Gholson J. Lyon, M.D., Ph.D.

Contact Information
Cold Spring Harbor Laboratory: Genome Center
500 Sunnyside Boulevard
Woodbury, New York 11797
Phone: 646-872-1219
Email: gholsonjlyon@gmail.com
Lab Website: http://lyonlab.cshl.edu/

Vision
The Lyon lab is interested in the scientific problem of how genetic background and environmental perturbation influence phenotypic differences, particularly in severe neuropsychiatric disorders. We focus on the discovery of families with rare diseases and/or increased prevalence for syndromes such as intellectual disability and autism. This has led to the discovery of several new genetic syndromes, including Ogden Syndrome, RBCK1 Syndrome, and most recently TAF1 Syndrome. This latter syndrome presents with severe intellectual disability (ID), a characteristic intergluteal crease, and very distinctive facial features. Once we identify mutations that likely contribute to a disease, we undertake detailed functional studies of these mutations and the biological processes affected. As an example of this, we are currently elaborating in detail the mechanistic basis of Ogden Syndrome, which is the first human disease involving a defect in the N-terminal acetylation of proteins, a common (yet vastly understudied) modification of eukaryotic proteins carried out by N-terminal acetyltransferases (NATs). We are using several different model systems, including yeast, mice and mammalian cells, to better understand the disease pathophysiology and the basic processes of N-terminal acetylation.

Education
- 2003 – 2004 (Cornell/Rockefeller/Sloan-Kettering M.D., Ph.D. Program)
- 1997 – 1999 & M.D., Medicine, Weill Cornell Medical College, New York, NY
- 1999 – 2003 Ph.D., Chemical Biology, Rockefeller University, New York, NY
- 1996 – 1997 M.Phil., Genetics, Christ's College, University of Cambridge, England, UK
- 1992 – 1996 B.A., Biochemistry, Dartmouth College, Hanover, NH

Postdoctoral Training
- 2007 – 2009 Residency in Child and Adolescent Psychiatry
  NYU Child Study Center, New York, NY
  Bellevue Hospital, New York, NY
  Rockland Children's Hospital, Orangeburg, NY
- 2005 – 2007 Residency in Adult Psychiatry
  Columbia Presbyterian Hospital, New York, NY
  New York State Psychiatric Institute, New York, NY
- 2004 – 2005 Internship in Medicine and Psychiatry
  Columbia Presbyterian Hospital, New York, NY

Research Appointments
- 2012 – present Assistant Professor, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY
- 2010 – present Research Scientist, Utah Foundation for Biomedical Research, Institute for Genomic Medicine, Salt Lake City, UT
- 2009 – 2010 Clinical Instructor, Department of Psychiatry, University of Utah, Salt Lake City, UT

Clinical Appointments
- 2016 – present Psychiatrist (part-time), at Sagamore Children's Center, treating children and adolescents with neuropsychiatric disorders

- 2016 – present Psychiatrist (part-time) at YAI, Premiere Health Care, treating children, adolescents and adults with intellectual disability and/or autism
- 2011 – 2014 Clinician, outpatient practice (part-time), including admitting patients, managing medications, Steinmann Institute, Salt Lake City, UT
- 2011 – 2012 Consulting Psychiatrist for Residential Treatment Program (part-time), including medication management, Discovery Academy, Provo, UT
- 2011 – 2012 Psychiatrist, outpatient practice, med management and therapy (part-time) Clinical Methods, Salt Lake City, UT
- 2009 – 2010 Inpatient Attending Psychiatrist, served in inpatient child, adolescent and adult practice, Neuropsychiatric Institute, University of Utah, Salt Lake City, UT
- 2009 – 2010 Psychiatrist in outpatient child, adolescent and adult practice, University of Utah, Salt Lake City, UT
- 2007 – 2009 Private Practice, Psychiatry (part-time) 1036 Park Avenue, Suite 1B, New York, NY 10028
- 2007 – 2008 Psychiatrist (part-time) for evaluations for children and adolescents NYC Administration for Children's Services, New York, NY
- 2007 – 2008 Psychiatry Attending (part-time) NYU Tisch ER for NYU Undergraduate Students, New York, NY
- 2006 – 2009 Attending Psychiatry (part-time), covering ER and inpatient Mt. Vernon Hospital, Mt. Vernon, NY
- 2006 – 2007 Attending Psychiatry (part-time), covering Emergency Room St. Joseph's Hospital, Yonkers, NY

Licensure and Certification

- 2010 – present Board-certified, Child and Adolescent Psychiatry Diplomate of the American Board of Psychiatry and Neurology, Certificate #7088, April 2010
- 2009 – present Board-certified, Psychiatry Diplomate of the American Board of Psychiatry and Neurology, Certificate #59700, April 2009
- 2009 – present Utah State License #7291583-1205 and – 8905
- 2006 – present New York State License #237203-1
- 2006 – present Drug Enforcement Administration (DEA) licensure, #FL3191676

Awards and Honors

- 2014 Invited Speaker at the NIGMS Medical Scientist Training Program 50th Anniversary Symposium, One out of Four Invitees, NIH, Bethesda, MD
- 2012 Sage Bionetworks Commons Congress Young Investigator Award
- 2009 APIRE/Wyeth Pharmaceuticals M.D./ Ph.D. Research Award
- 2008 AACAP Outstanding Child and Adolescent Psychiatry Resident Award
- 2007 AACAP Pilot Research Award for Attention Disorders for a Junior Faculty or Child Psychiatry Resident, Elaine Schlosser Lewis Fund
- 2003 – 2004 Papanicolaou Medical Scientist Fellowship
- 1997 – 2004 NIH-Sponsored Medical Scientist Training Program (MSTP) Award
- 1996 – 1997 Rotary International Ambassadorial Scholar University of Cambridge, England, UK
- 1996 Christopher G. Reed Award for Undergraduate Senior Thesis Department of Biology, Dartmouth College, Hanover, NH
- 1996 Phi Beta Kappa, summa cum laude
- 1995 Federation of German American Clubs Scholarship One-year study in Germany - Declined Scholarship
- 1992 – 1996 David T. Hedges Memorial Scholarship Dartmouth College, Hanover, NH
- 1993 Rufus Choate Scholar Dartmouth College, Hanover, NH

- 1993 – 1994 World Affairs Scholarship for Study
  Dartmouth College, Hanover, NH
- 1993 – 1996 Marshall O'Bell Scholarship
  San Antonio Area Foundation for College Education

Awards and Honors to my students

- 2016 Jason O'Rawe selected to give Provost Graduate Student lecture at Stony Brook University
- 2016 Graduate student Jason O'Rawe nominated for Regeneron Prize for Creative Innovation. One of two graduate students selected university-wide at Stony Brook for the nomination.
- 2016 AAAS (the American Association for the Advancement of Science)/Science Program for Excellence in Science, to Yiyang Wu
- 2016 Sigma Xi Student Travel Awards, Sigma Xi Scientific Research Society, to Yiyang Wu
- 2016 Featured Poster, the Heart Rhythm Society's 37th Annual Scientific Sessions. Heart Rhythm Society. San Francisco, CA, for Yiyang Wu
- 2016 Student Travel Grant, CiRA/ISSCR 2016 International Symposium. Kyoto University. Kyoto, Japan, for Yiyang Wu
- 2016 Distinguished Travel Award, Stony Brook University, NY, for Yiyang Wu
- 2015 Summer Institute in Statistics for Big Data Scholarship 2015, to Han Fang
- 2015 Reviewer's choice - ASHG 2015, to Han Fang, for poster
- 2015 Resource Access Project Award, Stony Brook University, NY, for Yiyang Wu

Committee Assignments or Other Duties

- February 2015 Stony Brook Genetics program, examiner for Genetics qualifier
- 2014 – present CSHL Faculty Representative to the Stony Brook Genetics Program Executive Committee
- Winter 2013 Stony Brook Admission Committee for Molecular and Cellular Biology
- Winter 2013 Stony Brook Admission Committee for Genetics
- October 2012 Consultant for Staffers for the Presidential Commission for Bioethics on their report on "Privacy and Progress in Whole Genome Sequencing"
- 2012 - present Member of Stanley Institute for Cognitive Genomics Seminar Selection Committee
- 2010 - present Personal Genome Project (PGP) Participant
- June 2010 Clinical and Translational Science Award (CTSA) Focus Group
  University of Utah, Salt Lake City, UT
- 2009 - 2010 Interviewer for M.D. / Ph.D. Applicants
  University of Utah, Salt Lake City, UT
- 2009 - 2010 Interviewer for Graduate Student Applicants
  Department of Neuroscience, University of Utah, Salt Lake City, UT
- 2009 - 2010 Retention, Promotion, Tenure Committee
  Department of Psychiatry, University of Utah, Salt Lake City, UT
- 2007 - 2008 Interviewer for Residency Applicants at NYU Child Study Center
- 2006 - 2007 Columbia Presbyterian Hospital Emergency Room Task Force
- 2005 - 2007 Columbia House Staff-Sponsored Grand Rounds Selection Committee

Memberships, Offices, and Committee Assignments in Professional Societies

- 2014-present Genetics Society of America (GSA)
- 2014-present New York Academy of Sciences (NYAS)
- 2013-present Human Genome Organisation (HUGO)
- 2010-present Human Genome Variation Society (HGVS)
- 2009-present American Society of Human Genetics (ASHG)
- 2008 - 2010 Society for Neuroscience (SFN)
- 2008 - 2012 Collegium Internationale Neuro-Psychopharmacologicum (CINP)
- 2007 - 2009 American Neuropsychiatric Association (ANPA)

- 2007 - 2015 American Academy of Child and Adolescent Psychiatry (AACAP)
- 2004 - 2010 American Psychiatric Association (APA)
- 2004 - present American Association for the Advancement of Science (AAAS)
- 2000 - 2004 American Society for Microbiology (ASM)
- 2000 - 2004 American Chemical Society (ACS)

Journal Editorial Boards

- 2014 – present Molecular Case Studies
- 2012 – present Frontiers in Genetics

Reviewing Activities

Peer reviewer *(with number of papers reviewed per journal, >20 journals, >50 papers)*

American Journal of Human Genetics (2)
American Journal of Psychiatry (3)
AIMS Genetics (1)
Apoptosis (1)
BMC Medical Genetics (1)
Clinical Respiratory Journal (1)
Expert Review of Molecular Diagnostics (1)
Genome Biology (1)
Genome Research (1)
Journal of ADHD Research (1)
Journal of Clinical Psychiatry (3)
Journal of Medical Genetics (1)
Journal of Personalized Medicine (1)
Molecular Case Studies (5)
Nature Methods (3)
Open Journal of Neuropsychopharmacology (1)
Personalized Medicine (1)
PNAS (1)
Scientific Reports (1)
Trends in Genetics (1)
American Journal Of Medical Genetics Part B (1)
BMC Genomics (2)
BMC Medical Genomics (1)
Bioinformatics (1)
Cancer Research (1)
European Child & Adolescent Psychiatry (1)
Genome Medicine (2)
Interface Focus (1)
International Journal of Neuroscience (1)
Journal of Child and Adolescent Psychopharmacology (3)
Journal of Clinical Psychopharmacology (5)
Journal of Healthcare Engineering (1)
Neurogenetics (1)
Nature Protocols (1)
PeerJ (2)
PLOS Genetics (3)
Psychiatry Research (3)
Studies in History and Philosophy of Biological and Biomedical Sciences (1)

Grant Peer Reviewer

Keck Foundation, *ad hoc* reviewer, 2013
Medical Research Council, *ad hoc* reviewer, 2014
AAAS Joint Center Proposal, *ad hoc* reviewer, 2014
Wellcome Trust, *ad hoc* reviewer, 2014
KU-Leuven, *ad hoc* reviewer, 2014

Conference Abstract Peer Reviewer

European Society of Human Genetics, *ad hoc* reviewer, 2015 *(184 abstracts ranked)*

Preprint Servers

Affiliate and Clinical Affiliate Member- BioRxiv, 2015-present, involved in screening >70 papers for posting, including more detailed assessment of clinically relevant papers that could endanger public health.

