trotter
Ph.D.

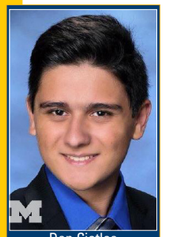

Christa Ventresca
Ph.D.


Elizabeth Werren
Ph.D.


Wenxin Xie
Ph.D.


Amber Abram
MS/GC


Nicole Cho
MS/GC


Dan Ciotlos
MS


Charlie DeLuca
MS/GC


Lovelyn Epelle
MS


Lara Grether
MS/GC


Leah Hardy
MS/GC


Elizabeth Hart
MS/GC


Braeden Hughes
MS/GC


Alex Hurley
MS/GC


Morgan Hurst
MS/GC

Hamza Islam
MS

Emma Kelley
MS/GC

Amy Mook
MS/GC

Alicia Polak
MS/GC

Vedika Ramesh
MS/GC

Eric Smith
MS

Blake Summers
MS/GC

Jennifer Thompson
MS/GC

MalliAa Venkatramani
MS/GC

Audrey Widner
MS

Setarah Zandi-Haghighi
MS/GC

CONGRATULATIONS 2022 GRADUATES!

HUMAN GENETICS STUDENTS

Mario Ashaka, M.S.

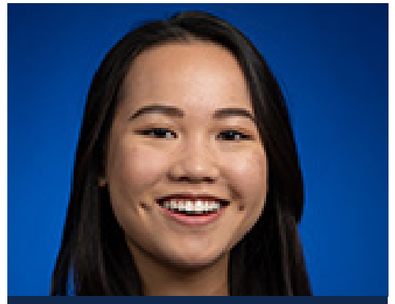
Research Assistant, Mats Ljungman Lab, Radiation Oncology – Cancer Biology, University of Michigan: Ann Arbor, MI

Jack Bishop, M.S.

Doctoral Student, Molecular Genetics and Genomics, Wayne State School of Medicine: Detroit, MI

Anna Burton, M.S./G.C.

Genetic Counselor, University of Michigan Division of Pediatric Genetics, Metabolism and Genomic Medicine: Ann Arbor, MI



Gabriela Chen, M.S./G.C.

Genetic Counselor, MD Anderson Cancer Center: Houston, TX

Erika Chick, M.S./G.C.

Genetic Counselor, Children's Hospital of Michigan Division of Genetic, Genomic and Metabolic Disorders: Detroit, MI

Marissa Cloutier, Ph.D.

Geneticist, Medical Writer, and Educator: Ann Arbor, MI

Gabrielle Ernst, M.S./G.C.

Genetic Counselor, Dana-Farber Cancer Institute: Boston, MA

Maria (Cecilia) Gavilan, M.S.

Doctoral Student, Genetics and Genomics, University of Michigan: Ann Arbor, MI

Samantha Glowacki, M.S./G.C.

Genetic Counselor, Children's Hospital of Michigan Division of Genetic, Genomic and Metabolic Disorders: Detroit, MI

Bailey Masser, M.S.

Doctoral Student, Genetics and Genomics, University of Michigan: Ann Arbor, MI

Amanda Moccia, Ph.D.

Postdoctoral Fellow, Nationwide Children's Hospital: Columbus, OH

Jennifer Moreno, M.S.

Currently Pursuing Positions

Hailey Nielsen, M.S./G.C.

Genetic Counselor, University of Iowa Holden Comprehensive Cancer Center: Iowa City, IAA

Renata Thoeny, M.S./G.C.

Genetic Counselor, University of Iowa Prenatal Genetics Clinic: Iowa City, IA

Elizabeth Werren, Ph.D.

Clinical Genomics Scientist, The Jackson Lab: Farmington, CT

Isabel Wellik, M.S.

Research Lab Tech, McLoughlin Lab, Neurology Department, University of Michigan: Ann Arbor, MI

Lindsay Willard, M.S./G.C.

Genetic Counselor, Flower Hospital Cancer Genetics Clinic: Sylvania, OH

ACCOMPLISHMENTS

HUMAN GENETICS GRADUATE STUDENT AWARDS

Anna Burton

Program: Genetic Counseling M.S.

Anita and Howard Cramer Fellowship Award (GCP)

Elizabeth Hart

Program: Genetic Counseling M.S.

Rackham Graduate Student Research Grant

Erika Chick

Program: Genetic Counseling M.S.

James V. Neel GCP Fellowship Award

Braeden Hughes

Program: Genetic Counseling M.S.

Rackham Graduate Student Research Grant

Nicole Cho

Program: Genetic Counseling M.S.

Rackham Merit Fellowship Award

James V. Neel GC Fellowship Award

Bailey Masser

Program: Genetics and Genomics Ph.D.

