Samantha Baxter
samantha@broadinstitute.org

EDUCATION

Boston University School of Medicine, Boston, MA **September 2005-May 2007**
- Master of Science in Genetic Counseling
- Capstone Project/Thesis: *Interpreters: How and why do they change what genetic counselors are saying?*

Lehigh University, Bethlehem, PA **September 2001-May 2005**
- B.S. Behavioral Neuroscience
- Minor in Psychology

HONORS:
- National Society of Collegiate Scholars 2001-2005

CERTIFICATION/AWARDS

New Leader Award (National Society of Genetic Counselors) **2012**
American Board of Genetic Counseling Certification **2009 - Present**

ACADEMIC APPOINTMENTS

Massachusetts General Hospital Institute of Health Professions **March 2019 – Present**
Adjunct Associate Professor

PROFESSIONAL EXPERIENCE

Broad Institute **July 2018-Present**
Cambridge, MA
Senior Clinical Genomic Specialist, Rare Disease Group (RDG)
- Manage the case review process for all samples proposed to the CMG
- Developed and lead the annual education conference for Broad CMG and ClinGen (https://cmg.broadinstitute.org/course-offering)
- Support various data sharing efforts including Matchmaker exchange and ClinVar
- Launched and maintain the variant curation pipeline for the RDG
- Created and lead the Broad Institute Genetic Counselor Affinity Group

Broad Institute **February 2016-June 2018**
Cambridge, MA
Senior Clinical Project Manager, Center for Mendelian Genomics (CMG)
- Coordinate with collaborators to collect all required data into our custom database and create tools to aid with this process.
- Manage the case review process for all samples proposed to the CMG
- Define requirements for our software development team
- Facilitate communication between various groups within the CMG including computational analysts and collaborating physicians and scientists
- Analyze cases and identify novel genes in families with cardiomyopathy

BRCA Exchange **February 2016 - Present**
Genetic Counselor
- Define requirements for the software development team
- Gatherer specifications for usability of BRCA exchange (www.brcaexchange.com)

GeneInsight **October 2013 - August 2017**
Boston, MA
Director, VariantWire

- Lead quarterly meetings of the VariantWire committee
- Interview and recruit new and potential members of VariantWire
- Submit abstracts for conferences and manuscripts for publication
- Present on behalf of the VariantWire network at public events
- Create and maintain marketing materials including the website (www.variantwire.org)

Partners HealthCare Personalized Medicine **September 2013 – February 2016**
Boston, MA
Application Specialist, GeneInsight

- Facilitated demos of the GeneInsight software to interested parties.
- Researched market trends and identify new opportunity for the business.
- Assisted with reporting by researching significance of variants and drafting test interpretations primarily in the area of cardiomyopathy.

GeneDx at BioReference **September 2011 - August 2013**
Gaithersburg, MD
Senior Genetic Counselor

- Produced marketing/educational material including physician and patient brochures, letters of medical necessity, educational videos for patients and website content.
- Launched the genetics and cardiovascular training programs for a sales team of over 30 individuals.
- Created mock-ups and functionality of web-based genetics tools including but not limited to online ordering and educational resources.
- Project manager for GeneTests's transition to BioReference.
- Planned educational content for local, regional and national conferences on the utility of genetic testing and the impact on the patient and the patient's family's care.
- Engaged with physicians, genetic counselors, and other members of health care teams regarding GeneDx at regional and national conferences.

Partners HealthCare Personalized Medicine **September 2007 - September 2011**
(*Formerly Harvard Partners Center for Genetics and Genomics; Partners Center for Personalized Genetic Medicine*)
Laboratory for Molecular Medicine (LMM)
Cambridge, MA
Genetic Counselor

- Curated variants and drafted test interpretations primarily in the area of cardiomyopathy.
- Assisted with LMM-affiliated research studies including maintaining the IRB protocols, collect, organize and interpret data, act as a liaison between collaborating institutions, and publish original manuscripts.
- Interacted with clinicians and hospitals to assist with appropriate test orders, monitor requests for future test development, and answer questions regarding the LMM and related issues.
- Consulted on GeneInsight Suite development, beta-testing and usability.
- Trained Ph.D. molecular genetics fellows on variant interpretation, clinical implications of test results, clinical manifestations and genetic etiology of cardiomyopathy, and other genetic counseling related topics.