Scientific and/or Medical Consulting or Advisory Boards

- 2016 - present Seven Bridges Genomics, Scientific Advisory Board Member
- 2016 - present Genos Research, Inc., consultant
- 2015- present KBG Syndrome Foundation, Advisory Board Member
- 2015 Good Start Genetics, Inc., consultant
- 2015 Frontline Genomics, UK, Scientific Advisory Board Member
- 2015 GTC's 5th Annual Next Generation Sequencing Conference, May 21-22, 2015, Boston
- 2014 – present Omicia, Inc., Scientific Advisory Board Member

- 2014 GTC's 4th Annual Next Generation Sequencing Conference, Jun 19-20, 2014, San Diego, CA
- 2013 Clinical Exome Sequencing Meeting, Dec 4-5, 2013, Lisbon, Portugal
- 2013 – present GenePeeks, Inc., Medical Advisory Board Member
- 2013 GTC's Next Generation Sequencing Conference, Advisor, Oct 7– 11, 2013, Berlin, Germany

Invited Workshops, Panels and Events

- 2014 National Academy of Sciences Journal Summit, Panelist on Researcher Views of the Publishing Process and Industry, Mar 2014, Washington, D.C., MD

Teaching, Mentoring, and Public Education Experience

- 2016 CSHL Podcast: Base Pairs Episode 1: From phages to faces http://labdish.cshl.edu/2016/06/15/base-pairs-episode-1-from-phages-to-faces/
- 2016 Judge for ASHG 2016 DNA Day Essay Contest - Second Round Judging
- 2016 Lecture to New York Institute of Technology School of Osteopathic Medicine, class of medical students, invited by Dr. David Tegay
- 2015 The Biomedical & Life Sciences Collection Henry Stewart Talks. "Human genetic variation and the genotype-phenotype problem", online videos, http://hstalks.com/main/view_talk.php?t=3091&r=494&c=252_ & http://hstalks.com/main/view_talk.php?t=3092&r=494&c=252. *(Jul)*
- 2014-2016 Annual Lecture to Stony Brook University GE510: Graduate Genetics Students, "Human Genetics and the Genotype-Phenotype Problem." *(Dec)*
- 2014 Lecture to Stony Brook University Undergraduate Psychology Students on Molecular Psychology, Stony Brook, NY. *(Nov)*
- 2014-2015 Annual lecture to Stony Brook University Chemical Biology Graduate Students on Post-translational Modifications, "N-terminal acetyltransferases and Translation" *(Oct)*
- 2014 Lecture to Watson School Graduate Students on Human Genetics, Cold Spring Harbor, NY, "Human Genetic Variation and the Genotype-Phenotype Problem" *(Sept)*
- 2013-2016 Annual lecture to Clinical and Research Genomics Class, Weill Cornell Medical College, Hosted by Chris Mason, "Whole Genome Sequencing"
- 2014 North Shore LIJ, Huntington Hospital, Grand Rounds, Speaker, "Deep Brain Stimulation, Psychiatric Genetics, and iPS cell models of disease"*(Jan)*
- 2013 Dinner Meeting and Presentation to Stony Brook University M.D. / Ph.D. Students, Career Advice *(Sept)*
- 2013 NGS-Translate, Boston, USA, Workshop on Genomic Analysis, Invited Instructor, "Exome and Genome Sequencing" *(May)*
- 2012 Stony Brook University, Department of Psychiatry, "Genetics and Genome Sequencing of Childhood-Onset Neuropsychiatric Disorders" *(Dec)*
- 2012 Podcast for Rare Genomics Institute on Clinical Genomics, Educating the Public on the use of Clinical Exome Sequencing *(Oct)*
- 2012 Journal Club with Psychiatry Residents and Faculty, Stony Brook, Department of Psychiatry *(Sept)*
- 2012 Lecture to Cold Spring Harbor President's Council, Ethics in Human Genetics Research *(Spring)*
- 2011 Lecture for General Public on "Tourette Syndrome", Salt Lake City Public Library; One hour *(Oct)*
- 2010 Lecture to Adult and Child Psychiatry Residents, Tourette Disorder; One hour *(Sept)*
- 2009 Lecture to Adult and Child Psychiatry Residents, Tourette Disorder; One hour *(Sept)*
- 2007 Journal Club for Third-Year Medical Students; 2 hours/week *(Spring)*
- 2006 Evidence-Based Psychiatry for Medical Students; 3 hours/week *(Spring)*

- 2005 Psychiatry Interviewing Class for Medical Students; 2 hours/week *(Fall)*
- 2003 Gateways Minority Students Program, Leading Undergraduate Minority Students through hospital experiences; 3 hours/week *(Summer)*
- 2001 - 2003 Trained Undergraduate Students, Graduate Students and Postdoctoral Fellows in Peptide Chemistry, HPLC, Mass Spectrometry, Molecular Biology, Protein Expression/Purification, Native Chemical Ligation and Bioassays; 10 hours/week
- 1999 - 2002 Host Defenses Weill-Cornell Medical College; 1st Year Medical Student's 1 hour session per week for 8 weeks each year, not including preparation time.
- 1999 - 2002 Genes and Development, Weill-Cornell Medical College; 1st Year Medical Students, 1 hour session per week for 8 weeks each year, not including preparation time.
- 1999 - 2002 Molecules to Cells Weill-Cornell Medical College, 1st Year Medical Students, 1 hour session per week for 8 weeks each year, not including preparation time.
- 1995 Molecular Biology, Teaching Assistant, Dartmouth College; 5 hours/week (Summer)
- 1994 System Dynamics, Teaching Assistant, Dartmouth College; 10 hours/week (Fall)

Supervision of Students, Employees, Post-Doctoral Fellows

- 2006 – 2009 Supervision and Mentoring of Third and Fourth Year Medical Students on the Inpatient Child, Adolescent, and Adult Psychiatry Wards, and at the Columbia Intensive Outpatient Program (IOP).

High School Students

▪ Robert Kleyner	2015 - 2016	▪ Noah Davis	2014 - 2015
▪ Chris Tapia	2015 - 2016	▪ Jillian Ho	2014 - 2015
▪ Rahul Chaudhry	Summer 2014	▪ Sahil Chaudhry	Summer 2014
▪ Constantine Hartofilis	2014 - 2015	▪ Alexander Ambrosini	Summer 2011

Undergraduate Students

▪ Alexandra Solowinska	Fall 2016		
▪ Ahmed Ismali	Summer 2016	▪ Lilian Guo	Summer 2016
▪ Alison Sebold	Summer 2016	▪ Taylor Marmorale	Summer 2016
▪ Jasmine Johnson	Summer 2015	▪ Jake Weiser	Summer 2014, Summer 2015
▪ Syndi Barish	Summer 2014	▪ Emily Kahoud	Summer 2013
▪ Laura Jimenez Barron	2013 - 2015	▪ Prashant Kota	Summer 2012, Summer 2013
▪ Catherine Chinwe Olumba	2009 - 2010	▪ Christopher Toyn	2009 - 2010
▪ Katrina Swaringen	2009 - 2010	▪ Solongo Tuya	2009 - 2010

Technicians

▪ Jonathan Crain	Feb 2015 - present	▪ Heidi Fain	Jun 2010 - Aug 2011

Staff Members, Assistants, Volunteers

▪ Janet Malcolmson	Aug 2015 - present	▪ Margaret Yoon	Dec 2014- Jul 2015
▪ Leone Lobendahn	Aug 2011 – Dec 2011	▪ Joshua Hansen	Aug 2011 – Dec 2011
▪ April Slater	Mar 2010 – Nov 2010	▪ Andrea Ewadinger	Jun 2010 – Sept 2010
▪ Jubel Morgan	Jul 2009 – Sept 2010		

Master's and PhD Graduate Students

▪ Han Fang, Ph.D. Student	Sept 2014 - present	▪ Jesse Levine, Rotation, SBU	Summer 2013
▪ Jason O'Rawe, Ph.D. Student	Jul 2013 – August 2016	▪ Michael Klingener, Rotation, SBU	Winter 2012
▪ Yiyang Wu, Ph.D. Student	Summer 2012-present	▪ Lingyang Xing,Utah, Rotation	Spring 2010

Analysts and Postdoctoral Fellows

▪ Han Fang	Jun 2013 – August 2014	▪ Jason O'Rawe	May 2012 – Jun 2013
▪ Max Doerfel	Nov 2012 - present		

Clinical Trials

▪ 2011 – 2012	Pediatric Bipolar I Disorder	Sub-Investigator	A 26-Week Open Label, Flexible-Dose Trial of Asenapine Extension Treatment to P06107 in Pediatric Acute Manic or Mixed Episodes Associated With Bipolar I Disorder
▪ 2011 – 2012	Pediatric Bipolar I Disorder	Sub-Investigator	Efficacy and Safety of 3-Week Fixed-Dose Asenapine Treatment in Pediatric Acute Manic or Mixed Episodes Associated with Bipolar I Disorder
▪ 2011 – 2012	Adolescent Schizophrenia	Sub-Investigator	An 8-week, placebo-controlled, double-blind, randomized, fixed-dose efficacy and safety trial of asenapine in adolescent subjects with schizophrenia
▪ 2011 – 2012	Adolescent Schizophrenia	Sub-Investigator	A 26 week, multi-center, open-label, flexible dose, long-term safety trial of asenapine in adolescent subjects with schizophrenia
▪ 2011 – 2012	Tourette Syndrome	Sub–Investigator	A Multicenter, Randomized, Double-blind, Placebo-controlled Study Evaluating the Safety and Efficacy of Flexible Dose Once-weekly Aripiprazole in Children and Adolescents with Tourette's Disorder
▪ 2009 – 2011	Bipolar I Disorder	Sub–Investigator	Study to Assess the Safety and Efficacy of Olanzapine and Fluoxetine Combination Versus Placebo in Patients Ages 10 to 17 in the Treatment of Major Depressive Episodes Associated with Bipolar I Disorder
▪ 2007 – 2009	Tourette Syndrome	Sub-Investigator	A Multicenter, Randomized, Double-blind, Placebo-controlled Study of Pramipexole for Tourette Syndrome
▪ 2007 – 2009	Tourette Syndrome	Sub-Investigator	Open Label Study of Aripiprazole in youth with Tourette Syndrome (Investigator-Initiated with Barbara Coffey)

Research Support
Ongoing Research Support

07/01/11 – 03/18/17
Stanley Gift – T&V Stanley, The Stanley Center for Cognitive Genomics at CSHL
Research Support
Role: Principal Investigator
Amount: $2,185,943

07/01/14 – 06/30/16
Stanley Gift – T&V Stanley, The Stanley Center for Cognitive Genomics at CSHL – Genetics
Research Support
Role: Principal Investigator
Amount: $400,000

11/17/14 – present
Omicia Inc., Omicia SAB Board
Donation for Research Support
Role: Principal Investigator
Amount: $10,000 annually

01/01/16 - 12/31/17
Collaborative Center for X-linked Dystonia Parkinsonism (CCXDP)
"Exploring transcriptomopathy syndromes related to X-liked dystonia parkinsonism and TAF1"
Role: Principal Investigator
Amount: $539,931

09/01/16 – 08/31/2017
Cornelia de Lange Syndrome Foundation
"Genetic analysis of a new Cornelia de Lange-like Syndrome (CdLS), involving mutations in TAF1"
Role: Principal Investigator
Amount: $15,000

10/01/16 - present
Seven Bridges Genomics, Inc., Scientfic Advisory Board
Donation for Research Support
Role: Principal Investigator
Amount: $10,000 annually

Completed Research Support
08/01/13 – 07/31/15
29919/TSA, Tourette Syndrome Association
"Genotype and phenotype analysis in large extended pedigrees with Tourette's syndrome and/or tics
Copy number variant and linkage analysis of several large pedigrees in Utah"
Role: Principal Investigator
Amount: $75,000

07/2008 – 07/2011
Tourette Syndrome Association
"Response inhibition with and without dexmethylphenidate in behavior therapy intervention for tics in children and adolescents with attention deficit hyperactivity disorder and Tourette's disorder or chronic motor/vocal tic disorder"

Role: Co-Investigator; PIs were Barbara Coffey, M.D., M.S., and Douglas Woods Ph.D., other co-investigator was Francisco Xavier Castellanos, M.D
Amount: $150,000

07/2008 – 07/2010
Tourette Syndrome Association
Functional connectivity of Tourette Syndrome: A pilot study.
Role: Co-Investigator; PI is Francisco Xavier Castellanos, M.D., and other co-investigators were Michael Miham, M.D., Ph.D., Barbara Coffey, M.D., M.S., and Bharat Biswal, Ph.D.
Amount: $75,000.

