CURRICULUM VITAE

**Name**: Flora M. Vaccarino, M.D.

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**Education**: M.D. Padua University School of Medicine, Italy, 1979

Specialization in Neurology, Padua University School of Medicine, Italy, 1983

Specialization in Psychiatry, Yale University School of Medicine, USA 1991

**Career/Academic Appointments:**

1981-82 Postdoctoral Research Fellow, Department of Psychiatry, Indiana University School of Medicine, Indianapolis, USA

1982-85 Postdoctoral Research Fellow, NIMH, Laboratory of Preclinical Pharmacology

 Washington DC, USA

1985-87: Postdoctoral Fellow, Department of Pharmacology, School of Medicine, Georgetown University, Washington DC, USA

* 1. Resident in Psychiatry, Yale University, New Haven, USA

1990-91 Chief Resident, Psychiatry, Clinical Neuroscience Research Unit, CMHC, New Haven, CT

1991-92: Postdoctoral Fellow in Developmental Neurobiology, Child Study Center, Yale University, New Haven, CT

1992- 94 Associate Research Scientist, Child Study Center, Yale University School of Medicine, New Haven, CT

1994-2000 Assistant Professor, Child Study Center, Yale University School of Medicine, New Haven, CT

1996-2000 Assistant Professor (Joint Appointment), Section of Neurobiology, Yale University School of Medicine, New Haven, CT

2000-2009 Associate Professor, Child Study Center and Department of Neurobiology, Yale University School of Medicine, New Haven, CT

* 1. Associate Professor with Tenure, Academic Track, Child Study Center and Department of Neurobiology, Yale University School of Medicine, New Haven, CT

2009-present Professor with Tenure, Academic Track, Child Study Center, Yale University School of Medicine, New Haven, CT

2010-present Harris Professor at the Child Study Center and Department of Neuroscience, Yale University School of Medicine, New Haven, CT

**Administrative Positions:**

2000-present: Director, Developmental Neurobiology Laboratory, Yale University School of Medicine, New Haven, CT (<http://medicine.yale.edu/lab/vaccarino/>)

2009-present: Director, Program in Neurodevelopment and Regeneration, Yale University School of Medicine (http://medicine.yale.edu/neurodevelopment/index.aspx)

**License and Certifications:**

Italian State Medical Licensure, 1980

Certification from the Educational Commission for Foreign Medical Graduates (ECFMG), 1985

State of Connecticut Medical License #030286, 1989

**Professional Honors & Recognitions**:

### A) International/National/Regional

2019: Simons Investigator

2019: Weber Prize, Rotary Foundation, Messina (Italy) Chapter

2018: Shucart Lecturer, 9th Annual Tufts Neuroscience Symposium, Boston, MA.

2018: Lieber Institute, Johns Hopkins University, Scientific Advisory Board

2017: Brain & Behavior Research Foundation’s Scientific Council

2017: Keynote speaker, Gordon Research Conference “Inhibition in the CNS” June 23-29 2017, Les Diablerets, Switzerland.

2017: Biological Psychiatry, finalist for the 2017 Ziskind-Somerfeld Research Award, honorable mention for the article “Transcriptome analysis of the human striatum in Tourette syndrome” by Lennington, J.B., Coppola, G., Kataoka-Sasaki, Y., Fernandez, T., Palejev, D., Li, Y., Huttner, A., Pletikos, M., Šestan, N., Leckman, J.F., and Vaccarino, F.M.

2017: Collegio dei Docenti, Dottorato di Ricerca in Neuropsicofarmacologia Clinica e Sperimentale, University of Messina, Italy

2016: Simons Investigator

2013: Fellow, American Association for the Advancement of Science (AAAS)

2013: Scientific Committee, Telethon Foundation, Italy

2011: Established Investigator Award, State of Connecticut, Stem Cell Initiative

2011: National Alliance for Research in Schizophrenia and Affective Disorders (NARSAD) Distinguished Investigator Award

2009: Simons Investigator

2008: Executive Councilor, International Society for Developmental Neuroscience

2008: Established Investigator Award, State of Connecticut, Stem Cell Initiative

2004: Tourette Syndrome Association Research Award

2003: Essel Investigator, NARSAD

2003: NARSAD Independent Investigator Award

2000: NARSAD Independent Investigator Award (2000)

1998: Tourette Syndrome Association Research Award

1997: Professional Opportunities for Women in Research and Education Award, National Science Foundation

1993: NARSAD Young Investigator Award

1990: NARSAD Young Investigator Award

1981: Rotary International Educational Award

B) Yale University

2019: Kavli Institute for Neuroscience Innovator Award

2019: Kavli Institute for Neuroscience Steering Committee

2013: Member, Kavli Institute for Neuroscience at Yale

2010: Harris Endowed Professorship, Yale University School of Medicine

2008: Member, Yale Stem Cell Center (YSCC)

1994: Dean's Award, Yale University Medical School

1992: Berger Fellow, Child Study Center

1991: Lustman Award for Excellence in Research, Yale University, Dept. of Psychiatry

1990: Chief Resident, Psychiatry, Clinical Neuroscience Research Unit, Connecticut Mental Health Center, New Haven, CT

**Grant history:**

**A) Current grants:**

Agency: NIH-Brain Initiative

I.D. ## R01MH123978

Title: “Engineering of organoid-based brain circuits”

P.I.s: Flora M. Vaccarino; Andre Levchenko

Percent Effort: 10%

Direct costs for project period: $978,782

Total costs for project period: $ 1,608,919

Project period: 09/01/2020 – 08/30/2023

Agency: Kavli Institute for Neuroscience at Yale

Title: “Engineering of organoid-based brain circuits”

P.I.s: Flora M. Vaccarino; Andre Levchenko

Percent Effort: 10%

Direct costs per year: $100,000

Total costs for project period: $100,000

Project period: 05/01/2020 to 04/30/2021

Agency: Simons Foundation

I.D. ## 632742

Title: “Chromatin regulation during brain development and in ASD”

P.I.s: Flora M. Vaccarino; A. Abyzov; Gregory Crawford

Percent Effort: 10%

Direct costs per year: $ 286,969

Total costs for project period: $ 1,297,651

Project period: 07/01/2019- 06/30/2023

Agency: NIMH

I.D. ## R01 MH118453-01

Title: Neurodevelopment of Tourette Syndrome

P.I.: Flora M. Vaccarino

Percent Effort: 10%

Direct costs per year: $289,470.00

Total costs for project period:

Project period: 12/01/2018-11/3/2023

Agency: NIMH

I.D. ## P50 MH115716-01

Title: Cellular, molecular, and functional imaging approaches to understanding early

 neurodevelopment in autism

P.I.s: Chawarska, Katarzyna (Project 3: Flora M. Vaccarino)

Percent Effort: 10%

Direct costs per year: $1,490,576.89

Total costs for project period:

Project period: 09/07/2017-07/31/2022

Agency: NIMH

I.D. ## R01 MH114927

Title: Neurogenetic Investigations of Obsessive-Compulsive Disorder

P.I.: Fernandez, Thomas V

Percent Effort: 5%

Direct costs per year: $356,530.00

Total costs for project period:

Project period: 10/01/2017-10/31/2022

Agency: NIMH

I.D. ## R01 MH109648

Title: Neurobiology of Autism with Macrocephaly

P.I.s: Flora M. Vaccarino, M.D.