ADVISORY BOARDS

NIH Expert Advisory Committee - Variant Reinterpretation **October 2018 - Present**

- Provide input on ethical, legal and clinical implications of variant reinterpretation for clinical genetic testing

MGH IHP - Advisory Board **September 2017 - Present**

- Provide input on program design and mission

PUBLICATIONS

Posey JE, O'Donnell-Luria AH, Chong JX, Harel T, Jhangiani SN, Akdemir ZHC, Buyske S, Pehlivan D, Carvalho CMB, **Baxter S,** et al, Lupski JR. "Insights into genetics, human biology and disease gleaned from family based genomic studies" Genetics in Medicine. Accepted for Publication

Chanock S, Cline M, Liao RG, Parsons MT, Paten B, Alquaddoomi F, Antoniou A, **Baxter S**, Brody L,Cook-Deegan R , et al., Spurdle AB. "Challenge: BRCA Exchange as a global resource for variants in BRCA1 and BRCA2" PLOS Genetics. Accepted for Publication

Arachchi H, Wojcik MH, Weisburd B, Jacobsen JOB, Valkanas E, **Baxter S**, Byrne AB, O'Donnell-Luria AH, Haendel M, Smedley D, MacArthur DG, Philippakis AA, Rehm HL "matchbox: An open-source tool for patient matching via the Matchmaker Exchange." Hum Mutat. 2018 Dec;39(12):1827-1834. doi: 10.1002/humu.23655.

Neri P, Klinkenberg-Ramirez S, Volk L, Samaha S, Newmark L, Pollard S, Varugheese M, **Baxter S**, Samuel A, Rehm H, Bates D. "Evaluation: A Qualitative Pilot Study of Novel Information Technology Infrastructure to Communicate Genetic Variant Updates" *Appl Clin Inform.* 2016 Jun 1;7(2):461-76

Alfares AA, Kelly MA, McDermott G, Funke BH, Lebo M, **Baxter S**, Shen J, McLaughli , Clark EH, Babb L, Cox S, DePalma S, Ho C, Seidman JG, Seidman, CE, Rehm HL, "Results of Clinical Testing of 2912 Probands with Hypertrophic Cardiomyopathy" *Genet Med.* 2015 2015 Jan 22

Baxter S, Funke BH "Molecular Pathology in Clinical Practice; Chapter 17: Cardiovascular disease" Second edition *Springer Publishing*. Editors: Debra Leonard, MD and Elaine Lyons, PhD. (February 2016)

Lebo M, **Baxter S** "Clinics in Laboratory Medicine; New Molecular Genetic Tests in the Diagnosis of Heart Disease" Edited by Kent B. Lewandrowski Volume 34, Issue 1, Pages 137-156 (March 2014)

Pugh T, Kelly M., Gowrisankar S, Aaron D, **Baxter S**, Bowser M, Duffy E, Farwell L, Harrison B, Lakdawala N, McDermott G, Seidman M, White E, Rehm H, Lebo M, Funke B. "Enroute from genes to genomes: The landscape of genetic variation in dilated cardiomyopathy as surveyed by clinical DNA sequencing" *Genet Med*. 2014 Aug;16(8):601-8

Middleton O, **Baxter S**, Demo E, Honeywell C, Jentzen J, Miller F, Pinckard K, Reichard R, Rutberg J, Stacy C and MacLeod, H. "National Associate for Medical Examiners Position Paper on Retaining Postmortem Samples for Genetic Testing". *Acad Forensic Pathol* 2013 3(2): 191-194

Lakdawala NK*, Funke BH*, **Baxter S**, Cirino AL, Roberts AE, Judge DP, Johnson N, Mendelsohn NJ, Morel C, Care M, Chung WK, Jones C, Psychogios A, Duffy E, Rehm HL, White E, Seidman JG, Seidman CE, Ho CY. "Genetic testing for dilated cardiomyopathy in clinical practice." *J Card Fail.* 2012 Apr;18(4):296-303.

Neri PM, Pollard SE, Volk LA, Newmark LP, Varugheese M, **Baxter S**, Aronson SJ, Rehm HL, Bates DW. "Usability of a novel clinician interface for genetic results." *J Biomed Inform* 2012 (in press).

Aronson S, Clark E, Babb L, **Baxter S**, Farwell L, Funke B, Hernandez AL, Joshi V, Lyon E, Parthum A, Russell F, Varugheese M, Venman TC, Rehm HL "The GeneInsight Suite: A Platform to Support Laboratory and Provider Use of DNA based Genetic Testing" *Human Mutation* 2011 Hum Mutat. 2011 May; 32(5): 532–536.

