# Grace Hansen, PhD
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## Research Experience

Graduate Student, Department of Genetics, Genomics, and Systems Biology
Nobrega Lab, University of Chicago
September 2017-present

IRTA Post-baccalaureate fellow, National Institute of Mental Health
Clinical and Translational Neuroscience Branch
July 2013-May 2016

Research Manager, University of Utah
Visual Perception and Spatial Cognition Lab
August 2012-May 2013

Experiment Director, College of William and Mary
Cognitive Psychophysiology Lab
June 2011- May 2012

## Education

University of Chicago Medical Scientist Training Program (MD/PhD program)
PhD specialization: Genetics
FAES Graduate School at NIH
College of William and Mary, 2008-2012
Bachelor of Science, Cognitive Neuroscience
Bachelor of Arts, English

## Honors and Awards

American Heart Association Predoctoral Award, 2020-present
Top Poster Award, Society of Biological Psychiatry Annual Meeting 2016
Top Abstract Award, NIMH Training Day 2015
Magna Cum Laude, College of William and Mary
Honors in Psychology , College of William and Mary
Honors Thesis Award: High Honors, College of William and Mary
(possible awards: No Honors, Honors, High Honors)
Dean's List, College of William and Mary

## Presentations and Publications

### Publications

Sobreira, D. R., Joslin, A.C., Zhang, Q., Williamson, I., Hansen, G.T. et al., et al. Extensive pleiotropism and allelic heterogeneity mediate metabolic effects of IRX3 and IRX5. *Science* 372, 1085–1091 (2021).

Joslin, A. C., Sobreira, D.R., Hansen, G.T. et al. A functional genomics pipeline identifies pleiotropy and cross-tissue effects within obesity-associated GWAS loci. *Nature Communications* 12, 5253 (2021).

Helling, B.S., Sobreira, D.R., Hansen, G.T., ... & Ober, C.A. (2020). Transcriptional and Chromatin Responses of Bronchial Epithelial Cells to RV are Altered in Asthma. *Communications Biology.*

Montefiori, L. E., Sobreira, D. R., Sakabe, N. J., Aneas, I., Joslin, A. C., Hansen, G. T., ... & Nobrega, M. A. (2018). A promoter interaction map for cardiovascular disease genetics. *eLife,* 7, e35788.

Padilla, L., Hansen, G., Ruginski, I., Kramer, H., Thompson, W., and Creem-Regehr, S. (2014). The influence of different graphical displays on non-expert decision making under uncertainty. *The Journal of Experimental Psychology: Applied*.

Creem-Regehr, S., Payne, B., Rand, K. and Hansen, G. (2013). Scaling space with the mirror illusion: The influence of body plasticity on perceived affordances. *Psychonomic Bulletin and Review*.

**Presentations**

Hansen, G.T., Sobreira, D.R., Joslin, A.C., Ye, L., Haddad, G.A., Li, Y. Battaglino, R.A. & Nobrega, M.A. Female waist-to-hip ratio is affected by an evolutionary novel adipogenesis-related gene regulatory program. Poster presented at the 2021 Biology of Genomes Meeting, Cold Spring Harbor, NY

Hansen, G.T., Sobreira, D.R., Joslin, A.C., Shah, A., Haddad, G.A., Li, Y. & Nobrega, M.A. Identifying sex-specific mechanisms of metabolism. Poster presented at the 2020 Biology of Genomes Meeting, Cold Spring Harbor, NY

Hansen. G.T., Sobreira, D.R., Joslin, A.C., Montefiori L.E., Li Y.I., and Nobrega, M.A. Misregulation of gene expression and splicing in adipocytes underlies population-level obesity risk. Poster presented at the 2019 Cell Symposia: Transcriptional Regulation, Chicago, IL

Hansen. G.T., Sobreira, D.R., Joslin, A.C., Shah, A., Montefiori L.E., Li Y.I., and Nobrega, M.A. Misregulation of gene expression and splicing in adipocytes underlies population-level obesity risk. Poster presented at the 2019 Mechanisms of Eukaryotic Transcription Meeting, Cold Spring Harbor, MA

Hansen, G.T. Sobriera, D.R., Joslin, A.C., Shah, A., Zeng, T.K., Li, Y. & Nobrega, M.A. Systematic Identification of Genes Underlying Obesity Risk in Adipocytes. Poster

presented at the 2018 American Society for Human Genetics Annual Meeting, San Diego, CA.