Percent Effort: 10%

Direct costs per year: $383,374

Total costs for project period $3,173,647

Project period: 07/22/2016-04/30/2021

Agency: NIMH

I.D. ## U01 MH106876

Title: Somatic Mosaicism in the Brain of Tourette Syndrome

P.I.s: Flora M. Vaccarino, M.D.

Percent Effort: 10%

Direct costs per year: $735,084

Total costs for project period $5,219,011

Project period: 05/01/2015 to 01/31/2022

**B) Past grants:**

Agency: Simons Foundation

I.D. ## 399558 16-004046

Title: “Somatic Mosaicism in autism spectrum disorders”

P.I.: Flora M. Vaccarino, M.D.; A. Abyzov, co- PI

Percent Effort: 10%

Direct costs per year: $233,031

Total costs for project period: $824,744

Project period: 09/01/2016 - 02/28/2021

Agency: NIMH

I.D. ## R56MH114911-01A1

Title: 1/3 Chromatin regulation during brain development and in ASD

P.I.s: Flora M. Vaccarino; Gregory Crawford; Alexej Abyzov

Percent Effort: 5%

Direct costs per year: $328,706

Total costs for project period $550,583

Project period: 07/01/2018 – 06/30/2020

Agency: NIH, NIMH

I.D. ## 1-R01 MH100914

Title: Genomic mosaicism in Developing Human Brain

P.I.s: Flora M. Vaccarino, M.D.; Mark Gerstein, Ph.D.

Percent Effort: 10%

Direct costs per year: $433,785

Total costs for project period $3,995,212

Project period: 09/01/2013 to 12/31/2019

Agency: Blackswan Foundation

I.D. ## 18-003962

Title: “Gene targets of FOXG1 in human brain progenitors”

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 3%

Direct costs per year: $113,600

Total costs for project period: $113,600

Project period: 03/15/2018-09/14/2019

Agency: NIMH

I.D. ## R21 MH113946

Title: Fibroblast Growth Factor 2's role in Fear and Approach Motivation in Anxious and Depressed Children and their Mothers

P.I.: Silverman, Wendy

Percent Effort: 6%

Direct costs per year: $150,000

Total costs for project period: $250,000

Project period: 06/12/2017-05/31/2019

Agency: NIMH

I.D. ## U01 MH103365-01

Title: Gene regulatory elements and transcriptome in iPSCs and embryonic human cortex

P.I.s: Flora M. Vaccarino, M.D.; Mark Gerstein, Ph.D.; Sherman Weissman, M.D.

Percent Effort: 5%

Direct costs per year: $390,391

Total costs for project period (including supplement) $ 2,112,338

Project period: 06/15/2014 to 05/31/2019

Agency: Tourette Syndrome Association

I.D. ## 14-002964

Title: Transcriptome analysis of the basal ganglia in Tourette syndrome

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 1%

Direct costs per year: $55,468

Total costs for project period $149,301

Project period: 04/01/2014-5/30/2017

Agency: Autifony Therapeutics Ltd.

I.D. ## 15-005205 R13044

Title: Reversal of Anatomical & Behavioral Phenotype of TrB KO Mice by AUT-6

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 1%

Direct costs per year: $77,921

Project period: 05/01/2015 to 06/30/2016

Agency: NIH/NINDS

I.D.# 1-P01NS062686-01A1

Title: “Injury and Recovery in Developing Brain”

P.I. Flora M. Vaccarino, M.D.

Percent Effort: 25%

Direct costs per year: $840,074

Project period: 09/15/2009 to 06/30/2015 (NCE until Dec. 2015)

Agency: NIMH

I.D. ##: R01 MH091860-01

Title: “Pathophysiologically realistic mouse models of neuropsychiatric disease TS”

P.I.: Christopher Pittenger, M.D., Ph.D.

Percent Effort: 5%

Direct costs per year: $38,040

Project period: 07/01/2010-06/30/2015

Agency: CT Innovations

I.D. ## M145047

Title: “Differentiation of human iPSC and ES into functional neurons”

P.I. Flora M. Vaccarino, M.D.

Percent Effort: 10%

Direct costs per year: $192,766

Total costs for project period: $744,447

Project period: 11/01/2011 to 09/30/2014

Agency: NIH, NIMH

I.D. ## 1-R01 MH067715-08

Title: “Morphogenesis and function of the cerebral cortex”

P.I. Flora M. Vaccarino, M.D.

Percent Effort: 11%

Direct costs per year: $247,500

Total costs for project period: $2,049,428

Project period: 12/1/2002 to 9/30/2014

Agency: NIH/NIMH

I.D. ## R33 MH087879-03

Title: “Cellular and genetic correlates of increased head size in autism spectrum disorder”

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 5%

Direct costs per year: $ 245,745

Total costs for project period: $ 809,763

Project period: 09/01/2011-08/31/2013

Agency: Kavli Institute for Neuroscience at Yale

Title: Microfluidics System for High Throughput Culture and Analysis of Induced Pluripotent Stem Cells

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 2%

Total costs for project period: $99,909

Project period: 11/01/2012 to 10/30/2013

Agency: NIH/NINDS

I.D. ## 1-R01 NS60750

Title: “Astroglial cells in perinatal brain injury”

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 11%

Direct costs per year: $218,750

Total costs for project period: $ 1,827,301

Project period: 07/1/2008 to 06/30/2013

Agency: Women's Health Research at Yale

Title: Gender Differences in Aging Astroglial Stem Cells

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 5%

Total costs for project period: $34,818.00

Project period: 07/01/2012 to 06/30/2013

Agency: NARSAD

I.D. ## 18590

Title: “NARSAD Distinguished Investigator – 2011”

P.I. Flora M. Vaccarino, M.D.