Jordan D*, **Baxter S***, Kiezun A*, Lebo M, Sunyaev S, Funke B. "Development and validation of a computational method for assessment of missense variants in hypertrophic cardiomyopathy." *American Journal Human Genetics* 2011 Feb 11;88(2):183-92

Zimmerman R, Cox S, Lakdawala N, Mancini-DiNardo D, Clark E, Leon A, Duffy E, White E, **Baxter S**, Alaamery M, Farwell L , Weiss S, Seidman C, Seidman J.G., Ho C, Rehm H, Funke B "A Novel Custom Resequencing Array for Dilated Cardiomyopathy" *Genetics in Medicine.* 2010 May; 12(5):268-78.

Caleshu C, Day S, Rehm H, **Baxter S.** "Use and interpretation of genetic tests in cardiovascular genetics" *Education in Heart*. 2010 October; 96(20):1669-75

Demo E, Skrzynia C, **Baxter S**. "Genetic Counseling and Testing for Hypertrophic Cardiomyopathy: the Pediatric Perspective" *Journal of Cardiovascular Translational Research (JCTR)*. 2009 Dec; 2(4):500-7

Skrzynia C, Demo E, **Baxter S**. "Genetic Counseling and Testing for Hypertrophic Cardiomyopathy: An Adult Perspective" *Journal of Cardiovascular Translational Research (JCTR)*. 2009 Dec; 2(4):493-9

Baxter S, Lakdawala N, Duffy E, Kucherlapati R, Seidman J, Seidman C, Ho C, Funke BH. "Clinical sequencing of nine genes involved in dilated cardiomyopathy (DCM)" Presented at the annual meeting of the *American College of Medical Genetics*, March 2009, Tampa, Florida.

Baxter, Samantha "Genetic Basis of Cardiomyopathy. A Guide for Patients and Families" Partners Center for Personalized Genetic Medicine, Cambridge, MA. (2008; 2011)

**Contributed equally*

PRESENTATIONS/POSTERS

Klee E, Lincoln S, Shirts B, **Baxter S** "New Developments in Testing Methods and Bioinformatics" National Society of Genetic Counseling Annual Education Conference. 2018 (Presentation)

Weisburd B, Snow H, Solomonson M, Arachici H, **Baxter S**, O'Donnell-Luria AH, Rehm HL, Daly M, MacArthur D "seqr: scaling rare disease genomics to tens of thousands of samples" American Society of Human Genetics. 2018 (Poster)

Baxter S "The Use of Clinical Information in Data Analysis" Interpreting Genomes for Rare Disease: Variant and Gene Interpretation. 2018 (Presentation)

Baxter S "Planning for professional development" Festival of Genomics. 2016 (Presentation)

Baxter S "Discovery of Novel Genes in the Era of Genomics" Boston University Genetic Counseling Conference. 2016 (Presentation)

Baxter S, Oates M, White S, Rehm H, Lyon E, Edelmann L, Lerner-Ellis J, Lebo M, Carson N, Aronson S**,** "Supporting the Free Exchange of Clinical Laboratory Variant Data Through VariantWire" American Society of Human Genetics. 2014 (Poster)

Baxter S "Review of the Genetics of Hypertrophic Cardiomyopathy" National Society of Genetic Counseling Annual Education Conference. 2014 (Presentation)

MacLeod H, Leighton J, Lynch K, Kelly M, Dolinsky J, Singleton A, **Baxter S**, "Review of Postmortem Clinical Genetic Testing Sample Success Rates and Payors from Commercial Labs" Heart Rhythm Society Annual Conference. 2014 (Poster)

Baxter S, Smaoui N, Retterer K, Chinault C, Scuffins J, Macaya D, Richard G, Bale S, Chung WK. "Performance Of Whole Exome Sequencing On 109 Cardiovascular Genes Including Cardiomyopathies, Arrhythmias, and Heterotaxy." Heart Rhythm Society Annual Conference. 2013 (Poster)

Baxter S, Daly A, Macaya D, Smaoui N, Richard G, Chung W. "Distribution of sarcomere vs. non-sarcomere gene mutations across over 2400 hypertrophic and dilated cardiomyopathy patients" American Society of Human Genetics. 2012 (Poster)