Hansen, G., Kippenhan, J.S., Giedd, J., Gregory, M., Kolochana, B., Rapoport, J., and Berman, K.F. Williams Syndrome gene *LIMK1* impacts regional human gray matter developmental trajectories in healthy children. Poster presented at the 2015 Society for Biological Psychiatry Annual Meeting, Toronto, CA.

Hansen, G., Kippenhan, J.S., Giedd, J., Gregory, M., Kolochana, B., Rapoport, J., and Berman, K.F. Williams Syndrome gene *LIMK1* impacts regional human gray matter developmental trajectories in healthy children. Presentation given at the 2015 National Institute of Mental Health Training Day, Bethesda, MD.

Hansen, G., Nguyen, T., Kippenhan, J. S., Kolachana, B., Mattay, A., Weinberger, D. and Berman, K.F. Different oxytocin receptor polymorphisms are associated with independent effects on gray and white matter volume in the human brain. Poster presented at the 2014 Society for Neuroscience Annual Meeting, Washington, DC.

Hansen, G., Nguyen, T.V., Reuter, J., Lipska, B., Kleinman, J., Schmidt, P., and Berman, K. Developmentally-specific interactions between the expression of genes coding for prosocial peptides and dopamine D2 receptor gene expression in the postmortem human brain. Poster presented at the 2014 Society for Biological Psychiatry Annual Meeting, New York, NY.

## Clinical Experience

Sexual Assault Crisis Counselor, *Resilience*
May 2019-Present
Provide emergency legal and medical counseling for individuals presenting to emergency rooms in the Chicago area as the result of a sexual assault.

Volunteer, Bridgeport Free Clinic
September 2016-Present
Provide free primary care services to individuals presenting to the clinic for medical care, including taking histories of present illness, providing physicals, and performing point-of-care medical testing.

Volunteer, NLVS Free Clinic
September 2016-Present
Provide free primary care services to individuals presenting to the clinic for medical care, including taking histories of present illness, providing physicals, and performing point-of-care medical testing.

NIMH Psychiatric Inpatient Unit
October 2013-May 2016
Participation in and supervision of group therapy, individual therapy, and recreational therapy programs. Observation of physician care, medication

management, and diagnosis.

NIH Intensive Care Unit
November 2013-May 2016
Observation of NIH internal medicine physicians during care of inpatients on protocol at the NIH in critical condition.

## Teaching Experience

Instructor, *Horizon Academic Research Program,* 2020
Course Title: Neurobiology of Sleep
Designed course on the possible neurological necessity of sleep. Taught a high-school student and directed an independent research project on the primary literature on the function of sleep.

Teaching Assistant, September 2018-December 2018
Course Title: Human Genetics
Mentored junior graduate students as they developed scientific writing skills, evaluated scientific design, and suggested improvements to the design of proposed research.

Teaching Assistant, September 2018-September 2019
Course Title: Quantitative Analysis Bootcamp
Taught basic programming in R and Unix to 90 incoming biological science graduate students.

Software Carpentry Assistant, January 2019, January 2020
Worked with students in the biological sciences as they learned basic programming in R and Unix.

## Leadership, Mentorship, and Diversity in STEM Advocacy

Mentor, American Physician Scientist Association, 2020-present
Member, BSD Diversity Committee, 2020-present
Member, Graduate Recruitment Initiative Team (GRIT), 2020-present
Dean's Council, University of Chicago Biological Sciences Division, 2017-2019
Student Health Advisory Board, University of Chicago, 2017-2019
Director, Students for a National Health Program (Pritzker chapter), 2016-2017
Mentor, Health Professions Recruitment Program, 2017

## References

Marcelo Nobrega
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Marcus Clark

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Chair, University of Chicago Medical Scientist Training Program
mclark@medicine.bsd.uchicago.edu

Karen Berman, MD
Chief, Section on Integrative Neuroimaging
National Institute of Mental Health
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Shane Kippenhan, Ph.D
Senior Investigator, Section on Integrative Neuroimaging
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