Percent Effort: 5%

Total costs for project period: $100,000

Project period: 10/15/2011 to 10/14/2012 (under NCE until 4/2013)

Agency: NIH/NIMH

I.D. ## R01 MH089176

Title: “Biological correlates of altered brain growth in autism”

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 5%

Direct costs per year: $644,600

Total costs for project period: $ 1,987,576

Project period: 09/30/2009-08/31/2012 (under no-cost extension)

Agency: Simons Foundation

I.D. ## 137055 M134791

Title: “Integrated Approach to the Neurobiology of Autism Spectrum Disorders”

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 15%

Direct costs per year: $54,000

Total costs for project period: $ 464,236

Project period: 07/01/2009-06/30/2012

Agency: NIH/NIA

I.D. ## R21 AG034495

Title: “Environmental Enrichment and Neuronal Turnover in Brain”

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 5%

Direct costs per year: $173,250

Total costs for project period: $ 455,125

Project period: 08/01/2009-07/31/2012 (under no-cost extension)

Agency: NIH/NIMH

I.D. ## 1-R01 NS054994

Title: “Inhibitory Interneurons in Tourette syndrome”

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 11%

Direct costs per year: $157,000

Total costs for project period: $1,157,625

Project period: 05/01/2007 to 04/30/2012

Agency: NIH/NIMH

I.D. ## R21 MH087879

Title: “Cellular and genetic correlates of increased head size in autism spectrum disorder”

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 4%

Direct costs per year: $125,999.00

Total costs for project period: $ 491,156

Project period: 09/01/2009-08/31/2011

Agency: Autism Speaks

I.D. ## Basic and Clinical Research Award

Title: “Neurogenic Growth Factors in Autism”

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 4%

Direct costs per year: $135,556

Total costs for project period: $446,744

Project period: 7/1/2007-6/30/2010

Agency: State of CT, Dept. of Public Health

I.D. ## Established Investigator Grant

Title: “Effect of hypoxia on neural stem cells and their function in CNS repair”

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 9%

Direct costs per year: $132,969

Total costs for project period: $449,771

Project period: 07/01/2008-08/31/2011

Agency: Tourette Syndrome Association

I.D. ## Research grant

Title: “Interneuron deficit and functional compartments of the striatum in Tourette Syndrome”

P.I.: Flora M. Vaccarino, M.D.

Percent Effort: 4%

Direct costs per year: $71,892

Total costs for project period: $ 71,892

Project period: 07/1/2009 to 06/30/2010

Agency: NIH/NINDS

I.D. ## P01-NS 35476

Title: “Adaptive Mechanisms of Developing Brain”

P.I.: Laura Ment, M.D.

Role on Project: Project 2, Project Director

Percent Effort: 20%

Total costs for project period: $ 8,143,933

Project period: 2/1/2003 to 6/30/2008

Agency: NIH/NIMH

I.D. ## 1 R25 MH079336

Title: “Clinical and Basic Neurobiology of Nervous System Diseases”

P.I.: George Heninger, M.D.

Role on Project: Investigator

Percent effort: 3%

Total costs for project period: $134,542

Project period: 09/01/2006-08/31/2008

Agency: National Alliance for Autism Research (NAAR)

I.D. ## Biomedical Research Award

Title: “Molecular Mechanisms of cerebral cortical overgrowth”

P.I.: Flora M. Vaccarino, M.D.

Percent effort: 10%

Total costs for project period: $119,276

Project period: 7/1/2005-6/30/2007

Agency: TSA (Tourette’s Syndrome Association)

I.D. ## TSA Research Award

Title: “Neuroanatomical Studies of Tourette’s Syndrome”

P.I.: Flora M. Vaccarino, M.D.

Percent effort: 5%

Total costs for project period: $148,109

Project period: 4/1/2004 to 3/31/2007

Agency: NIH/NINDS

I.D. ## 1-R01 NS37709-01

Title: “Role of Fibroblast Growth Factor in Cerebral Cortical Development”

P.I.: Flora M. Vaccarino, M.D.

Percent effort: 30%

Total costs for project period: $1,151,323

Project period: 2/1/2000 to 7/31/2003

Agency: National science Foundation (NSF)

I.D. ## IBN-0083104

Title: “Fibroblast Growth Factor Receptor Signaling in Brain Development”

P.I.: Flora M. Vaccarino, M.D.

Percent effort: 25%

Total costs for project period: $300,000

Project period: 9/15/2000 to 9/14/2003

Agency: NIH/NIMH

I.D. ## PO1 MH49351

Title: “Pathogenesis & treatment of TS, OCD & related disorders”

P.I.: James Leckman, M.D.

Role on Project: Project 4, Project Director

Percent effort: 10%

Total costs for project period: $15,978,130

Project period: 7/01/2000-8/30/2003

Agency: Korczak Foundation

I.D. ## Biomedical Research Award

Title: “Genetic aspects of Autistic Syndromes: Molecular mechanisms of development in affected brain systems”

P.I.: James F. Leckman, M.D.

Role on Project: Co-PI

Percent effort: 5%

Total costs for project period: $300,000

Project period: 11/1/1999 to 10/31/2003

Agency: NARSAD

I.D. ## Independent Investigator Award

Title: “Regulation of mood and affect by the hippocampus”

P.I.: Flora M. Vaccarino, M.D.

Percent effort: 5%

Total costs for project period: $100,000

Project period: 9/15/2003 to 9/14/2005

Agency: NARSAD

I.D. ## Independent Investigator Award

Title: “Functions of Fibroblast Growth Factors in Adult Neurogenesis”

P.I.: Flora M. Vaccarino, M.D.

Percent effort: 5%

Total costs for project period: $100,000

Project period: 9/15/2000 to 9/14/2002

Agency: National science Foundation (NSF)

I.D. ## IBN-9514283

Title: “Growth Factors in the Genesis of the Cerebral Cortex”

P.I.: Flora M. Vaccarino, M.D.

Percent effort: 25%

Total costs for project period: $356,932

Project period: 3/1/1996 to 2/28/1999

Agency: Tourette’s Syndrome Association (TSA)

I.D. ## TSA Research Award

Title: “Neurodevelopmental abnormalities in the indirect basal ganglia pathway in TS”

P.I.: Flora M. Vaccarino, M.D.

Percent effort: 5%

Total costs for project period: $20,000

Project period: 7/1/1998 to 6/30/1999

Agency: NIH/NINDS

I.D. ## NS35476-01

Title: “Adaptive mechanisms of developing brain”

P.I.: Laura Ment, M.D.

Role on Project: Co-Investigator, Project 2

Percent effort: 25%

Total costs for project period: $5,940,689

Project period: 7/1/1997 to 6/30/2002

Agency: NIH/NIMH

I.D. ## PO1 MH49351

Title: “Pathogenesis & treatment of TS, OCD & related disorders”

P.I.: James Leckman, M.D

Role on Project: Co-Investigator, Project 3

Percent effort: 10%

Total costs for project period: $866,215

Project period: 7/01/1996 to 6/30/1999

Agency: Korczak Foundation

I.D. ## Biomedical Research Award

Title: “Genetic aspects of Autistic Syndromes: Molecular studies of the Oxytocin system”

P.I.: James F. Leckman, M.D.

Role on Project: Co-Investigator

Percent effort: 5%

Total costs for project period: $266,000

Project period: 11/1/1994 to 10/31/1998

Agency: NIH/NIMH

I.D. ## P50 MH30929

Title: “Clinical Science Research Center in Psychiatry”

P.I.: Malcom Bowers, M.D.

Percent effort: 30%

Total costs for project period: $1,420,952

Project period: 9/1/1993 to 8/31/1998

Agency: NARSAD

I.D. ## Young Investigator Award

Title: “Regulation of cortical neurogenesis”

P.I.: Flora M. Vaccarino, M.D.