07/2009 – 07/2010
2009 APIRE/Wyeth Pharmaceuticals M.D. / Ph.D. Research Fellowship
Role Principal Investigator
Amount $45,000

Pending Research Support

R01
NICHD
"Systematic analysis of severe developmental delay syndromes with neurologic, craniofacial and cardiac defects"
Role: Principal Investigator

March of Dimes
"Systematic analysis of "transcriptomopathy" syndromes with craniofacial, skeletal and cardiac defects."
Role: Principal Investigator

Preprints

2. Fang H, Wu Y, Jiménez-Barrón LT, O'Rawe JA, Highnam G, Mittelman G, **Lyon GJ**[#]. (2016). Whole genome sequencing of one complex pedigree illustrates challenges with genomic medicine. (manuscript submitted).

1. Yang H, Chen G, Lima L, Fang H, Jimenez-Barron LT, Li M, **Lyon GJ**, He M[#], Wang K[#]. (2016) PennCNV-Hadoop: Accurate Detection of Copy Number Variation from Whole Genome Sequencing Data *(Manuscript submitted).*

Primary Data Peer-Reviewed Publications (as a Principal Investigator)
([#]denotes corresponding author(s); grey highlight denotes primary publications, defined as those on which I am senior author, co-senior author, first author, or co-first author)

45. Dörfel MJ, Fang H, Crain J, Klingener M, Weiser J, **Lyon GJ**[#]. Proteomic and genomic characterization of a yeast model for Ogden Syndrome. Yeast. 2016 Sep 26. doi: 10.1002/yea.3211. [Epub ahead of print], PMID: 27668839.

44. Darrow S, Hirschtritt ME, Davis LK, Illmann C, Osiecki L, Grados M, Sandor P, Dion Y, King R, Pauls D, Budman CL, Cath DC, Greenberg E, **Lyon GJ**, Yu , D, McGrath LM, McMahon WM, Lee PC, Delucchi KL, Scharf JM[#], Mathews CM[#], and the Tourette Syndrome Association International Consortium for Genetics, Identification of Two Heritable Cross-Disorder Endophenotypes for Tourette Syndrome, American Journal of Psychiatry, appi.ajp.2016.16020240, 2016 Nov 4:appiajp201616020240. [Epub ahead of print], PMID: 27809572

43. Kleyner R, Malcolmson J, Tegay D, Ward K, Maughan G, Nelson L, Wang K, Robison R, **Lyon GJ#.** (2016). KBG syndrome involving a single base insertion in ANKRD11, Cold Spring Harb Mol Case Stud. 2016 Nov;2(6):a001131. PMID: 27900361.

42. Malcolmson J, Kleyner R, Tegay D, Adams W, Ward K, Coppinger J, Nelson L, Meisler MH, Wang K, Robison R, **Lyon GJ#**. (2016) SCN8A Mutation in a Child Presenting with Seizures and Developmental Delays, Cold Spring Harb Mol Case Stud. 2016 Nov;2(6):a001073. PMID: 27900360.

41. Hirschtritt ME, Lee PC, Pauls DL, Dion Y, Grados MA, Illmann C, King RA, Sandor P, McMahon WM, **Lyon GJ**, Cath DC, Kurlan R, Robertson MM, Osiecki L, Scharf JM#, Mathews CA#; for the Tourette Syndrome Association International Consortium for Genetics. (2016). Social disinhibition is a heritable subphenotype of tics in Tourette syndrome. Neurology. 2016 Jul 1. pii: 10.1212/WNL.0000000000002910. [Epub ahead of print].

40. Shi L, Guo Y, Dong C, Huddleston J, Yang H, Han X, Fu A, Li Q, Li N, Gong S, Lintner KE, Ding Q, Wang Z, Hu J, Wang D, Wang F, Wang L, **Lyon GJ**, Guan Y, Shen Y, Evgrafov OV, Knowles JA, Thibaud-Nissen F, Schneider V, Yu CY, Zhou L, Eichler EE, So KF, Wang K#. Long-read sequencing and de novo assembly of a Chinese genome. Nat Commun. 2016 Jun 30;7:12065. doi: 10.1038/ncomms12065.

39. Desai A, Connolly JJ, March M, Hou C, Chiavacci R, Kim C, **Lyon GJ**, Hadley D, Hakonarson H#. Systematic data-querying of large pediatric biorepository identifies novel Ehlers-Danlos Syndrome variant. Bmc Musculoskeletal Disorders. 17: 80. PMID 26879370 DOI: 10.1186/s12891-016-0936-8.

38. O'Rawe JA, Wu Y, Doerfel M, Rope A, Billie Au PY, Parboosingh JS, Moon S, Kousi M, Kosma K, Smith CS, Tzetis M, Schuette JL, Hufnagel RB, Prada CE, Martinez F, Orellana C, Crain J, Caro-Llopis A, Oltra S, Monfort S, Jiménez-Barrón LT, Swensen J, Ellingwood S, Smith R, Fang H, Ospina S, Stegmann S, Den Hollander N, Mittelman D, Highnam G, Robison R, Yang E, Faivre L, Roubertie A, Rivière JB, Monaghan KG, Wang K, Davis EE, Katsanis N, Kalscheuer VM, Wang E, Metcalfe K, Kleefstra T, Innes AM, Kitsiou-Tzeli S, Rosello M, Keegan CE, **Lyon GJ#**. (2015). TAF1 Variants are Associated with Dysmorphic Features, Intellectual Disability, and Neurological Manifestations. American Journal of Human Genetics, 97(6): 922-932. DOI: http://dx.doi.org/10.1016/j.ajhg.2015.11.005.

37. Jiménez-Barrón LT, O'Rawe JA, Wu Y, Yoon M, Fang H, Iossifov I, **Lyon GJ#.** (2015). Genome-wide variant analysis of simplex autism families with an integrative clinical-bioinformatics pipeline. Cold Spring Harb Mol Case Stud, 1: a000422. DOI: 10.1101/mcs.a000422.

36. Guo Y, Ding X, Shen Y, **Lyon GJ**, Wang K#. (2015). SeqMule: automated pipeline for analysis of human exome/genome sequencing data. Scientific Reports, 5(14283): doi:10.1038/srep14283.

35. Hirschtritt ME, Lee PC, Pauls DL, Dion Y, Grados MA, Illmann C, King RA, Sandor P, McMahon WM, **Lyon GJ**, Cath DC, Kurlan R, Robertson MM, Osiecki L, Scharf JM#, Mathews CA#; for the Tourette Syndrome Association International Consortium for Genetics. (2015). Lifetime Prevalence, Age of Risk, and Etiology of Comorbid Psychiatric Disorders in Tourette Syndrome. JAMA Psychiatry. Apr;72(4):325-33. doi: 10.1001/jamapsychiatry.2014.2650.

34. Myklebust LM, Van Damme P#, Støve SI, Kalvik TV, Abboud A, Grauffel C, Dörfel M, Jonckheere V, Kaasa H, Liszczak G, Marmorstein R, Reuter N, **Lyon GJ#**, Gevaert K, Arnesen T#. (2015). Biochemical and cellular analysis of Ogden syndrome reveals downstream Nt-acetylation defects. Hum Mol Genet. 2015 Apr 1;24(7):1956-76. doi: 10.1093/hmg/ddu611. Epub 2014 Dec 8.

33. He M#, Person TN, Hebbring SJ, Heinzen E, Ye Z, Schrodi SJ, McPherson EW, Lin SM, Peissig PL, Brilliant MH, O'Rawe J, Robison RJ, **Lyon GJ**, Wang K#. (2014). SeqHBase: a big data toolset for family based

sequencing data analysis. Journal of Medical Genetics. pii: jmedgenet-2014-102907. doi: 10.1136/jmedgenet-2014-102907. PMID: 25587064. http://jmg.bmj.com/content/early/2015/01/13/jmedgenet-2014-102907.long.

32. Shi L, Li B, Huang Y, Liu T, **Lyon GJ**, Xu A, Wang K[#]. (2014). "Genotype-first" approaches on a curious case of idiopathic progressive cognitive decline. BMC Med Genomics, 7(1): 66. PMCID: PMC4267425.

31. Fang H, Wu Y, Narzisi G, O'Rawe JA, Jimenez Barron LT, Rosenbaum J, Ronemus M, Iossifov I, Schatz MC[#], **Lyon GJ[#]**. (2014). Reducing INDEL calling errors in whole-genome and exome sequencing. Genome Medicine, 6:(89). doi:10.1186/s13073-014-0089-z. PMCID: PMC4240813.

30. McGrath LM, Yu D, Marshall C, Davis LK, Thiruvahindrapuram B, Li B, Cappi C, Gerber G, Wolf A, Schroeder FA, Osiecki L, O'Dushlaine C, Kirby A, Illmann C, Haddad S, Gallagher P, Fagerness JA, Barr CL, Bellodi L, Benarroch F, Bienvenu OJ, Black DW, Bloch MH, Bruun RD, Budman CL, Camarena B, Cath DC, Cavallini MC, Chouinard S, Coric V, Cullen B, Delorme R, Denys D, Derks EM, Dion Y, Rosário MC, Eapen V, Evans P, Falkai P, Fernandez TV, Garrido H, Geller D, Grabe HJ, Grados MA, Greenberg BD, Gross-Tsur V, Grünblatt E, Heiman GA, Hemmings SM, Herrera LD, Hounie AG, Jankovic J, Kennedy JL, King RA, Kurlan R, Lanzagorta N, Leboyer M, Leckman JF, Lennertz L, Lochner C, Lowe TL, **Lyon GJ**, Macciardi F, Maier W,…57 other authors. (2014). Copy Number Variation in Obsessive-Compulsive Disorder and Tourette Syndrome: A Cross-Disorder Study. Journal of American Academy of Child & Adolescent Psychiatry, 53(8):910-9. PMCID: PMC4218748.

29. Narzisi G[#], O'Rawe JA, Iossifov I, Fang H, Lee YH, Wang Z, Wu Y, **Lyon GJ**, Wigler MH, Schatz MC[#]. (2014). Accurate de novo and transmitted indel detection in exome-capture data using microassembly. Nature Methods, doi:10.1038/nmeth.3069. PMCID: PMC4180789.

28. Brownstein C, Beggs A, Margulies D[#], Kohane I[#], and 195 other co-authors. (2014). An international effort towards developing standards for best practices in analysis, interpretation and reporting of clinical genome sequencing results in the CLARITY Challenge. Genome Biology, 15(3): R53. PMCID: PMC4073084.

27. Wang K[#], Kim C, Bradfield J, Guo Y, Toskala E, Otieno FG, Hou C, Thomas K, Cardinale C, **Lyon GJ**, Golhar R, Hakonarson H[#]. (2013). Whole-genome DNA/RNA sequencing identifies truncating mutations in RBCK1 in a novel Mendelian disease with neuromuscular and cardiac involvement. Genome Medicine, 5(7):67. PMCID: PMC3971341.