Pathways to Genetics and Genomics Doctorate Program Award

Ibiere (Lovelyn) Epelle

Program: Human Genetics M.S.

Department of Human Genetics Master's Merit Award

Amanda Moccia

Program: Human Genetics Ph.D.

James V. Neel Ph.D. Fellowship Award

Maria (Cecilia) Gavilan

Program: Genetics and Genomics Ph.D.

Anita and Howard Cramer Fellowship Award (M.S.)

Pathways to Genetics and Genomics Doctorate Program Award

Blake Summers

Program: Genetic Counseling M.S.

Michigan Association of Genetic Counselors (MAGC) Student Award

Rackham Graduate Student Research Grant

Lara Grether

Program: Genetic Counseling M.S.

Michigan Association of Genetic Counselors (MAGC) Student Award

Isabel Wellik

Program: Genetics and Genomics Ph.D.

Anita and Howard Cramer Fellowship Award (Ph.D.)

Leah Hardy

Program: Genetic Counseling M.S.

Michigan Association of Genetic Counselors (MAGC) Student Award

Setareh Zandi-haghighi

Program: Genetic Counseling M.S.

Rackham Merit Fellowship Award

HUMAN GENETICS POST-DOCTORAL AWARDS

NIH Institutional Research & Academic Career Development Award (IRACDA) K12 Postdoctoral Fellowship

27th Annual RNA Society Research Presentation Fellowship Program Award

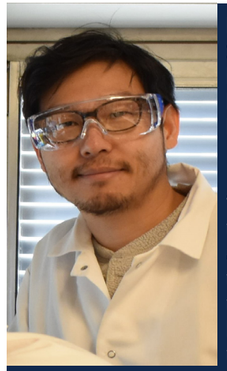
Max Baymiller, Ph.D.
Moon Lab

The Lalor Foundation Postdoctoral Fellowship

"Generation of an artificial testis: A cure for male infertility-Fellowship"

Umesh Kumar, Ph.D.

Hammoud Lab



Dravet Syndrome Foundation Post-Doctoral Fellowship

"Optimizing the regional administration of Scn8a-targeting RNAi therapy"

Wenxi Yu, Ph.D.

Meisler Lab

HUMAN GENETICS FACULTY AWARDS

Santhi Ganesh, M.D.

David J. Pinsky MD Professor of Cardiovascular Medicine

Associate Professor, Department of Internal Medicine

7- year grant award from NIH/ NHLBI, an R35 Maximizing Investigators' Research Award (MIRA) award

"Genomic and Functional Studies of Dysplasia-Associated Arterial Diseases."

Stephanie Moon, Ph.D.

Assistant Professor of Human Genetics

Faculty Scholar of the Center for RNA Biomedicine

NIH R35 Maximizing Investigators' Research Award

Chan Zuckerberg Initiative Collaborative Pairs Award

Robert Packard Center for ALS Research Grant Award

Michigan-Israel Partnership for Research and Education Pilot Grant

Dystonia Medical Research Foundation Award

LiveLikeLou Foundation Career Development Award

Rajesh Rao, M.D.

Leonard G Miller Professor of Ophthalmology and Visual Sciences

Associate Professor of Ophthalmology and Visual Sciences; Pathology; Human Genetics

Elected to Club Jules Gonin

Distinguished Alumni Award, Yale University School of Medicine

American Academy of Ophthalmology Secretariat Award

"Valuing Our Own" Discretionary Award from University of Michigan Medical School

FEATURED NEWS: FORMER DHG TRAINEES IN ACADEMIA

READ BELOW ABOUT FORMER DEPARTMENT OF HUMAN GENETICS TRAINEES WHO HAVE BEEN RECENTLY PROMOTED IN ACADEMIA

Reid Alisch, Ph.D.

Moran Lab, 2003

READ ABOUT ME

Associate Professor,
Department of Neurological Surgery

University of Wisconsin School of Medicine and Public Health

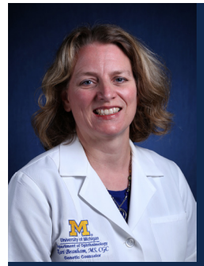
Christine Beck, Ph.D.

Moran Lab, 2012

READ ABOUT ME

Assistant Professor,
Department of Genetics and Genome Sciences

University of Connecticut Health and the Jackson Laboratory for Genomic Medicine



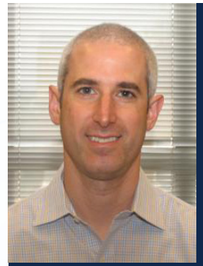
Kari Branham, M.S., CGC

UMGCP, 2002

READ ABOUT ME

Clinical Associate Professor,
Ophthalmology and Visual Sciences

University of Michigan's Kellogg Eye Center



David Buchner, Ph.D.