Percent effort: 30%

Total costs for project period: $60,000

Project period: 9/1/1993 to 8/31/1995

Agency: NARSAD

I.D. ## Young Investigator Award

Title: “Regulation of neuronal gene expression by glutamate and dopamine”

P.I.: Flora M. Vaccarino, M.D.

Percent effort: 30%

Total costs for project period: $60,000

Project period: 9/1/1990 to 8/31/1992

**Lectures/Seminars:**

2021: World Wide Neuro initiative ([https://www.worldwideneuro.com/](https://nam05.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.worldwideneuro.com%2F&data=02%7C01%7Cflora.vaccarino%40yale.edu%7Ce3489d3d8b8341ae691a08d80213d3e1%7Cdd8cbebb21394df8b4114e3e87abeb5c%7C0%7C0%7C637261631480502774&sdata=i7C6AD%2BC3i%2BNNpcV9BMv%2BG9lyBRnHjC5IKL4Elf3I9A%3D&reserved=0)). Invited seminar entitled: Lineage tracing through somatic mutations in living human individuals. April 13, 2021.

2021: The Saban Research Institute of Children’s Hospital Los Angeles, USA. March 24, 2021. Invited virtual seminar entitled: “*Cell fate trajectories in human cortical organoids from autism spectrum disorders”.*

2021: The Brain Prize Meeting 2021 VIRTUAL CONFERENCE, March 1-4, 2021. Invited online seminar entitled: “*Cell fate trajectories in cortical organoids from autism spectrum disorders”.*

2021: Foster Talk in the Department of Physiology, Development and Neuroscience at the University of Cambridge, UK, Jan 21, 2021. Invited online seminar entitled: “*Lineage tracing through somatic mutations in human development”.*

2021: Talk at the Institute of Stem Cell Research, Helmholtz Zentrum München, University of Munich, Austria, Jan 7th, 2021. Invited online seminar entitled: *“Lineage tracing through somatic mutations in living human individuals”.*

2020: Iowa Neuroscience Institute, University of Iowa, USA. Dec. 4th, 2020. Invited online seminar entitled: “*Cortical organoids: cell fate trajectories and relevance for neuropsychiatric disorders*”.

2020: 2020 RIKEN BDR-CuSTOM Joint Virtual Symposium “Integrated organoid science: Stem cells, Engineering, Medicine”. November 4 to 6, 2020. Invited talk entitled “*Cell fate trajectories in cortical organoids in development and disease*”.

2020: PhD Programme in Functional and Structural Genomics in the Neuroscience Department of the International School for Advanced Studies (SISSA), Trieste, Italy, Oct. 13, 2020. Virtual presentation entitled “*Somatic mosaicism and lineage tracing in human development*”.

2020: A. Einstein College of Medicine, Sept. 16, 2020. Invited online seminar entitled “*Single Cell Transcriptomes in Cortical Organoids: regional organization and relevance to ASD*”.

2020: FOXG1 Foundation Science Symposium. Invited online presentation entitled: “*Regulation of human forebrain gene expression by FOXG1*”. 08/18/20

2019: Development & 3-D Modeling of the Human Brain, Dec 9-12, Cold Spring Harbor Laboratory. Lecture entitled: “ *Single cell transcriptomes in cortical organoids from patients with autism spectrum disorder*”.

2019: ACNP, 58th Annual Meeting Orlando, Florida, December 8-11, 2019. Presentation in a panel session titled “*Single cell transcriptomes in cortical organoids from patients with Autism Spectrum Disorder*”.

2019: Society for Neuroscience Annual Meeting, Chicago, IL. October 19-23, 2019. Chair, Symposium on “Somatic Mosaicism; Implications for Development and Disorders. Presentation entitled: “*Somatic mutations in human brain development*”.

2019: San Raffaele Scientific Institute, Milan, Italy, September 30 2019. Invited plenary Lecture entitled “*Development of the human telencephalon modeled in organoids*”.

2019: Environmental Mutagenesis and Genomics Society 2019 Annual Meeting in Washington DC, September 19-23. Presentation at the symposium on "Mutation Rates and Evolution" entitled: ‘*Somatic mosaicism in human brain development*”.

2019: PsychENCODE: Functional Genomics of Human Brain Development and Neuropsychiatric Disorders, Yale School of Medicine, July 12, 2019. Topics in PsychENCODE research.

2019: McLean Hospital Neuroscience Seminar Series, Boston, MA, June 18, 2019. Seminar entitled: “*Neurobiology of Tourette syndrome*”.

2019: Division of Intramural Research of the National Human Genome Research Institute (NHGRI) DIR Seminar Series, Washington DC, June 6th 2019. Seminar entitled: **“***Somatic mosaicism in human brain development*”.

2019: University of Messina, Italy, Sicily, Faculty of Medicine, May 21, 2019. Presentation entitled: *Cellule staminali e sviluppo cerebrale umano*.

2019: Neuroscience School of Advanced Studies (NSAS) Course Director, Brain Somatic Mosaicism Course. May 11-18 2019, Isola di San Servolo, Venice, Italy

2019: Meeting of the Tourette program at Washington University in St. Louis and the Missouri chapter of the TAA, April 29, 2019. Seminar entitled: “*Pathology and epigenetics of TS*”.

2019: ICM, Brain and Spine Institute, Université Pitie-Salpetriere, Paris, France, April 19, 2019. Presentation and workshop entitled: “*Modeling normal and abnormal brain development in stem cell-derived organoids*”.

2019: University of Michigan, Human Genetics seminar series, Ann Arbor, MI, March 18, 2019. Seminar entitled: “*Genomic mosaicism in the developing human brain*”.

2019: University of Wisconsin Stem Cell Regenerative Medicine Center Stem Cell Seminar Series, UW-Madison, March 5th, 2019. Seminar entitled: “*Gene regulation in telencephalic organoids in development and disease*”.

2018: ACNP 57th Annual Meeting, Hollywood, Florida, December 9-13, 2018. Presentation in the panel entitled “Challenges and Solutions to Elucidating Psychiatric Disease Biology from Genomic Association Using Human Induced Pluripotent Stem Cell-Based Assays”.

2018: 7th Brain Somatic Mosaicism (BSMN) Networking Meeting, University of California, San Diego, November 7th, 2018. Presentation entitled: “*Somatic mosaicism in Tourette syndrome: implications for brain asymmetry*”.

2018: Keynote speaker at the Andrew S. Rachlin UNC Neuroscience Symposium, Thursday Oct 11th, 2018, University of North Carolina at Chapel Hill. Seminar title “*Landscape of transcriptome and epigenome in early cortical development modeled in organoids*”.

2018: EMBO | EMBL SYMPOSIUM on Organoids: Modelling Organ Development and Disease in 3D Culture. 10-13 of September 2018, Heidelberg, Germany. Seminar title “*Enhancer and transcriptome dynamics in iPSC-derived brain organoids*”.

2018:  83rd Cold Spring Harbor Laboratory Symposium on Quantitative Biology: Brains & Behavior: Order & Disorder in the Nervous System. May 30 to June 3, 2018. Lecture entitled: “*Integrative multi-omics analyses of iPSC-derived brain organoids identify early determinants of human cortical development*”.