26. O'Rawe J, Fang H, Rynearson S, Robison RJ, Kiruluta ES, Higgins G, Eilbeck K, Reese MG, **Lyon GJ[#]**. (2013). Integrating whole genome sequencing and precision medicine in the study and clinical treatment of a severely mentally ill person. PeerJ, 1:e177. PMCID: PMC3792182.

25. Shi L, Zhang X, Golhar R, Otieno FG, He M, Hou C, Kim C, Keating B, **Lyon GJ**, Wang K, Hakonarson H[#]. (2013). Whole-genome sequencing in an autism multiplex family. Molecular Autism, 4(1):8. PMCID: PMC3642023.

24. O'Rawe J, Jiang T, Sun G, Wu Y, Wang W, Hu J, Bodily P, Tian L, Hakonarson H, Johnson WE, Wei Z, Wang K[#], **Lyon GJ[#]**. (2013). Low concordance of multiple variant-calling pipelines: practical implications for exome and genome sequencing. Genome Medicine, 5(3):28. PMCID: PMC3706896. *#Paper viewed >40,000 times and #2 in all-time views at this journal*.

23. Scharf JM, Yu D, Mathews CA, Neale BM, Stewart SE, Fagerness JA, Evans P, Gamazon E, Edlund CK, Service SK, Tikhomirov A, 48 other authors, **Lyon GJ**, …18 other authors; for the North American Brain Expression Consortium, Hardy J; for the UK Human Brain Expression Database, 14 other authors, Oostra BA, McMahon WM, Freimer NB, Cox NJ, Pauls DL[#]. (2012). Genome-wide association study of Tourette Syndrome. Molecular Psychiatry, 18(6):721-8. PMCID: PMC3605224.

22. Badner JA, Koller D, Foroud T, Edenberg H, Nurnberger JI, Jr., Zandi PP, Willour VL, McMahon FJ, Potash JB, Hamshere M, Grozeva D, Green E, Kirov G, Jones I, Jones L, Craddock N, Morris D, Segurado R, Gill M, Sadovnick D, Remick R, Keck P, Kelsoe J, Ayub M, Maclean A, Blackwood D, Liu CY, Gershon ES, McMahon W, **Lyon GJ**, Robinson R, Ross J, Byerley W[#]. (2012). Genome-wide linkage analysis of 972 bipolar pedigrees using single-nucleotide polymorphisms. Molecular Psychiatry, 17(8): 818-826. PMCID: PMC3204161.

21. Elia J, Glessner JT, Wang K, Takahashi N, Shtir CJ, Hadley D, Sleiman PMA, Zhang H, Kim CE, Robison R, **Lyon GJ**, Flory JH, Bradfield JP, Imielinski M, Hou C, Frackelton EC, Chiavacci RM, Sakurai T, Rabin C, Middleton FA, Thomas KA, Garris M, Mentch F, Freitag CM, Steinhausen HC, Todorov AA, Reif A, Rothenberger A, Franke B, Mick EO, Roeyers H, Buitelaar J, Lesch KP, Banaschewski T, Ebstein RP, Mulas F, Oades RD, Sergeant J, Sonuga-Barke E, Renner TJ, Romanos M, Romanos J, Warnke A, Walitza S, Meyer J, Pálmason H, Seitz C, Loo SK, Smalley SL, Biederman J, Kent L, Asherson P, Anney RJL, Gaynor JW, Shaw P, Devoto M, White PS, Grant SFA, Buxbaum JD, Rapoport JL, Williams NM, Nelson SF, Faraone SV, Hakonarson H[#]. (2011). Genome Wide Copy Number Variation Study Associates Metabotropic Glutamate Receptor Genes with Attention Deficit Hyperactivity Disorder. Nature Genetics. 44(1):78-84. PMID: 22138692.

20. Wei Z, Wang W, Hu P, **Lyon GJ**, Hakonarson H[#]. (2011). SNVer: a statistical tool for variant calling in analysis of pooled or individual next-generation sequencing data. Nucleic Acids Research, 39(19): e.132. PMCID: PMC3201884.

19. Rope AF, Wang K, Evjenth R, Xing J, Johnston JJ, Swensen JJ, Johnson WE, Moore B, Huff CD, Bird LM, Carey JC, Opitz JM, Stevens CA, Jiang T, Schank C, Fain HD, Robison R, Dalley B, Chin S, South ST, Pysher TJ, Jorde LB, Hakonarson H, Lillehaug JR, Biesecker LG, Yandell M, Arnesen T, **Lyon GJ[#]**. (2011). Using VAAST to Identify an X-Linked Disorder Resulting in Lethality in Male Infants Due to N-Terminal Acetyltransferase Deficiency. American Journal of Human Genetics. 89(1):28-43. PMCID: PMC3135802. *Covered in Nature: Software pinpoints cause of mystery genetic disorder (http://www.nature.com/news/2011/110623/full/news.2011.382.html).

18. **Lyon GJ[#]**, Jiang T, Van Wijk R, Wang W, Bodily P, Xing J, Tian L, Robison RJ, Clement M, Yang L, Zhang P, Liu Y, Moore B, Glessner J, Elia J, Reimherr F, van Solinge W, Yandell M, Hakonarson H, Wang J, Johnson WE, Wei Z, Wang K[#]. (2011). Exome Sequencing and Unrelated Findings in the context of Complex Disease Research: Ethical and Clinical Implications. Discovery Medicine, 12(62):41- 55. PMCID: PMC3544941.

17. Robison RJ, Reimherr FW, Marchant BK, Kondo D, **Lyon GJ**, Olsen J, Christopherson D, Pommerville C, Tuya S, Johnson A, Coon H[#]. (2010). The Use of Emotional Dysregulation as an Endophenotype for Genetic Studies in Adults with Attention-Deficit Hyperactivity Disorder. Journal of ADHD and Related Disorders, 1(4):29-38.

Primary Data Peer-Reviewed Publications (from Postdoctoral Clinical Residencies)

16. **Lyon GJ**, Coffey BJ[#], Castellanos XF, Woods D, Conelea C, Samar S, Bauer C, Brandt BC, Kemp JK, Lipinski CM, Trujillo MR, Lawrence ZE. (2010). Improving Tic Suppression: Comparing the Effects of Dexmethylphenidate to No Medication in Children and Adolescents with ADHD and Chronic Tic Disorders. Journal of Child Adolescent Psychopharmacology, 20(4):283-9. PMCID: PMC2958463.

15. **Lyon GJ**, Samar S, Jummani R, Hirsch S, Spirgel A, Goldman R, Coffey BJ[#]. (2010). Aripiprazole in children and adolescents with Tourette's Disorder: An open label safety and tolerability study. Journal of Child Adolescent Psychopharmacology, 19(6):623-33. PMCID: PMC2861961.

14. **Lyon GJ**, Coffey BJ[#]. (2009). Complex tics and complex management in a case of severe Tourette's disorder in an adolescent. Journal of Child Adolescent Psychopharmacology. 19(4):469-474. PMID: 19702501. http://online.liebertpub.com/doi/abs/10.1089/cap.2009.19402.

13. **Lyon GJ**, Coffey BJ[#], Silva R. (2008). Post-traumatic stress disorder (PTSD) and Reactive Attachment Disorder: Outcome in an Adolescent. Journal of Child Adolescent Psychopharmacology, 18(6):641-646.

12. **Lyon GJ[#]**. (2008). Varenicline-induced paranoia and irritability in a patient with major depressive disorder, borderline personality disorder (stable), and methamphetamine abuse (in remission). Journal of Clinical Psychopharmacology, 28(6):720-721. PMID: 19011454.

Primary Data Peer-Reviewed Publications (from B.A., M.Phil., and Ph.D. Research)

11. Wright JS, **Lyon GJ**, George EA, Muir TW[#], Novick RP[#]. (2004). Hydrophobic interactions drive ligand-receptor recognition for activation and inhibition of staphylococcal quorum sensing. Proceedings of theNational Academy of Science, 101(46):16168-16173. PMCID: PMC528941.

10. Kalkum M, **Lyon GJ**, and Chait BT[#]. (2003). Detection of Secreted Peptides using Hypothesis driven Multistage Mass Spectrometry. Proceedings of the National Academy of Science, 100(5): 2795-2800. PMCID: PMC151420.

9. Miller JS, Dudkin VY, **Lyon GJ**, Muir TW, and Danishefsky SJ[#]. (2003). Toward Homogeneous, Synthetic N-Linked Glycoproteins. Angewandte Chemie International Edition, 42(4): 431-434.

8. **Lyon GJ**, Wright JS, Muir TW[#], and Novick R[#]. (2002). Key determinants of receptor activation in the agr autoinducing peptides of Staphylococcus aureus. Biochemistry, 41(31): 10095-10104. PMID: 12146974.

7. **Lyon GJ**, Wright JS, Christopoulous A, Novick R[#], and Muir TW[#]. (2002). Reversible and specific extracellular antagonism of receptor-histidine kinase signaling. Journal of Biological Chemistry, 277(8):6247-6253. PMID: 11733525.

6. **Lyon GJ**, Mayville P, Muir TW[#], and Novick RP[#]. (2000). Rational design of a global inhibitor of the virulence response in Staphylococcus aureus, based in part on localization of the site of inhibition to the receptor-histidine kinase, AgrC. Proceedings of the National Academy of Sciences, 97(24): 13330-13335. PMCID: PMC27224.

5. Jarraud S, **Lyon GJ**, Figueiredo AM, Lina G, Vandenesch F, Etienne J, Muir TW, and Novick RP[#]. (2000). Exfoliatin-producing strains define a fourth agr specificity group in Staphylococcus aureus. Journal of Bacteriology, 182(22): 6517-6522. PMCID: PMC94802.

4. Fuortes M[#], Melchior M, Han H, **Lyon GJ**, and Nathan, C. (1999). Role of the tyrosine kinase pyk2 in the integrin-dependent activation of human neutrophils by TNF. Journal of Clinical Investigation, 104(3): 327-335. PMCID: PMC408415.

3. Hernandez A, **Lyon GJ**, Schneider MJ, and St Germain, DL[#]. (1999). Isolation and characterization of the mouse gene for the type 3 iodothyronine deiodinase. Endocrinology, 140(1): 124-130. PMID: 9886816.

2. Gilmour DT, **Lyon GJ**, Carlton MB, Sanes JR, Cunningham JM, Anderson JR, Hogan BL, Evans MJ, and Colledge WH[#]. (1998). Mice deficient for the secreted glycoprotein SPARC/osteonectin/BM40 develop normally but show severe age-onset cataract formation and disruption of the lens. Embo Journal, 17(7):1860-1870. PMCID: PMC1170533.

1. Hernandez A, Park JP, **Lyon GJ**, Mohandas TK, and St Germain DL[#]. (1998). Localization of the type 3 iodothyronine deiodinase (DIO3) gene to human chromosome 14q32 and mouse chromosome 12F1. Genomics 53(1): 119-121. PMID: 9787088.

Reviews, Commentaries, Book Chapters, Educational Aids

(#denotes corresponding author(s); grey highlight denotes primary publications, defined as those on which I am senior author, co-senior author, first author, or co-first author)

20. Köhler S, Vasilevsky NA, Engelstad M, Foster E, McMurry J, Aymé S, Baynam G, Bello SM, Boerkoel CF, Boycott KM, Brudno M, Buske OJ, Chinnery PF, Cipriani V, Connell LE, Dawkins HJ, DeMare LE, Devereau AD, de Vries BB, Firth HV, Freson K, Greene D, Hamosh A, Helbig I, Hum C, Jähn JA, James R, Krause R, Laulederkind SJ, Lochmüller H, **Lyon GJ**, Ogishima S, Olry A, Ouwehand WH, Pontikos N, Rath A, Schaefer F, Scott RH, Segal M, Sergouniotis PI, Sever R, Smith CL, Straub V, Thompson R, Turner C, Turro E, Veltman MW, Vulliamy T, Yu J, von Ziegenweidt J, Zankl A, Züchner S, Zemojtel T, Jacobsen JO, Groza T, Smedley D, Mungall CJ, Haendel M, Robinson PN#, The Human Phenotype Ontology in 2017 Nucleic Acids Res. 2016 Nov 28. pii: gkw1039. [Epub ahead of print] PMID:27899602.