Meisler Lab, 2003

READ ABOUT ME

Associate Professor,
Department of Genetics and Genome Sciences

Case Western Reserve

Heather Burrows, MD, Ph.D.

Camper Lab, 2000

READ ABOUT ME

Professor,
Department of Pediatrics

University of Michigan

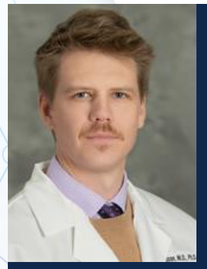
Clement Y. Chow, Ph.D.

Meisler Lab, 2008

READ ABOUT ME

Associate Professor,
Department of Human Genetics

University of Utah, Salt Lake City



Cole Fergueson, M.D., Ph.D.

Meisler Lab, 2007

READ ABOUT ME

Assistant Professor,
Department of Pathology

University of California, San Diego

Amy Hulme, Ph.D.

Moran Lab, 2007

READ ABOUT ME

Associate Professor,
Department of Biomedical Sciences

Missouri State University

Xiaoyan (Isaac) Jia, Ph.D.

Kitzman Lab, 2021

READ ABOUT ME

Faculty, Principal Investigator,
Greater Bay Area Institute of Precision Medicine in Guangzhou, China

Fudan University

Deanna Kulpa, Ph.D.

Moran Lab, 2005

READ ABOUT ME

Associate Professor,
Department of Pathology & Laboratory Medicine, Emory University School of Medicine

Division of Microbiology & Immunology, Emory National Primate Research Center

Tomoichiro Miyoshi, Ph.D.

Moran Lab, 2015

READ ABOUT ME

Team Leader, Principal Investigator, RIKEN Center for Integrative Medical Sciences

Laboratory for Retrotransposon Dynamics

Sandy Richardson, Ph.D.

Moran Lab, 2013

READ ABOUT ME

Group Leader,
Developmental Molecular Genetics Group, Mater Research Institute

University of Queensland

Jacy Wagnon, Ph.D.

Meisler Lab, 2019

READ ABOUT ME

Assistant Professor,
Department of Neuroscience

The Ohio State University, Wexner Medical Center

APPOINTMENTS

DEPARTMENT OF HUMAN GENETICS FACULTY PROMOTIONS

Sue Hammoud, Ph.D.

Promoted to Associate Professor

Department of Human Genetics

Sundeep Kalantry, Ph.D.

Promoted to Professor

Department of Human Genetics

Jeff Kidd, Ph.D.

Promoted to Professor

Department of Human Genetics

Jacob Kitzman, Ph.D.

Promoted to Associate Professor

Department of Human Genetics

DEPARTMENT OF HUMAN GENETICS FACULTY APPOINTMENT CHANGES

Stephanie Bielas, Ph.D.

Appointed the Sellner Professor of Human Genetics

Joined the ASHG Program Committee

Beth Dugan, M.S., CGC

Appointed Associate Director

University of Michigan Genetic Counseling Program

Monica Marvin, M.S., CGC

Appointed Director

University of Michigan Genetic Counseling Program

Bev Yashar, Ph.D., M.S., LCGC

Appointed Director of Research

University of Michigan Genetic Counseling Program

Wenxi Yu, Ph.D.

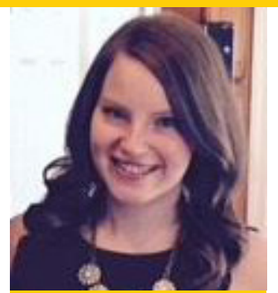
Appointed Research Investigator

WELCOME NEW HUMAN GENETICS POSTDOCTORAL FELLOWS

Max Baymiller, Ph.D.

Welcome to the Moon Lab

Department of Human Genetics



Lindsay Moritz, Ph.D.

Welcome to the Hammoud Lab

Department of Human Genetics

Masayoshi Nagai, Ph.D.

Welcome to the Iwase Lab

Department of Human Genetics

Peter Schall, Ph.D.

Welcome to the Kidd Lab

Department of Human Genetics

Alex Vargo, Ph.D.

Welcome to the Li and Hammoud Labs

Department of Human Genetics

Sebastian Vishnopolska, Ph.D.

Welcome to the Kitzman Lab

Department of Human Genetics

CONGRATS ON COMPLETING YOUR POST-DOCTORAL TRAINING

Alyssa English, Ph.D.

(2020 – 2022)
Moon Lab

Medical Writer I, MMS Holdings

Alec Steep, Ph.D.