2018: Gordon Research Conference on Fragile X and Autism-Related Disorders held June 10, 2018 - June 15, 2018 at Renaissance Tuscany Il Ciocco in Lucca (Barga), Italy. Seminar entitled: “*Integrative multi-omics analyses of iPSC-derived brain organoids identify early determinants of human cortical development*”.

2018: Shucart Lecture, 9th Annual Tufts Neuroscience Symposium, Boston, MA: “*Pluripotent cells, organoids and human brain development*”. 05/010/2018

2018: The Biology of Genomes, Cold Spring Harbor Laboratory. Presentation entitled: “*Integrative multi-omics analyses of iPSC-derived brain organoids identify early determinants of human cortical development*”. 05/09/2018

2018: Baylor College of Medicine, Department of Molecular and Human Genetics, Houston, TX. MHG Clinical Genetics Seminar Series title: “*Enhancer and Transcriptome Dynamics in Brain Organoids Relevant to Neuropsychiatric disorders*”. 05/07/2018

2018: Yale University, PsychENCODE consortium annual meeting. Presentation entitled: “*Integrative multi-omics analyses of iPSC-derived brain organoids identify early determinants of human cortical development*”. 05/02/2018

2018: 6th Brain Somatic Mosaicism (BSMN) Networking Meeting, Rochester, MN April 22-23, 2018. Presentation entitled “*Approaches to somatic mosaicism analysis in Tourette Syndrome*”.

2018: Mayo Clinic, Rochester, MN. Invited seminar: “*Human brain organoids: relevance for normal and abnormal cortical development*”. 04/24/2018

2018: Vollum Institute, Oregon Health Sciences University (OHSU). Invited seminar “*Human pluripotent cells as a model for developmental disorders*”. 04/19/18.

2018: Keystone Symposium “iPSC: A decade of Progress and Beyond”, March 25-29, 2018. Seminar entitled: “Integrative multi-omics analyses of iPSC-derived brain organoids identify early determinants of human cortical development”.

2017: Development & 3-D Modeling of the Human Brain, Dec 6-9, Cold Spring Harbor Laboratory. Lecture entitled: “Brain organoids model regulatory events at the transition between neural stem cells and cortical neuron progenitors in humans”.

2017: CIFAR autism workshop “Revisiting core concepts in autism with new tools” Harvard University, Dec 1-2, 2017. Lecture entitled: “*Modeling Early Cortical Development and childhood developmental disorders using iPSCs*”.

2017: Simons Foundation Investigators Meeting, New York, October 1-3, 2017. Presentation entitled: “*Somatic mosaicism in the fetal human brain*”.

2017: Brain Somatic Mosaicism (BSM) Network Workshop, July 11, 2017, National Institute of Mental Health, Bethesda, Maryland. Presentation entitled “*Clonal analysis and lineage specific fractions as discovery tools for somatic mutations*”.

2017: Psychiatric Genomics in the Era of Team Science, July 10, 2017. National Institute of Mental Health, Bethesda, Maryland. Presentation entitled “*Brain Somatic Mosaicism in Neuropsychiatric Disease*”. 07/10/17.

2017: PsychENCODE Consortium workshop, July 7th, 2017, National Institute of Mental Health, Bethesda, Maryland. Presentation entitled “Comparative transcriptome and gene regulation in iPSC derived organoids and donor identical brain tissue”. 07/07/17

2017: Keynote speaker , Gordon Research Conference “Inhibition in the CNS” June 23-29 2017, Les Diablerets, Switzerland. Seminar title “Modeling Early Cortical Development in Autism Spectrum Disorders Using iPSCs”. 06/26/17.

2017: FM Kirby Neurobiology Center/Harvard Medical School Neurobiology Seminar Series. Seminar title “Mosaic somatic mutations in the prenatal human brain”. 05/22/17

2017: Lieber Institute, Johns Hopking School of Medicine. Invited seminar “Understanding the neurobiology of prenatal development: a window into neuropsychiatric disorders”. 04/07/17.

2017: Harvard University Conte Center for Mental Health Research. Invited seminar “Modeling prenatal cortical development using induced pluripotent stem cells”. 05/22/17.

2016: International Society of Developmental Neuroscience Biennial Meeting, 11-14 May 2016, Antibes-Juan Les Pins, France. Seminar entitled : “ Inhibitory neuron overproduction in autism spectrum disorders: role of FOXG1”. 05/12/2016.

2016: Baylor School of Medicine Integrative Molecular and Biomedical Sciences Graduate Program. March 30-31, 2016 Research Conference. Keynote address:“Dysregulated transcription factor networks and neuronal differentiation in autism spectrum disorders”.

2016: Canadian Developmental Biology Conference 2016. Satellite Symposium on Forebrain Neurogenesis: From Embryos to Adult, March 16-17, 2016, Banff, Alberta, CANADA. Seminar entitled: Dysregulated transcription factor networks and neuronal differentiation in autism spectrum disorders. 03/17/16.

2016: Pennsylvania State College of Medicine 2016 Graduate Student Research Forum. Keynote address: “From Single Gene Knockouts to Gene Interaction Networks: Transformations in Biology and in Scientist’s Lives”. Research Seminar: “Exploring the causes of human developmental brain disorders using stem cells”. 03/2/16.

2016: Children’s National Medical Center, Washincton DC. Seminar entitled: “Exploring the causes of autism spectrum disorders using stem cells”. 02/11/16.

2015: The Thursday Seminar. Duke University Medical Center. Seminar entitled: “Developmental trasnscriptomics of telencephalic organoids derived from patients with autism”. 11/18/15.

2015: Brain Somatic Mosaicism Network Workshop. Presentation entitled: “Somatic Mosaicism in Brain Development and Tourette Syndrome”. 11/05/15.

2015: Mayo Clinic, Rochester, MN. Seminar entitled: “Exploring the causes of human developmental brain disorders using iPSCs”. 11/04/2015

2015: SFARI October 2015 Science Meeting. Seminar entitled: “Inhibitory neuron overproduction in autism specrtum disorders: Role of FOXG1”. Simons Foundation, New York, October 4-6, 2015.

2015: Symposium of the Bavarian Research Network for Human Induced Pluripotent Stem Cells. Seminar entitled: “Modeling early cortical development in autism spectrum disorders using iPSCs”. July 1-3, 2015.

2015: Banbury Center, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. Seminar entitled: “ Telencephalic organoids model early developmental trajectories in autism”. April 14-17, 2015.

2015: Keystone Symposia Conference “Pathways of Neurodevelopmental Disorders” Granlibakken Resort, Tahoe City, California, USA. Seminar entitled: “Modeling early cortical Development in Autism Spectrum Disorders using iPSCs” March 16—20, 2015.