19. Narzisi G#, Fang H, Grabowska E, Arora K, Vacic V, Zody M, Iossifov I, O'Rawe J, Wu Y, Jimenez Barron L, Rosenbaum J, Ronemus M, Lee YH, Wang Z, Lyon GL, Wigler M, Schatz M, Dikoglu E, Jobanputra V. (2016) Indel variant analysis of short-read sequencing data with Scalpel. Nature Protocols, (Manuscript accepted).

18. Doerfel M and **Lyon GJ#**. (2015). The biological functions of Naa10: From amino-terminal acetylation to human disease. Gene. pii: S0378-1119(15)00570-3. PMID: 25987439.

17. Lyon GJ#. (2015). Cut the Hype. Accuracy and Standards Come First. Interview, Frontline Genomics Medicine. http://www.frontlinegenomics.com/731/interview-with-gholson-lyon-cold-spring-harbor-laboratory/.

16. Lyon GJ#, Bird L, Rope A. (2015). X-linked Malformation and Infantile Lethality Syndrome (provisionally named Ogden Syndrome). Book chapter for "Epstein's Inborn Errors of Development".

15. Lyon GJ# and O'Rawe J. (2015). Human genetics and clinical aspects of neurodevelopmental disorders. Book chapter in "The Genetics of Neurodevelopmental Disorders", Editor Kevin Mitchell, Wiley, pp. 289-31. **Preprint published on BioRxiv preprint server: doi: 10.1101/000687,* 2015.

14. O'Rawe JA#, Ferson S#, **Lyon GJ#**. (2015). Accounting for uncertainty in DNA sequencing data. Trends in Genetics. pii: S0168-9525 (14)00209-1. doi: 10.1016/j.tig.2014.12.002. PMID: 25579994.

13. Barash CI and **Lyon GJ#**. (2014). Open access and data sharing: Easier said than done. Applied & Translational Genomics. (0). doi: http://dx.doi.org/10.1016/j.atg.2014.09.008.

12. Lyon GJ# and Segal JP#. (2013). Practical, ethical and regulatory considerations for the evolving medical and research genomics landscape. Applied & Translational Genomics. 2, 34–40. Special Issue on Pharmocogenomics and Personalized Medicine. PMID:27942444 DOI:10.1016/j.atg.2013.02.001

11. Lyon GJ# and Wang K#. (2012). Identifying disease mutations in genomic medicine settings: current challenges and how to accelerate progress. Genome Medicine, 4(7):58. PMCID: PMC3580414.

10. Lyon GJ#. (2012). Personalized medicine: Bring clinical standards to human-genetics research. Nature, 482(7385):300-1. PMID: 22337032. http://www.nature.com/nature/journal/v482/n7385/full/482300a.html. **Covered in Nature: Secrets of the human genome disclosed (http://www.nature.com/news/2011/111004/full/478017a.html).*

9. Lyon GJ#. (2012). Editorial, There is nothing "Incidental" about Unrelated Findings. Personalized Medicine, 9(2):163-166.

8. Lyon GJ#. (2011). Interview, Personal account of the discovery of a new disease using next-generation sequencing. Pharmacogenomics. 12(11): 1519–1523. PMID: 22044413.

7. Lyon GJ, Shprecher D, Coffey BJ[#] and Kurlan R[#]. (2010). Tourette's Disorder. Current Treatment Options in Neurology, 12(4): 274-286. PMID: 20842587. http://www.ncbi.nlm.nih.gov/pubmed/20842587.

6. Lyon GJ, Abi-Dargham A, Moore H, Lieberman JA, Javitch JA, Sulzer D[#]. (2009). Presynaptic regulation of dopamine transmission in schizophrenia. Schizophrenia Bulletin. 37(1):108-17. PMCID: PMC3004182.

5. Lyon GJ and Coffey BJ[#]. (2008). Book Review of: Attention-Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment, 3rd Edition. Journal of Clinical Psychiatry, 69(6):1023.

4. Lyon GJ and Coffey BJ[#]. (2008). Book Review of: Treating Tourette Syndrome and Tic Disorders: A Guide for Practitioners. Douglas W. Woods, John .C. Piacentini, and John T. Walkup, 1st Edition. Journalof Child Adolescent Psychopharmacology, 18(4):411-412.

3. Lyon GJ[#] and Koplewicz HS[#]. (2007). Schizophrenia in childhood: Why we need much more research into early-onset psychosis. The Scientist, 21(12): 22-25, Schizophrenia Supplement.

2. Lyon GJ and Novick RP[#]. (2004). Peptide signaling in Staphylococcus aureus and other Gram-positive bacteria. Peptides, 25(9):1389-1403. PMID: 15374643.

1. Lyon GJ and Muir TW[#]. (2003). Chemical Signaling among Bacteria and its inhibition. Chemistry and Biology, 10(11): 1007-1025. PMID: 14652068.

Internet Postings

7. Lyon GJ. Wikipedia entry on TAF1.
https://en.wikipedia.org/wiki/TAF1

6. Lyon GJ. Wikipedia entry on RBCK1.
http://en.wikipedia.org/wiki/RBCK1

5. Lyon GJ and Doerfel, M. Wikipedia entry on NAA15.
http://en.wikipedia.org/wiki/NAA15

4. Lyon GJ and Doerfel, M. Wikipedia entry on NAA10.
http://en.wikipedia.org/wiki/N-alpha-acetyltransferase_10

3. Lyon GJ. (November 2013). Stopping 23andMe will only delay the revolution medicine needs. https://theconversation.com/stopping-23andme-will-only-delay-the-revolution-medicine-needs-20743

2. Lyon GJ. (August 2012). Humanizing the Human Genome Project.
http://www.project-syndicate.org/commentary/humanizing-the-human-genome-project-by-gholson-lyon

1. Lyon GJ. (February 2012). Guest post: Time to bring human genome sequencing into the clinic, GenomesUnzipped. http://genomesunzipped.org/2012/02/guest-post-time-to-bring-human-genome-sequencing-into-the-clinic.php

Theses

3. Lyon GJ. (2002). Targeting Receptor-Histidine Kinase Signaling in Staphylococcus aureus. Ph.D. Thesis in Chemical Biology, Rockefeller University, New York.

2. Lyon GJ. (1997). The Functional Characterization of SPARC and SC1 Single and Double Knockout Mice. M.Phil. Thesis in Genetics, University of Cambridge, England.

1. Lyon GJ. (1996). Isolation and Characterization of the Mouse Type III Deiodinase Gene. Undergraduate Senior Thesis in Molecular Biology, Dartmouth College, Hanover, NH.

Invited Talks or Conference Platform Presentations

89. Lyon GJ. (September 2016) From Stem Cells to Human Development. Company of Biologists meeting, Southbridge Hotel & Conference Center, Massachusetts, USA, short talk selected from abstracts.

88. Lyon GJ. (July 2016) The X-Linked Ogden Syndrome Involving NAA10 and the Amino-Terminal Acetylation of Proteins in Human Biology and Disease. Gordon Conference on Protein Processing, Trafficking and Secretion, Colby Sawyer College, New Hampshire, selected talk and poster presentation.

87. Lyon GJ. (May 2016) Amino-terminal acetylation of proteins in human health and disease. Caltech, Division of Biology, hosted by Alex Varshavsky.

86. Lyon GJ. (April 2016) New human neurologic and intellectual disability syndromes involving transcription, translation, and protein degradation. Computational Genomics Seminar Series. Icahn School of Medicine at Mount Sinai, NY.

85. Lyon GJ. (February 2016) Speaker in Diagnostic Odyssey Session. Utah Rare Disease Symposium, Salt Lake City, UT.

83. Lyon GJ. (February 2016) New human neurologic and intellectual disability syndromes involving transcription, translation, and protein degradation. Columbia Child Neurology and Institute of Genomic Medicine, Columbia University, New York, NY

82. Lyon GJ. (January 2016) A rare genetic "transcriptomopathy" syndrome leading to insights into more common neurologic disorders. New York City Wide Human Genetics Meeting 2016, Caspary Auditorium, Rockefeller University, New York City, NY.

81. Lyon GJ. (October 2015). Variants in *TAF1* are associated with a new syndrome with severe intellectual disability, neurologic issues, and dysmorphic features. American Society of Human Genetics 2015 Annual Meeting, Baltimore, Maryland, Abstract selected for Platform Presentation.

80. Lyon GJ. (September 2015). Optimized sequencing leading to new human genetic syndromes involving transcription, translation, and protein degradation. Pohang University of Science and Technology (POSTECH), Pohang, South Korea.

79. Lyon GJ. (September 2015). The 24th KOGO Annual Conference 2015 & The 10th Asian Epigenomics Meeting. TAF1 Syndrome. The Korea Science and Technology Center, Seoul, Korea.

78. Lyon GJ. (September 2015). 2015 Symposium of National Creative Initiatives Center for Immune and Vascular Cell Network (NCIC-IVCN). Ogden Syndrome and the role of Nα-acetylation in human health and disease. Ewha Womans University, Seoul, Korea.

77. Lyon GJ. (June 2015). Genetic Complexity and Neuropsychiatric Disorders. Presentation, Institute of Medical Genetics and Functional Genomics, Hosted by Svetlana Gorokhova, Marseille, France.

76. Lyon GJ. (May 2015). Using next generation sequencing to discover new human genetic syndromes and reveal new biology. Presentation, GTCbio: 5th Next Generation Sequencing Conference, Boston, MA.

75. Lyon GJ. (April 2015). Variants in TAF1 are associated with a new syndrome with severe intellectual disability and characteristic dysmorphic features. Presentation, 10th International Meeting on Copy Variants and Genes in Intellectual Disability and Autism, Troina, Italy.

74. Lyon GJ. (March 2015). Variants in TAF1 are associated with a new syndrome with severe intellectual disability and characteristic dysmorphic features. Presentation, Cold Spring Harbor Laboratory: Wiring the Brain, Cold Spring Harbor, NY.

73. Lyon GJ. (March 2015). Rare Human Diseases as a Window into New Biology. University of Kansas, Lawrence, KS.

72. Lyon GJ. (February 2015). Utah's Inaugural Rare Disease Day Symposium, Salt Lake City, UT.

71. Lyon GJ. (November 2014). Human Genetics and Orphan Diseases. Presentation, Cold Spring Harbor Laboratory In-House Symposium, Cold Spring Harbor, NY.

70. Lyon GJ. (September 2014). Amino-terminal acetylation of proteins: role in human disease and biology. Center for Integrative Proteomics Research at Rutgers University, New Brunswick, NJ.

69. Lyon GJ. (July 17, 2014). Ogden Syndrome and the Amino-Terminal Acetylation of Proteins. Medical Scientist Training Program (MSTP) 50th Anniversary Symposium, National Institute of General Medical Sciences (NIGMS), NIH Campus, Bethesda, MD.

68. Lyon GJ. (June 2014). Genetic Complexity and Neuropsychiatric Disorders. Nurturing Genetics: Reflections on a Century of Scientific and Social Change, an International and Interdisciplinary Symposium, University of Leeds, Leeds, UK.

67. Lyon GJ. (June 2014). Clinical genetics of neurodevelopmental disorders. Department of Genetics and Genomic Sciences and the Institute for Genomics and Multiscale Biology at the Mount Sinai Medical Center, New York, NY.