Baxter S, Maron M. "HCMA Boot Camp" HCMA 15th Annual Meeting. 2012(Presentation)

Baxter S, Davies J, Dewey F, Strickland O. "Cardiovascular-OMICS: The Impact of Genomics on Personalized Cardiovascular Medicine" National Society of Genetic Counseling Annual Education Conference. 2011 (Presentation)

Warren N**, Baxter S**, Greer T, Harrison B, Noblin S. "Diversity, Cultural Competence and Genetic Counseling" National Society of Genetic Counseling Annual Education Conference. 2011 (Presentation)

Baxter S, Lakdawala N, Cirino A, Seidman JG, Seidman CE, Ho C, Rehm HL, Funke BF. "Variant Present in HCM and DCM Patients: Phenotypic Plasticity or Indication for a Benign Role?" American College of Medical Genetics and Genomics. 2011 (Poster)

Funke B, Pugh T, Gowrisankar S, Lerner-Ellis JP, White E, Duffy E, **Baxter S**, Weiss ST, Farwell LM, Rehm HR. "Clinical validation of a next-generation sequencing test for inherited cardiomyopathies" American College of Medical Genetics and Genomics. 2011 (Poster)

Adams S, **Baxter S**, Ruschman J, Shooner K, Thrush D. "Microarrays: Tools for Genetic Counselors" National Society for Genetic Counselors Annual Educational Conference. 2009 (Presenter)

Baxter S. "How to make the most of the AEC." First time-attendee/student orientation. National Society for Genetic Counselors Annual Educational Session. 2008 - 2009 (Presenter)

Rehm H, **Baxter S**, Lovelette A, Milunski J. "Too many tests, not enough answers: Challenges in Laboratory Test Interpretation" New England Regional Genetics Group Annual Meeting. 2008 (Presentation)

TEACHING EXPERIENCE

Baxter S. "Adult Cardiovascular Genetics" Boston University School of Medicine Genetic Counseling Program. 2013-2016 (Guest lecturer)

Baxter S. "Adult Cardiovascular Genetics" Brandeis University Genetic Counseling Program. 2013-2016 (Guest lecturer)

Baxter S. "Adult Cardiovascular Genetics" University of Maryland School of Medicine Genetic Counseling Program. 2012 (Guest lecturer)

Baxter S. "Adult Cardiovascular Genetics" University of Utah Genetic Counseling Program. 2012 (Guest lecturer)

Baxter S. "Transitioning into the GC Profession." Boston University Genetic Counseling program. 2010-2013 (Guest lecturer)

PROFESSIONAL ASSOCIATION MEMBERSHIPS

- National Society of Genetic Counselors (NSGC) **January 2006-Present**
  - Cardiology SIG, member *2008-Present*
    - Contribute to projects such as the marketing tools for cardio GCs, CV SIG sponsored publications and presentations.
    - Co-Chair of Postmortem Working Group
      - Developed and designed a website for education on post-mortem genetic testing: www.nsgc.org/Postmortem
      - Lead initiative for "on-call" genetic counselors via postmorem@nsgc.org; provides support to medical examiner, allied professionals, and families around postmortem genetic testing

        - Co-author on Postmortem Genetic Testing/DNA Banking NSGC/NAME guidelines
    - Online Course Committee *2015-2017*
    - Board of Directors, Member at Large *2013-2014*
    - Health IT SIG, member *2014-2016*
        - Developed Health IT survey on use of IT systems in cardiovascular clinics
        - Participated in development of a IT webinar for NSGC
    - Personalized Medicine SIG, member *2012-2013*
        - Submitted and received acceptance for a PM SIG sponsored presentation for the 2012 AEC.
    - PSS sub-committee, Co-Chair/Chair *2010-2012*
    - Diversity sub-committee, member *2010-2012*
    - Membership Committee, Chair *December 2010-November 2011*
    - Membership Committee, Vice Chair *December 2009-November 2012*
    - New Genetic Counselor/Student SIG, Founder/Chair *January 2008-December 2009*
    - First time-attendee/student orientation sub-committee *2008-2010*
    - AEC Short Course 2007 Committee Member *2007*
    - Boston University's writer for Region 1 Perspectives *January 2006-May 2007*

CONTINUING EDUCATION

- Health Informatics on FHIR, Georgia Institute of Technology January 2019
- Logic and Computational Thinking (DEV262x), Microsoft February 2019