2015: Children’s Specialized Hospital (CSH), Rutgers Robert Wood Johnson Medical School and Rutgers University. Seminar entitled: “Autism Spectrum Disorders and Macrocephaly: Defining differentiation abnormalities using iPSC models”. 03/08/2015

2015: University of Connecticut Medical Center, Farmington, CT. Seminar entitled: “Abnormal cortical development in patients with autism: Insights using induced pluripotent stem cells”. 2/18/15.

2014: Society for Neuroscience Annual Meeting, Washington DC. Symposium "Advances in Studying Human Cortical Development". Seminar entitled: “Modeling human cortical development with iPSC to study autism”. 11/16/14

2014: University of Illinois at Chicago, seminar entitled: “ Studying cortical development in autism spectrum disorders with induced pluripotent stem cells”. 09/30/2014

2014: Workshop on Molecular Bases of of Psychiatric Diseases, July 9th, 2014, Scuola Superiore “Villa San Saverio”, Catania, Italy. Lectio Magistralis entitled “ Transcriptome analysis of the human striatum in Tourette Syndrome”. 07/09/14.

2014: Departement of Medical Genetics, Siena, Italy. Seminar entitled “Studying cortical development with induced pluripotent stem cells”. 6/30/14.

2014: “Cortical Development: Neural Stem Cells to Neural Circuits” Chania (Greece) May 22-25, 2014. Seminar entitled: “ Studying cortical development in autism spectrum disorders with induced Pluripotent Stem Cells”. 05/25/14.

2014: “International Meeting for Autism Research (IMFAR), Atlanta (GA) May 14-17, 2014. Panel “Early Atypical Growth Patterns in ASD: Evidence from Behavioral, Neuroimaging and Neurobiological Studies. Presentation entitled “Genome and Transcriptome Analyses of Induced Pluripotent Stem Cells in ASD”. 05/16/14.

2014: 2014 ESSTS Annual Meeting (European Society for the Study of Tourette Syndrome), Paris, April 23-26, 2014. Keynote Speaker. “Reduced Basal Ganglia Interneurons and Increased inflammation as reveled by transcriptome analysis in TS brains”. 04/26/14

2014: The NIH Common Fund. 2nd Annual Single Cell Analysis Investigators Meeting. April 22-24, 2014. Rockville, MD. Keynote Address. “Induced Pluripotent Stem Cells and the Impact of Genomic Variation on Psychiatric Disorders”. 04/22/14

2014: U.S. Department of Health and Human Services. NIH Director’s Wednesday Afternoon Lecture Series (WALS). Title: "Induced pluripotent stem cells and the impact of genomic variation on psychiatric disorders" 02/19/2014

2014: Children Hospital of Philadelphia, seminar entitled: “ Studying the neurobiology of autism spectrum disorders using iPSCs”. 02/04/2014

2013: Society for Neuroscience, Neurobiology of Disease Workshop “ Human Brain Disorders in a Dish: Induced Pluripotent Stem Cell Models of Disease”. Seminar entitled “Building a Cortex in a Dish”. 11/08/2013

2013: “Neurological and Psychiatric Diseases: Model Systems and Treatment” symposium at the Brown Institute for Brain Science (BIBS). Seminar entitled: “Neurodevelopment and the pathophysiology of neuropsychiatric disorders”. 11/1/2013

2013: XXIst World Congress of Psychiatric Genetics (WCPG). Symposium: “Induced Pluripotent Stem Cells: Tools for the Investigation of Neuropsychiatric Disorders”. Seminar entitled: “Genome and Transcriptome analyses of induced Pluripotent Stem Cells in Autism Spectrum Disorders”. 10/20/2013.

2013: Fourth Annual AMNI (Advances in Neuroscience for Medical Innovation) Seminar in Neuroscience, Saint-Jean-Cap-Ferrat (France): “IPS cells, a novel approach to modeling developmental events of relevance to schizophrenia”. 04/11/2013-04/13/2013.

2013: International Symposium: “Signaling in Morphogenesis and Patterning”, Helsinki, Finland: “Role of FGF signaling in cerebral cortical morphogenesis”. 03/13/2013-03/15/2013.

2012: Workshop on the Developmental Neurobiology of ASD, Simons Foundation, NY: “Growth and patterning of the neocortex and potential dysregulation in autism”. 09/12/2012

2012: Banbury Center, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY: “Induced pluripotent stem cells to study austism: promise and challenges.” 09/10/2012

2012: Summer School on "Neural Stem Cell in Development and Disease,” Trento, Italy: “Mechanisms governing cerebral cortical expansion and morphogenesis in neural stem cells.” 09/06/2012

2012: 8th Hershey Conference on Developmental Brain Injury 2012, Latimer Place, UK: “Cortical neurogenesis from the astroglial lineage after perinatal hypoxic injury and environmental enrichment.” 06/07/2012

2012: Department of Neuroscience, Rutgers University, invited seminar: “Modeling cortical development with induced pluripotent stem cells”. 04/26/2012

2012: Psychiatric iPSC workshop, NIMH, Washington, DC: “Three dimensional in vitro differentiation assays derived from iPDC”. 04/25/2012

2012: Cedars-Sinai Institute of Regenerative Medicine, Los Angeles, CA: “Modeling cortial development with induced pluripotent stem cells”. 04/05/2012

2011: 1st Joint Meeting of the *European Network for the Study of Gilles de la Tourette Syndrome* (EUNetGTS) and the *Enhancing the Scientific Study of Early Autism* (ESSEA), VU University, Amsterdam. “Induced Pluripotent Stem Cells”. 12/14/2011

2011: Chair of Society for Neuroscience Annual Meeting Symposium on “Neurobiology of Perinatal Brain Injury”. Symposium presentation: “Cortical GFAP+ astroglia generate neurons after perinatal hypoxic injury”. 11/16/2011

2011: First Joint *Yale-Consejo Superior de Investigaciones Cientificas (CSIC)* on Neurobiology, Madrid, Spain. “The Role of Fibroblast Growth Factor and Notch in Cortical Surface Area Expansion and Gyrification”. 09/27/2011

2011: Grand Rounds, Department of Psychiatry, Division of Child Psychiatry, Columbia University, New York, NY. ”Cortical morphogenesis in mouse models and human induced pluripotent cells”. 04/27/2011

2010: 8th  European Research Training Seminar in Child and Adolescent Psychiatry, sponsored by the *Foundation Child* and the Working Unit on Child and Adolescent Psychiatry of the *Italian Society of Psychopathology (SOPSI)*, Certosa di Pontignano, Siena, Italy. “Principles of Developmental Neuroscience Research”. 11/21-26, 2010.