66. Lyon GJ. (May 2014). Challenges for Clinical Implementation of Genomic Medicine. Company Visit and Lecture, Ancestry.com, Provo, UT.

65. Lyon GJ. (May 2014). Challenges for Clinical Implementation of Genomic Medicine. Lecture Series, New York Genome Center, New York, NY.

64. Lyon GJ. (April 2014). Clinical Genomics of Neuropsychiatric Illnesses. Lecture, UT-Southwestern, Dallas, TX.

63. Lyon GJ. (March 2014). Amino-terminal acetylation of proteins: role in human disease and biology. CSHL Neuroscience Seminar Series, Cold Spring Harbor, NY.

62. Lyon GJ. (January 2014). Clinical Genomics of Neuropsychiatric Illnesses. Stony Brook University, Division of Child and Adolescent Psychiatry, Stony Brook, NY.

61. Lyon GJ. (January 2014). Deep Brain Stimulation, Psychiatric Genetics, and iPS cell models of disease. CSHL In-House Seminar Series, Cold Spring Harbor, NY.

60. Lyon GJ. (December 2013). Increasing Accuracy for Exome and Whole Genome Sequencing. Bio-IT World and Cambridge Healthtech Institute's Inaugural - Clinical Exome Sequencing, Sheraton Lisboa Hotel and Spa, Lisbon, Portugal.

59. Lyon GJ. (November 2013). Advancing Precision Medicine through clinical grade whole genome sequencing, return of results and deep brain stimulation. CSHL Personal Genomes and Medical Genomics Meeting, Cold Spring Harbor, NY.

58. Lyon GJ. (November 2013). Advancing Precision Medicine with Genome Interpretation and Deep Brain Stimulation. Stony Brook University, Department of Neuroscience, Stony Brook, NY.

57. Lyon GJ. (November 2013). Advancing Precision Medicine. Regeneron, Inc., Tarrytown, NY.

56. Lyon GJ. (October 2013). Amino-terminal acetylation of proteins: role in human disease and biology. Stony Brook University, Department of Pharmacology, Stony Brook, NY.

55. Lyon GJ. (October 2013). Amino-terminal acetylation of proteins by N-terminal acetyltransferases: mechanisms and relevance to human genetic Diseases. Stony Brook University, Department of Chemistry, Stony Brook, NY.

54. Lyon GJ. (September 2013). N=1 Human Study in Clinical Neurosciences: Genomic Guided Medicine and Deep Brain Stimulation. Consumer Genetics Conference, Boston, MA.

53. Lyon GJ. (September 2013). Childhood-onset neuropsychiatric disorders. Symposium, Fargen Summit, Faroe Genome Project, Faroe Islands.

52. Lyon GJ. (June 2013). Toward more accurate variant calling for personal genomes. The Clinical Genome Conference, San Francisco, CA.

51. Lyon GJ. (May 2013). Clinical genetics and other aspects of neuropsychiatric disorders. NGS-Translate, Boston, MA.

50. Lyon GJ. (May 2013). Genomics and Ogden Syndrome. N-terminal acetylation Mini-Symposium convened by Thomas Arnesen, Bergen, NO.

49. Lyon GJ. (May 2013). Clinical genetics and other aspects of neuropsychiatric disorders. The International Behavioural and Neural Genetics Society (IBANGS), Genes, Brain & Behavior 15th Annual Meeting, Leuven, BE.

48. Lyon GJ. (March 2013). Controversies in Giving Data Back. Scripps Future of Genomic Medicine Conference VI, La Jolla, CA.

47. Lyon GJ. (March 2013). Genetic and Biochemical Analysis of Childhood-Onset Idiopathic Neuropsychiatric Disorders. Graduate Student Annual Retreat, Stony Brook University, Department of Genetics, Stony Brook, NY.

46. Lyon GJ. (February 2013). Whole Genome Sequencing Analysis of a severe Idiopathic Intellectual Disability Syndrome. 20th Annual Molecular Psychiatry Conference, Park City, UT.

45. Lyon GJ. (December 2012). Challenges of Clinical Implementation of Genomic Medicine. New York Genome Center, New York, NY.

44. Lyon GJ. (November 2012). Introduction to Software Considerations for Processing, Analyzing and Interpreting Exome & Genome Sequence Data in Clinical Settings. World Genome Data Analysis Meeting, San Francisco, CA.

43. Lyon GJ. (November 2012). Challenges of Clinical Implementation of Genomic Medicine. CSHL In-House Symposium Series, Cold Spring Harbor, NY.

42. Lyon GJ. (November 2012). Challenges of Clinical Implementation of Genomic Medicine. Ethics Panel, CSHL Personal Genomes and Medical Genomics Meeting, Cold Spring Harbor, NY.

41. Lyon GJ. (October 2012). Clinical issues with the return of Exome and Whole Genome Sequencing Results. VA Open Source Electronic Health Record Agent (OSHERA) Summit, Washington, DC, MD.

40. Lyon GJ. (October 2012). Finding and Analyzing Human Genetic Variation in Neuropsychiatric Disorders. CSHL In-House Seminar Series, Cold Spring Harbor, NY.

39. Lyon GJ. (October 2012). Implementation of Variant Calling Algorithms in Clinical Genome Sequencing. Track I: Clinical Genomics: The Road to the Clinic: Applying Genomics in a Clinical Setting, Bio-IT Europe, Vienna, AT.

38. Lyon GJ. (September 2012). Clinical Genomics Perspective in Psychiatry. 3rd Annual Child and Adolescent Psychotherapy and Psychopharmacology Conference.

37. Lyon GJ. (September 2012). Cellular and proteomic studies supporting the hypothesis that a newly identified X-linked infantile lethal disorder might be caused by decreased amino-terminal acetylation of proteins. ICG-America, Philadelphia, PA.

36. Lyon GJ. (September 2012). Finding and Analyzing Human Genetic Variation in Neuropsychiatric Disorders. Stony Brook University, Department of Genetics, Stony Brook, NY.

35. Lyon GJ. (September 2012). Clinical progress in autism genetics and treatment. Banbury Meeting Autism and CSHL Systems Biology of Autism: From Basic Science to Therapeutic Strategies Meeting, Cold Spring Harbor, NY.

34. Lyon GJ. (August 2012). Taking NGS into the clinic. NGx: Next-Generation Sequencing, Providence, RI.

33. Lyon GJ. (July 2012). The Implementation of Clinical Genomics: Ethical, Societal and Regulatory Considerations. ELSI Keynote Speaker, HiTSeq Meeting, Satellite of ISMB Meeting, Long Beach, CA.

32. Lyon GJ. (June 12-13, 2012). Clinical issues with the return of Next Generation Sequencing Results. The Clinical Genome Conference, San Francisco, CA.

31. Lyon GJ. (May 17-19, 2012). Using VAAST and exome sequencing to identify the genetic basis of idiopathic disorders. Genetics & Genomics Online Conference.

30. Lyon GJ. (April 2012). Using VAAST and exome sequencing to identify the genetic basis of idiopathic disorders. Genomics Research: Next Gen Sequencing, Boston, MA.

29. Lyon GJ. (April 2012). Exome Sequencing in idiopathic hemolytic anemia. Red Blood Cell Seminar, UMC Utrecht, Utrecht, NL.

28. Lyon GJ. (February 2012). Returning Research Results from Next-Generation Sequencing and Analysis to Patients with Idiopathic Disorders. Genomic Screening and Diagnosis of Human Disease Conference, Molecular Medicine TriCon, San Francisco, CA.

27. Lyon GJ. (February 2012). Mendelism in Neuropsychiatric Disorders. 19th Annual Molecular Psychiatry Conference, Park City, UT.

26. Lyon GJ. (February 2012). Finding and Analyzing Human Genetic Variation in Neuropsychiatric Disorders. Seminar in Clinical Research, Rockefeller University, New York, NY.

25. Lyon GJ. (January 2012). Neuropsychiatric genetics in the context of prevention and treatment. Phenotype first? Or Genotype first? Maine Medical Center, Portland, ME.

24. Lyon GJ. (December 2011). Finding and Analyzing Human Genetic Variation in Neuropsychiatric Disorders. Faculty Recruitment Talk, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.

23. Lyon GJ. (December 2011). The ABC's of Genetics: Where do we go from here? Grand Rounds, CHOP, Department of Child and Adolescent Psychiatry, Philadelphia, PA.

22. Lyon GJ. (October 2011). Genetic Variation in Human Disease: From Rare Monogenic Disorders to Common Complex Disorders. Research Seminar, Weill Cornell Medical College, Department of Genetic Medicine, New York, NY.

21. Lyon GJ. (October 2011). Massively parallel sequencing identifies a previously unrecognized X-linked disorder resulting in lethality in male infants due to N-terminal acetyltransferase deficiency. 12th International Congress of Human Genetics (ICHG) and 61st Annual Meeting of the American Society of Human Genetics (ASHG), Montreal, CAN.

20. Lyon GJ. (October 2011). Using VAAST and exome sequencing to identify the genetic basis of idiopathic disorders. Human Genome Variation Society Meeting, Exome & Genome Analysis as a Tool for Disease Identification & Treatment, Montreal, CAN.

19. Lyon GJ. (October 2011). Returning Research Results from Next-Generation Sequencing and Analysis to Patients with Idiopathic Disorders? Podium Presentation, CSHL Personal Genomes Meeting, Cold Spring Harbor, NY.

18. Lyon GJ. (September 2011). Development and Use of VAAST in Mendelian disorders and complex diseases. NGx: Next-Generation Sequencing- Data Management, Providence, RI.

17. Lyon GJ. (September 2011). Using VAAST to discover the genetic basis of a new disease. Short Course, NGx: Next-Generation Sequencing, Providence, RI.

16. Lyon GJ. (September 2011). Massively parallel sequencing identifies a previously unrecognized X-linked disorder resulting in lethality in male infants due to amino-terminal acetyltransferase deficiency. Beyond the Genome, Washington, DC, MD.

15. Lyon GJ. (September 2010). Genetics and Treatment of Tourette Syndrome, OCD and ADHD. Seminar, University of Washington, Department of Psychiatry, Seattle, WA.

14. Lyon GJ. (September 2010). Tourette Syndrome, OCD and ADHD – Genetics, Treatment and Pathophysiology. Seminar, University of Pittsburgh, Department of Psychiatry, Translational Neuroscience Seminar Series, Pittsburgh, PA.

13. Lyon GJ. (July 2010). Tourette Syndrome, OCD and ADHD – Genetics, Treatment and Pathophysiology. Seminar, University Neuropsychiatric Institute (UNI), Salt Lake City, UT.

12. Lyon GJ. (October 2009). "Genetics of Tourette in a Large Pedigree" in Symposium: Update on Tourette's Disorder: From Research to Practice. 56th American Academy of Child and Adolescent Psychiatry (AACAP), Annual Meeting, Honolulu, HI.

11. Lyon GJ. (October 2009). Neuropsychiatric genetics. Phenotype first? Or Genotype first? Seminar for Division of Medical Genetics, University of Utah, Salt Lake City, UT.

10. Lyon GJ. (February 20, 2009). Tic Suppression and Executive Function in children with ADHD and Tourette's Disorder. NYU Child Study Center, NYU Child and Adolescent Psychiatry Grand Rounds, Presentation, New York, NY.

9. Lyon GJ. (December 2007). 1st AACAP Mentoring Research Retreat, Poster and Oral Presentation on Current and Future Research, Washington DC, MD.

8. Lyon GJ. (December 2007). Tic suppression with ADHD and Tourette's Syndrome. 8th Annual Elaine Schlosser Lewis ADHD Research Update Luncheon, Washington DC, MD.

7. Lyon GJ. (April 2007). Columbia Research Track Resident Seminar Series, Presentation on Current and Future Research, New York, NY.