(2020 - 2022)
Li/Burant Labs

Currently Pursuing Positions

MEDICAL SCHOOL
UNIVERSITY OF MICHIGAN

DEPARTMENT OF HUMAN GENETICS

PHILANTHROPY

FUNDS THAT SUPPORT OUR RESEARCH AND STUDENTS

Anita and Howard Cramer Fellowship Fund

This expendable fund in the Department of Human Genetics was set up to honor the late Anita and Howard Cramer by their son, a graduate of the University of Michigan. This fund grants an award to one second-year Human Genetics Ph.D. student each year for academic excellence. **GIVE NOW - 308052**

Carole McTague Genetic Counseling Enrichment Fund

In memory of Carole McTague, a distinguished graduate of the Genetic Counseling Program, this expendable fund in the Department of Human Genetics is used to help support student participation in national/regional meetings, genetic field clinics, student travel to summer internship rotations, and guest lectures on topics related to genetic counseling. **GIVE NOW - 718986**

Genetic Counseling Graduate Education Fund

Gifts will provide current and future graduate students with an educational experience that is stimulating, diverse, and forward thinking, helping cultivate excellence in the next generation of leaders in genetic counseling and genomic medicine. **GIVE NOW - 336273**

George J. and Lucia F. Brewer Scholarship Fund

The Department of Human Genetics offers a scholarship award to a student pursuing an M.D. Ph.D. degree and conducting research in human genetics. This was made possible by Dr. George and Mrs. Lucia Brewer. An investment in this fund will honor Dr. Brewer's work in developing treatments for rare diseases. **GIVE NOW - 798610**

Human Genetics Graduate Student Education Fund

This expendable fund provides support to graduate students pursuing Ph.D.'s within the Department of Human Genetics. An investment in the education of these talented students helps cultivate the careers of scientists of the future. **GIVE NOW - 312543**

James V. Neel Fellowship Fund

Contributions to this fellowship fund in the Department of Human Genetics supports annual awards given to a genetic counseling student and a Ph.D. student with outstanding research projects. Funds are being raised to fully endow these fellowships. **GIVE NOW - 575282**

Jane S. Schultz Education Fund

This fund supports second-year Ph.D. student attendance at the annual American Society of Human Genetics meeting, which complements our scientific curriculum, provides career development opportunities, and builds collegiality among students. **GIVE NOW - 700490**

Myron Levine Memorial Research Fund

The Department of Human Genetics developed a research fund to honor Dr. Levine's contributions to research and education during his 50 years as a faculty member. Investment in this fund helps launch new research projects. **GIVE NOW - 322286**

FUNDS THAT SUPPORT OUR ANNUAL LECTURES

Diane Baker Alumni Lecture Award in Genetic Counseling

This annual lecture hosted by the Department of Human Genetics brings University of Michigan alumni who are national leaders in genetic counseling to Ann Arbor. This event honors Diane Baker's contributions to our genetic counseling program during her many years of leadership. We are raising money to fully endow this lectureship. **GIVE NOW - 315317**

James V. Neel Lectureship in Human Genetics

The Department of Human Genetics hosts an annual lecture by prominent leaders in genetic research. This endowment honors the legacy of James V. Neel, M.D., Ph.D., the founder of our department and pioneer in the study of human genetics. **GIVE NOW - 575085**

Thomas D. Gelehrter Lectureship in Medical Genetics

The Thomas D. Gelehrter, M.D. Lectureship in Medical Genetics is supported by an endowment that funds an annual lecture by a leader in the field of medical genetics. It was developed to honor Dr. Gelehrter's contributions as Chair of the Department of Human Genetics, medical geneticist and educator. **GIVE NOW - 731308**

UNIVERSITY OF MICHIGAN
DEPARTMENT OF HUMAN GENETICS

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Ann Arbor, MI 48109-5618

RETURN SERVICE REQUESTED

PHILANTHROPIC SUPPORT FOR RESEARCH

Philanthropic donations play a vital role in supporting research and education in the Department of Human Genetics. These valued contributions help launch new research projects, provide scholarships for outstanding students, and support student travel to scientific meetings. Endowed lectureships bring renowned leaders in Human Genetics and Genetic Counseling to the University of Michigan to promote the importance of genetics, educate the medical community and the public about promising new research, and provide opportunities for discussion and collaboration with students and faculty. To learn more about the impact of your gift for basic research, please view a movie at https://vimeo.com/292778380.

THANK YOU FOR YOUR SUPPORT!

GIFTS OF ANY SIZE SUPPORT HUMAN GENETICS STUDENTS AND RESEARCH.

TO DONATE TO ANY OF OUR INITIATIVES USE THE ONLINE GIVING SITE:

HTTPS://MEDICINE.UMICH.EDU/DEPT/HUMAN-GENETICS/GIVING-OUTREACH/GIVING

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DEPARTMENT OF HUMAN GENETICS

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