2010: Using Stem Cells to Model Psychiatric Disorders: National Institutes of Health Grantee Meeting, Bethesda, MD. “Neuronal Differentiation from Human iPSCs”. 10/26/2010

2010: University of Massachusetts Medical School and Human Stem Cell Bank & Registry, Shrewsbury, MA: “Regulation of neuronal fate and differentiation in neural stem cells and induced pluripotent stem cells”. 09/08/2010

2010: Society of Biological Psychiatry's 65th Annual Meeting, New Orleans, LA: “Decreased Number of Parvalbumin and Cholinergic Interneurons in the Striatum of Individuals with Tourette Syndrome” at the Symposium on “Molecular, Cellular, and Imaging Studies of Tourette Syndrome”. 05/20-22/2010

2010: Douglas Institute of Mental Health, McGill University, Montreal, Quebec: “Role of glia in perinatal injury and recovery”. 04/19/2010

2010: Institute of Pharmacology, School of Medicine, Universita’ di Roma “La Sapienza,” Italy: “Role of the FGF system in the morphogenesis of the cerebral cortex”. 04/12/2010

2010: Center for Integrative Brain Research, University of Washington, Seattle, and Seattle Children Research Institute: “Role of FGF signaling in cerebral and cerebellar morphogenesis”. 03/4-5/2010

2009: University of Connecticut, Storrs, CT: “Role of astroglia in perinatal brain injury and recovery”. 11/14/2009

2009: Kyoto University, Kyoto, Japan: “Hypoxia and recovery in the developing brain” 06/24/2009

2009: The National Institute of Genetics, Mishima, Japan:” Distinct roles of the FGF system in the development of inhibitory neurons in the forebrain” 06/21/2009

2009: The University Hospital, Tokyo, Japan, Department of Child Psychiatry: “Neurobiology of Tourette Syndrome” 06/18/2009

2009: RIKEN BSI, Saitama, Tokyo, Japan: “Distinct roles of the FGF system in the expansion of the cerebral cortical mantle and in the development of inhibitory neurons in the forebrain” 06/17/2009

2009: 5th International Scientific Symposium on Tourette Syndrome, New York, NY: “Neurobiology of Tourette Syndrome” 06/12/2009

2009: Symposium at the Annual Meeting of the American Society for Neurochemistry, Charleston, SC: ”Critical roles of FGF receptor signaling in postnatal neural stem cells and the reaction to injury”. 03/10/2009

2008: Neuroscience Seminar Series at the Sackler School of Graduate Biomedical Sciences, Tufts University Medical School, Boston, MA: “Injury and recovery in the developing brain”. 11/22/2008

2008: Center for Neuroscience Research at the Children’s National Medical Center, Washington, DC: “Chronic perinatal hypoxia: a mouse model for premature birth”. 11/08/2008

2008: Ottawa Health Research Institute & Neuroscience Institute, University of Ottawa, Canada: “Injury and recovery in the developing brain”. 08/29/2008

2008: Benhaven School, Wallingford, CT: “Recent advances on research in autism-spectrum disorders”. 04/11/2008

2007: “Cortical Modularity in Autism” Autism Speaks Symposium, University of Louisville, KY: “Regulation of cortical Neuron Number by FGF: Implications for Autism-Spectrum Disorders”. 10/12/2007

2007: European Society of Child and Adolescent Psychiatry (ESCAP) Congress, Florence, Italy, Symposium Seminar: “Brain Inhibitory Systems in ADHD and Tourette’s Syndrome. 08/28/2007

2007: European Society of Child and Adolescent Psychiatry (ESCAP) Congress, Florence, Italy, State of the Art Lecture: “Admitting our Ignorance: a Change in Perspective in Psychiatry”. 08/26/2007

2007: Wesleyan University, Department of Biology, Middletown, CT: “Astroglial Cells in Neural Development, Plasticity and Repair”. 03/26/2007

2006: University of Connecticut Medical School, Department of Neuroscience, Farmington, CT: “Development of Inhibitory Interneurons: relevance for hyperactivity disorders”. 12/12/2006

2006: National Institute of Mental Health Workshop on “Developing new Treatments for Tourette Syndrome: Clinical and Basic Science Dialogue”, Washington DC, Seminar: “Abnormalities of basal ganglia interneurons in TS brains”. 09/10/2006

2006: University of Padua, Department of Experimental Biomedical Sciences, Padua, Italy, Seminar: “ A mouse model to target gain and loss of gene function in astrocytes in vivo”. 06/08/2006

2005: University of Catania, Italy, Department of Physiological Sciences, Catania, Italy, Seminar: “Neurogenesis in a model of neonatal hypoxia”. 07/18/2005

2004: S.I.N.P.I.A. Congress, Modena, Italy, Seminar: “Brain Dysfunction in Tourette’s Syndrome”. 11/10/2004

2004: S.I.N.P.I.A. Congress, Modena, Italy, Seminar: “Current hypotheses on brain dysfunction in autism spectrum disorders”. 11/9/2004

2004: Society for Neuroscience Annual Meeting Symposium on “Tourette’s Syndrome: the Self under Siege”, Seminar: “Imbalance in Parvalbumin Inhibitory Neurons in the Basal Ganglia of Patients with Tourette’s Syndrome”. 10/25/2004

2004: Vanderbilt Kennedy Center for Research on Human Development and Vanderbilt Brain Institute, Nashville, TN, Neuroscience Graduate Seminar Series: “Multiple in vivo roles of Fibroblast Growth Factor signaling during development”. 10/13/2004

2004: Department of Neuroscience, Case Western University, Cleveland, OH, Departmental Seminar: “Fibroblast Growth Factor Receptors: new roles in the regulation of forebrain connectivity”. 09/03/2004

2004: 15th Biennial Meeting of the International Society for Developmental Neuroscience, Edinburgh, Scotland, Symposium on “Neurobiological Bases of Developmental Disorders”. Presentation: “Developmental Neurobiology of Tourette’s Syndrome”. 08/04/2004

2004: Department of Psychiatry, University of Pittsburg, PA, Seminar: “Multiple in vivo roles of Fibroblast Growth Factor signaling during development”. 06/28/2004

2004: Shriver Center, University of Massachusetts Medical School, Waltham, MA: “Fibroblast Growth Factor Receptor lack-of-function models to study cerebral cortical regulation of impulsive behavior in mouse”. 04/09/2004

2004: Children's Memorial Institute for Education and Research (CMIER), Northwestern University, Chicago, IL, Seminar: “Growth Factor-responsive Neural stem cells: *in vivo* roles for development and brain repair”. 04/06/2004

2004: Italian Society of Pharmacology, Symposium “Neurosciences in the Third Millennium: A Tribute to Mimmo Costa”, Rome, Italy. 03/09-10/2004

2004: National Institute of Mental Health, Mood and Anxiety Disorders Program, Bethesda, MD, Seminar: “FGF2-responsive neural stem cells are critical for hippocampal development and the regulation of impulsive behavior”. 01/13/2004

2003: Annual Neuroscience Conference, National Alliance for the Mentally Ill Symposium, Yale University, CT: “Developmental neuroscience and psychiatric disorders. 03/29/2003

2003: University of Chicago School of Medicine, IL, Seminar: “Role of Fgf signaling in hippocampal development”. 01/09/2003

2002: National Research Council of Italy, Pisa, Italy, Seminar: “ Developmental genetics of the cerebral cortex and hippocampus”. 07/11/2002

2002: DIBIT-HSR San Raffaele, Milano, Italy, Seminar: “Role of Fgf receptor signaling in growth and patterning of the dorsal telencephalon”. 07/09/2002