6. Lyon GJ, Rodriguez C, Rosell D, Leight K *(presenters)*, Shaffer D, Simpson B, Frankle G *(discussants)* (January 2006). Neuropsychiatric Case Formulation: A case of severe OCD. Columbia Psychiatry Department Grand Rounds, New York, NY.

5. Lyon GJ. (February 2002). Rational Design of Global Inhibitors of Virulence in S. aureus. Rockefeller University Pels Seminar, New York, NY.

4. Lyon GJ. (October 2001). Microbial Pathogenesis Seminar Series, Skirball Institute, NYU, New York, NY.

3. Lyon GJ. (October 2001). Microbial Pathogenesis and Host Defense Conference, Cold Spring Harbor, NY.

2. Lyon GJ. (May 2001). Rockefeller University Tri-Lab Seminar Series, New York, NY.

1. Lyon GJ. (February 2001). Columbia/Rockefeller Chemical Biology Seminar Series, New York, NY.

Conference Posters (presented by the PI, unless otherwise indicated) or Platform Presentations by members of the lab or collaborators

66. Ballouz S, Dörfel M, Crain J, Crow M, Lyon GJ, Gillis J, Going rogue: outlier gene expression drives rare disease in the *TAF1* syndrome cohort. Systems Biology: Global Regulation of Gene Expression 2017 meeting, at Cold Spring Harbor Laboratory, to be presented by Sara Ballouz February 2017.

65. Klimas, A, Wu Y, Ambrosi C, Yu J, Williams J, Bien H, **Lyon GJ**, and Entcheva E, Disease Modeling Human Induced Pluripotent Stem Cell Derived Cardiomyocytes Using High-Throughput All-Optical Dynamic Cardiac Electrophysiology. Rochester, New York United States, From the session Advanced Microscopy Methods and Applications (FF3A)**,** Frontiers in Optics 2016, 17–21 October 2016, OSA Technical Digest (online) (Optical Society of America, 2016), paper FF3A.3, ISBN: 978-1-943580-19-4, platform presentation by Aleks Klimas.

64. Malcolmson, J, Fischer, J, and **Lyon GJ**. (September 2016) The Needs and Expectations of Parents of Children with Rare Conditions that are Undergoing Whole Exome Sequencing (WES). poster presented by Janet Malcolmson, National Society of Genetic Counselors Annual Education Conference, Seattle, WA.

63. Lyon GJ, Doerfel M, Wu Y, Crain J (July 2016**)** The X-linked Ogden Syndrome and the amino-terminal acetylation of proteins in human biology and disease, Poster presentation at Gordon Research Conference on Post-Transcriptional Gene Regulation, Stoweflake Resort, Stowe, VT.

62. Wu Y, Klimas A, D'Souza S, Schaniel C, Girnun GC, Entcheva E, **Lyon GJ**. (May 2016) Protein N-terminal Acetylation is Associated with Cardiac Rhythm Regulation. Heart Rhythm Society's 37th Annual Scientific Sessions. Heart Rhythm Society. San Francisco, CA. Featured Poster, presentation by Yiyang Wu.

61. Wu Y, Klimas A, D'Souza S, Schaniel C, Girnun GC, Entcheva E, **Lyon GJ**. (March 2016) Modeling Ogden syndrome in a dish using iPSCs. CiRA/ISSCR International Symposium "Pluripotency: from Basic Science to Therapeutic Application". Kyoto University. Kyoto. Japan. Poster presentation by Yiyang Wu.

60. Fang H, Doerfel M, Huang Y, **Lyon GJ**, Schatz MC (February 2016) Scikit-ribo: Accurate A-site prediction and robust modeling of translation control from Riboseq & RNAseq data. Platform presentation by Han Fang, Advances in Genome Biology and Technology (AGBT) Meeting, Orlando, FL.

59. Fang H, Doerfel M, Huang Y, **Lyon GJ**, Schatz MC. (October 2015). Scikit-ribo: Accurate A-site prediction and robust modeling of translation control from Riboseq and RNAseq data. Platform Presentation by Han Fang at CSHL Genome Informatics Meeting, Cold Spring Harbor, NY.

58. Wu Y, Klimas A, D'Souza S, Schaniel C, Girnun GC, Entcheva E, **Lyon GJ**. (October 2015) Modeling Ogden syndrome using human induced pluripotent stem cells. NYSCF's Tenth Annual Translational Stem Cell Conference. The Rockefeller University. New York City. NY. Poster presentation by Yiyang Wu.

57. Fang H, Doerfel M, Huang Y, **Lyon GJ**, Schatz MC. (October 2015). Scikit-ribo: Accurate A-site prediction and robust modeling of translation control from Riboseq and RNAseq data. Poster Presented by Han Fang at CSHL Meeting Probabilistic Modeling in Genomics, Cold Spring Harbor, NY.

56. Fang H, Grabowska E, Arora K, Vacic V, Zody M, Iossifov I, O'Rawe J, **Lyon GJ**, Wigler M, Schatz M, NarzisI G. (October 2015). De novo and somatic indel variant analysis of whole genome and exome capture sequencing experiments with Scalpel. Poster Presented by Han Fang, American Society of Human Genetics 2015 Annual Meeting, Baltimore, MD.

55. Greenberg E, Posthuma D, Grados MA, Singer HS, Scharf JM, Illmann C, Yu D, Osiecki L, Pauls DL, Cox NJ, Robertson MM, Freimer NB, Budman CL, Rouleau GA, Dion Y, Chouinard S, Montreal U, King RA, McMahon WM, Mathews CA, **Lyon GJ**, Kurlan R, Sandor P, Barr CL, Cath DC. (June 2015). Prevalence and Predictors of Trichotillomania and Excoriation Disorder in Tourette Syndrome. Poster Presented by Erica Greenberg, Tourette Syndrome Association International Consortium for Genetics, 1st World Congress on Tourette Syndrome & Tic Disorders, London, UK.

54. Posthuma D, Grados MA, Singer HS, Scharf JM, Illmann C, Yu D, Osiecki L, Pauls DL, Cox NJ, Robertson MM, Freimer NB, Budman CL, Rouleau GA, Dion Y, Chouinard S, Montreal U, King RA, McMahon WM, Mathews CA, **Lyon GJ**, Kurlan R, Sandor P, Barr CL, Cath DC.(June 2015). Autistic Symptoms in a TS Sample. Poster presented by Sabrina Darrow, Tourette Syndrome Association International Consortium for Genetics, 1st World Congress on Tourette Syndrome & Tic Disorders, London, UK.

53. Posthuma D, Grados MA, Singer HS, Scharf JM, Illmann C, Yu D, Osiecki L, Pauls DL, Cox NJ, Robertson MM, Freimer NB, Budman CL, Rouleau GA, Dion Y, Chouinard S, Montreal U, King RA, McMahon WM, Mathews CA, **Lyon GJ**, Kurlan R, Sandor P, Barr CL, Cath DC. (June 2015). Latent class analysis of Tourette syndrome and common comorbid disorders: Clinical and genetic implications. Poster presented by Matthew Hirschtritt, Tourette Syndrome Association International Consortium for Genetics, 1st World Congress on Tourette Syndrome & Tic Disorders, London, UK.

52. Posthuma D, Grados MA, Singer HS, Scharf JM, Illmann C, Yu D, Osiecki L, Pauls DL, Cox NJ, Robertson MM, Freimer NB, Budman CL, Rouleau GA, Dion Y, Chouinard S, Montreal U, King RA, McMahon WM, Mathews CA, **Lyon GJ**, Kurlan R, Sandor P, Barr CL, Cath DC. (June 2015). Lifetime Prevalence, Age of Risk, and Etiology of Comorbid Psychiatric Disorders in Tourette. Poster presented by Matthew Hirschtritt, Tourette Syndrome Association International Consortium for Genetics, 1st World Congress on Tourette Syndrome & Tic Disorders, London, UK.

51. Lyon GJ. (May 2015). New human genetic syndromes leading to the discovery of new biology. Poster Presentation, Cold Spring Harbor Laboratory: 80th CSHL Symposium on Quantitative Biology – 21st Century Genetics: Genes at Work, Cold Spring Harbor, NY.

50. Lyon GJ. (May 2015). Discovery and genetic characterization of new neuropsychiatric syndromes from family-based studies. Poster Presentation, Cold Spring Harbor Laboratory: The Biology of Genomes Meeting, Cold Spring Harbor, NY.

49. Lyon GJ. (April 2015). New human genetic syndromes and optimized next generation sequencing leading to the discovery of new biology. Poster Presentation, Wellcome Trust: Genomics of Rare Disease: Beyond the Exome Meeting. Wellcome Trust Genome Campus, Hinxton, UK.

48. Lyon GJ and Rope A. (March 2015). Comprehensive Whole Genome Sequencing Provides a Possible Etiology for a New Syndrome Characterized by Severe Intellectual Disability and Recognizable Dysmorphic Features. Poster Presentation by Alan Rope, American College of Medical Genetics Meeting, Salt Lake City, UT.

47. Lyon GJ and Fang H. (November 2014). Reducing INDEL calling errors in whole genome and exome sequencing data. Poster Presentation by Han Fang, CSHL Personal Genomes Meeting, Cold Spring Harbor, NY.

46. Lyon GJ and Fang H. (November 2014). Whole genome analysis of an extended pedigree with Prader-Willi Syndrome, Hereditary Hemochromatosis, Familial Dysautonomia, Tourette Syndrome and other illnesses. Poster Presentation by Han Fang, CSHL Personal Genomes Meeting, Cold Spring Harbor, NY.

45. Lyon GJ and O'Rawe J. (November 2014). Large pedigrees in human sequencing studies: toward a more resolved and accurate picture of genetic disease. Poster Presentation by Jason O'Rawe, CSHL Personal Genomes Meeting, Cold Spring Harbor, NY.

44. Lyon GJ and Fang H. (November 2014). Reducing INDEL calling errors in whole genome and exome sequencing data. Poster Presentation by Han Fang, CSHL Biological Data Science Meeting, Cold Spring Harbor, NY.

43. Lyon GJ and O'Rawe J. (October 2014). Large pedigrees in human sequencing studies: toward a more resolved and accurate picture of genetic disease. Poster Presentation, 64th Annual Meeting of the American Society of Human Genetics (ASHG), San Diego, CA.

42. Lyon GJ and Fang H. (October 2014). Reducing INDEL calling errors in whole-genome and exome sequencing. Poster Presentation, 64th Annual Meeting of the American Society of Human Genetics (ASHG), San Diego, CA.

41. Lyon GJ and Doerfel M. (October 2014). Molecular and cellular effects of the Ogden Syndrome S37P mutation on the function of the N-terminal acetyltransferase Naa10. Poster Presentation, 64th Annual Meeting of the American Society of Human Genetics (ASHG), San Diego, CA.

40. Lyon GJ and Doerfel M. (September 2014). An X-linked infantile lethal disorder deficient in the pathway for Nα-terminal acetylation of proteins. Poster Presentation by Max Doerfel, CSHL Translational Control Meeting, Cold Spring Harbor, NY.

39. Lyon GJ, Doerfel M. (May 2014). Molecular and cellular effects of the Ogden syndrome S37P mutation on the function of the N-terminal acetyltransferase Naa10. Poster Presentation by Max Doerfel, CSHL Molecular Chaperones & Stress Responses Meeting, Cold Spring Harbor, NY.

38. Lyon GJ, Fang H. (May 2014). Complexities of INDEL detection based on micro-assembly methods: WGS and WES comparisons. Poster Presentation by Han Fang, CSHL Biology of Genome Meeting, Cold Spring Harbor, NY.

37. Lyon GJ. (April 2014). Whole genome sequencing, clinical interpretation, and deep brain stimulation in a severely mentally ill person. Poster Presentation, CSHL Neural Circuits Meeting, Cold Spring Harbor, NY.

36. Lyon GJ. (July 2013). Whole genome sequencing, clinical interpretation, and deep brain stimulation in a severely mentally ill person. Poster Presentation, CSHL Wiring the Brain Meeting, Cold Spring Harbor, NY.

35. Lyon GJ. (July 2013). Whole genome sequencing, clinical interpretation, and deep brain stimulation in a severely mentally ill person. Poster Presentation, Gordon Research Conference, Human Genetics and Genomics, Smithfield, RI.

34. Lyon GJ and O'Rawe J. (May 2013). Toward more accurate variant calling for personal genomes. Poster Presentation by Jason O'Rawe, CSHL Biology of Genomes Meeting, Cold Spring Harbor, NY.

33. Wang K, **Lyon GJ.** (March 2013). Whole Genome Sequencing Analysis of an Idiopathic Mental Retardation Syndrome. Poster Presented by Kai Wang, American College of Medical Genetics (ACMG), Phoenix, AZ.

32. Robison R, **Lyon GJ.** (March 2013). Practical, ethical and regulatory considerations for the evolving medical and research genomics landscape. Poster Presented by Reid Robison, American College of Medical Genetics (ACMG), Phoenix, AZ.

31. Wang K, **Lyon GJ.** (March 2013). Toward more accurate variant calling for "personal genomes." Post Presented by Kai Wang, American College of Medical Genetics (ACMG), Phoenix, AZ.

30. Lyon GJ. (February 2013). Toward more accurate variant calling for "personal genomes." Poster Presentation, Advances in Genome Biology and Technology (AGBT) Conference, Marco Island, FL.

29. Lyon GJ. (February 2013). Whole Genome Sequencing Analysis of a severe Idiopathic Intellectual Disability Syndrome. Poster Presentation, Gordon Conference on Quantitative Genetics and Genomics, Galveston, TX.

28. Lyon GJ and O'Rawe J. (February 2013). Applications of Whole Genome Sequencing: a familial Analysis of a severe Idiopathic Intellectual Disability Syndrome. Poster Presented by Jason O'Rawe, CSHL From Base Pair to Body Plan Meeting – Celebrating 60 Years of DNA Meeting, Cold Spring Harbor, NY.

27. Guo Y, **Lyon GJ**, Wang K. (November 2012). Automated pipeline for whole exome/genome sequencing analysis on Mendelian diseases. Poster Presented by Kai Wang, Annual Meeting of the American Society of Human Genetics, San Francisco, CA.

26. Lyon GJ. (November 2012). Low concordance of variant calling algorithms in exome sequencing Poster, 62nd Annual Meeting of the American Society of Human Genetics, San Francisco, CA.

25. Lyon GJ. (May 2012). The Implementation of Clinical Genomics: Ethical, Societal and Regulatory Considerations. Poster, CSHL Biology of Genomes Meeting, Cold Spring Harbor, NY.

24. Lyon GJ. (May 2012). Low concordance of variant calling algorithms in exome sequencing. Poster, CSHL Biology of Genomes Meeting, Cold Spring Harbor, NY.

23. Narzisi G, Iossifov I, Levy D, Lee Y, Wang Z, Pradhan K, **Lyon GJ**, Wigler M, Schatz MC. (May 2012). Scalpel: Detection and validation of de novo mutations in exome-capture data using micro-assembly. Poster Presented by Giuseppe Narzisi. Cold Spring Harbor Laboratory, Biology of Genomes Meeting, Cold Spring Harbor, NY.

22. Lyon GJ, Van Damme P, Kalvik T, Myklebust L, Gevaert K, Arnesen T. (February 12-16, 2012). Cellular and proteomic studies supporting the hypothesis that a newly identified X-linked infantile lethal disorder might be caused by decreased amino-terminal acetylation of proteins. Chemical Biology and Novel Tools in Pharmacology, Santa Fe, NM, Poster Presentation.

21. Glessner JT, Hadley D, Wang K, Bradfield J, Kim C, Mentch F, Qiu H, Frackelton E, Li J, Hou C, Otieno FG, Thomas K, Seidler K, Chiavacci R, Connolly J, **Lyon GJ**, Tian L, Keating B, Sleiman PMA, Grant SFA, Li M, Hakonarson H. (October 2011). Genome copy number variation landscape in 68,000 humans and relevance to complex disease. Platform Presentation by Joe Glessner for American Society of Human Genetics Meeting, Montreal, CAN.

20. Lyon GJ. (September 2011). Poster Presentation, XIXth World Congress of Psychiatric Genetics, Washington DC, MD.

19. Lyon GJ, Wang K, Xing J, Swensen JJ, Robison R, Johnson WE, Moore B, Hakonarson H, Reese M, Yandell M. (September 2011). Returning Research Results in the Context of Next-Generation Sequencing for Idiopathic Disorders? CSHL Personal Genomes Meeting, Cold Spring Harbor, NY, Poster presentation.

18. Reese MG, de la Vega F, Chervitz S, Russell A, Kiruluta EE, Huff C, Hu H, Moore B, Jorde L, **Lyon GJ**, Yandell M. (September 2011). A clinical genome interpretation system: variant prioritization in personal genomes for clinical applications. CSHL Personal Genomes Meeting, Cold Spring Harbor, NY, Poster presented by Martin Reese.

17. Lyon GJ. (2011). Massively parallel sequencing identifies a previously unrecognized X-linked disorder resulting in lethality in male infants owing to amino-terminal acetyltransferase deficiency. Genome Biology, Volume 12, Supplement 1, P13, DOI: 10.1186/1465-6906-12-S1-P13. Beyond the Genome, Poster Presentation.

16. Lyon GJ. (August 2011). Drug Discovery and Diagnostic Development Week, Next Generation Sequencing and Genomic Medicine, San Francisco, CA, Poster Presentation.

15. Lyon GJ. (July 2011). Using VAAST and Next Gen Sequencing to characterize a novel disorder caused by protein N-terminal acetyltransferase Deficiency. Gordon Research Conference, Human Genetics and Genomics, Newport, RI, Poster Presentation.

14. Lyon GJ. (May 2011). Massively parallel sequencing and clinical characterization of a novel disorder caused by protein N-terminal acetyltransferase deficiency. CSHL Biology of Genomes Meeting, Cold Spring Harbor, NY, Poster Presentation.

13. Yandell M, Huff C, Hu H, Singleton M, Moore B, Xing J, Jorde L, Kronenberg Z, Chervitz SA, **Lyon GJ**, Reese MG. (May 2011). A Probabilistic disease gene finder for personal genomes. Platform Presentation and Poster by Mark Yandell at CSHL Biology of Genomes Meeting, Cold Spring Harbor, NY.

12. Hakonarson H, Glessner JT, Wang K, Takahashi N, Shtir CJ, Sleiman PMA, Zhang H, Kim CE, **Lyon GJ**, Flory JH, Bradfield JP, Imielinski M, Hou C, Frackelton EC, Middleton F, Todorov AA, Reif A, Franke B, Lesch KP, Anney R, Shaw P, Devoto M, Grant SFA, White P, Buxbaum JD, Rapoport JL, Williams NM, Nelson SF, Faraone SV, Elia J. (November 2010). Genome Wide Copy Number Variation Study Associates Metabotropic Glutamate Receptor Genes with Attention Deficit Hyperactivity Disorder. ADHD GWAS Consortium. Platform Presentation given by Joe Glessner for American Society of Human Genetics Meeting, Washington DC, MD.

11. Lyon GJ. (June 2010). Improving Tic Suppression: Comparing the Effects of Dexmethylphenidate to No Medication in Children and Adolescents with ADHD and Chronic Tic Disorders. NCDEU 50th Anniversary Meeting, Boca Raton, FL, Poster Presentation.

10. Lyon GJ, Coffey B, Castellanos XF, Woods D, Conelea C, Samar S, Bauer C, Brandt BC, Kemp JK, Lipinski CM, Trujillo MR, Lawrence ZE. (June 2010). Update to Improving Tic-Related Response Inhibition: Comparing the Effects of Dexmethylphenidate to No Medication in Children and Adolescents with ADHD and Chronic Tic Disorders. NCDEU 50th Anniversary Meeting, Boca Raton, FL, Poster Presentation.

9. Robison R, Wang K, Hobbs M, Cannon D, **Lyon GJ**, Miller J, Tuya S, Matsunami N, Leppert M, Hakonarson H, Davis L, Cook E, Facelli J, McMahon W, Coon H. (April 11-15, 2010). Genome-wide analysis of copy number variation in extended autism pedigrees. Towards Defining the Pathophysiology of Autistic Behavior, Sponsored by Simons Foundation, Organizers: Pat Levitt and Joseph Piven, Snowbird Resort, Snowbird, UT, Poster Presentation.

8. Lyon GJ, Coffey B, Castellanos XF, Woods D, Conelea C, Samar S, Bauer C, Brandt BC, Kemp JK, Lipinski CM, Trujillo MR, Lawrence ZE. (October 2009). Improving Tic-Related Response Inhibition: Comparing the Effects of Dexmethylphenidate to No Medication in Children and Adolescents with ADHD and Chronic Tic Disorders. AACAP 56th Annual Meeting, Honolulu, HI., Poster Presentation

7. Coffey BJ, Jummani R, Hirsch S, **Lyon GJ**, Spirgel A, Goldman R, Samar S. (October 2008). Aripiprazole in children and adolescents with Tourette's Disorder: An open label safety and tolerability study. AACAP 55th Annual Meeting, Chicago, IL, Poster Presentation.

6. Lyon GJ, Coffey B, Castellanos XF, Woods D. (July 2008). Pilot study plan for Improving tic-related response inhibition: Comparing the effects of dexmethylphenidate to placebo in children and adolescents with ADHD and chronic tic disorders. International Journal of Neuropsychopharmacology, Vol 11, Supplement 1, p. 292. CINP Biennial International Congress Meeting, Munich, DE, Poster Presentation.

5. Lyon GJ. (July 2008). Pilot study plan for "Improving tic-related response inhibition: Comparing the effects of dexmethylphenidate to placebo in children and adolescents with ADHD and chronictic disorders." 50th Anniversary and XXVI Congress of the CINP (Collegium Internationale Neuro Psychopharmacologicum), Munich, DE, Poster Presentation.

4. Lyon GJ. (July 2002). Poster, Enzymology Gordon Research Conference, Kimball Union, NH.

3. Lyon GJ. (May 2002). Poster, Yale Chemical Biology Symposium, New Haven, CT.

2. Lyon GJ. (August 2001). Poster, Staphylococcal Diseases Gordon Conference, Bristol, RI.

1. Lyon GJ. (June 2001). Poster, Bioorganic Chemistry Gordon Conference, Proctor, NH.

Chair for Following Sessions

6. Lyon GJ. (December 4-5, 2013). Chair for exome sequencing session. Clinical Exome Sequencing Meeting, Sheraton Lisboa Hotel and Spa, Lisbon, Portugal.

5. Lyon GJ. (October 2013). Co-moderator for Concurrent Platform (abstract-driven) SESSION 20 Variants, Variants Everywhere. The American Society of Human Genetics Meeting, Boston, MA.

4. Lyon GJ. (February 2013). Chair for session on "Miscellaneous Topics." 20th Annual Molecular Psychiatry Conference, Park City, UT.

3. Lyon GJ. (November 2012). Chair for short course on "Software Considerations for Processing, Analyzing and Interpreting Exome & Genome Sequence Data in Clinical Settings." Instructors were Liz Worthey and Chris Mason, World Genome Data Analysis Meeting, San Francisco, CA.

2. Lyon GJ. (October 2012). Chair for session on "The Road to the Clinic: Applying Genomics in a Clinical Setting". Clinical Genomics Meeting, Part of Bio-IT Europe.

1. Lyon GJ. (April 2012). Chair for session on Translating Genomic Data and Research into Clinical Practice. Including Speakers Isaac Kohane and Elizabeth Worthey, Bio-IT World, Boston, MA.