2002: Hughes Program in the Life Sciences Seminar, Wesleyan University, Middletown, CT: “Fibroblast Growth Factors during Development and Regeneration” 06/12/2002

2002: Ottawa Health Research Institute & Neuroscience Institute, University of Ottawa, Canada: “Role of Fgf receptors in brain development”. 05/07/2002

2002: Department of Biology, Georgetown University, Washington DC, Seminar “A critical role for Fgf signaling in the expansion of progenitor pools in the forebrain”. 03/20/2002

2001: Center for Neuroscience Research at the Children’s National Medical Center, Washington DC: "Role of Growth Factors in Cerebral Cortical Development". 07/11/2001

2000: Annual Meeting of the American College of Neuropsychopharmacology (ACNP), San Juan, Puerto Rico, Symposium Seminar" Adding New Neurons to New Brains and to Old Brains”. 12/12/2000

2000: Yerkes Primate Center, Emory University School of Medicine, Atlanta, GA, Invited Lecture: " Role of Fibroblast Growth Factors in Neurogenesis and Regeneration after Injury". 11/28/2000

2000: 47th Annual Meeting of the American Association of Child and Adolescent Psychiatry (AACAP), New York, Symposium Seminar: “Brain Neurobiology during Adolescence”. 10/2000

2000: International Society of Developmental Neuroscience Biannual Meeting, Heidelberg, Germany: “Fibroblast Growth Factor is necessary for cell proliferation and neurogenesis in the developing cerebral cortex”. 08/01/2000

1998: International Society of Developmental Neuroscience Biannual Meeting Symposium on "Development of the Cerebral Cortex", Vancouver, Canada, lecture “Fibroblast growth factor regulates cerebral cortical volume and neuronal number via an action on progenitor cells”. 08/1998

1998: Venice Working group on Autism and Pervasive Developmental Disorders, International Association for Adolescent Psychiatry and Allied Profession (IACAPAP), Venice, Italy: “Do we need developmental neurobiology?” 03/1998

1997: École Normale Supérieure Seminar: Paris, France. “Growth Factors in brain development and evolution”. 07/1997

1996: American College of Neuropsychopharmacology, 35 Meeting, San Juan, Puerto Rico, Panel on “Genetic and Epigenetic factors in the Development of the CNS and the implications for the etiology of mental disorders”: “The role of growth factors in the regulation of neuronal number in the developing cerebral cortex”. 12/1996

1996: Rudolf Magnus Institute for Neurosciences, Utrecht, The Netherlands, Seminar: “Homeodomain genes and brain development”. 03/1996

**Yale Seminars/Courses, Web-based Education:**

 Lecture to the trainees in the T32 Training Program in Neuropsychiatric Disorders, Child Study Center, 11.19.2019 entitled “Human experimental models in psychiatry”.

 Yale Alzheimer’s Disease Research Center Retreat, 2/12/2019. “Stem cell models of human brain development.

 Presentation at the Department of Neuroscience Retreat, 5/3/19. Water Edge Resort, Branford, CT. “Somatic mutations in human neurodevelopment”

Child Study Center Grand Rounds, 1/29/2019: “Genomic mosaicism and brain asymmetry: a case of Tourette syndrome”.

 Child Study Center Grand Rounds, 10/10/2017: “Human Induced pluripotent stem cells:

Relevance and Promise for Child Psychiatry”.

 Child Study Center Grand Rounds, 1/19/2016: Exploring the causes of human developmental brain disorders using stem cells.

 Yale-Cambridge MedImmune Symposium, Yale University School of Medicine Brady Auditorium. 9/30/15. Lecture “Using iPSC-derived organoids to study human brain development and neuropsychiatric disorders”.

 Yale Stem Cell Center Retreat, New Haven, CT, 10/19/2014: Lecture “Studying the neurobiology of autism spectrum disorders with induced pluripotent stem cells”.

 Child Study Center Grand Rounds, 1/21/2014: From bench to bedside: the neurobiology of autism.

 Yale Stem Cell Center Research Forum, School of Medicine, New Haven, CT, 10/3/2013: “Transcriptome and cellular phenotype of induced pluripotent stem cells derived from patients with autism and macrocephaly. ”

 Autism Program Science Meeting, Child Study Center, 6/28/2013: “Stem Cells and Autism: Status of the Field.”

 Simons Research Foundation Webinar: “iPS cells, a window into the neurobiology of autism”. 5/13/2013.

 Yale Stem Center Chalk Talk, School of Medicine, New Haven, CT, 2/21/2013: “Somatic genomic variation in human skin cells and how it might affect the iPS field”.

 Kavli Workshop on “The Potential of iPS Cells in Research on Normal and Pathological Development, Disease, and Evolution,” School of Medicine, speaker and organizer. 7/25/2012

 Yale-UCL Neurovascular Symposium, School of Medicine, 5/11/12: “Generation of neurons and oligodendrocytes from cortical astroglia in chronic hypoxic mice.”

 Child Study Center Grand Rounds, 12/06/2011: “Neural Stem Cells in Diagnostics and Treatment”.

 Child Study Center Centennial Celebration, 06/23/2011: “The Contribution of Developmental Neuroscience to Child Psychiatry”.

Yale University Neurology Department Grand Rounds, 06/16/2010: “Disorders of inhibitory GABAergic neurons: from mouse to humans”.

Yale Stem Cell Center Retreat, 10/22/2010: “Regulation of neuronal fate and differentiation in neural stem cells and induced pluripotent stem cells”.

“Cellular and Molecular Mechanisms of Neurologic Disease 2008” (main Instructor: George Heninger, M.D.). April 8,2008: Lecture on “Recent advances on the pathogenesis of autism-spectrum disorders”for the Yale Interdepartmental Neuroscience Program. Webcast on <http://research.yale.edu/NBEP/>

“Neurodevelopment and Neuropsychiatric Disorders” (Neuroscience 514b) for the Yale Interdepartmental Neuroscience Program (Instructor: Flora Vaccarino). Academic years: Spring 1999; Spring 2000; Fall 2001; Spring 2005; Spring 2007.

I developed this course and conducted it on a bi-weekly basis. I created a new syllabus, which included the fundamental aspects of CNS development at the genetic, molecular, and cellular levels. The course focused on the progressive specialization of cellular function within the CNS, with emphasis on the relationships between evolutionary conserved genes and signaling systems and neuropsychiatric disorders such as depression, autism and schizophrenia. This 13-week course included 16 seminars, as well as several informal sessions in which important papers were discussed.

Neuroscience 500b “Structural and Functional Organization of the Human Nervous System” for the Yale Interdepartmental Neuroscience Program. Academic Years: Spring 1996, 1997, 1998, 2000, 2001, 2002, 2003, 2004, 2005, 2015, 2016.

I gave weekly neurobiological conferences to medical and graduate students on learning and memory and the development of the telencephalon. These included a discussion of clinical aspects, as well as cognitive, neurobiological and genetic aspects. They also included a discussion of animal models and implications for the understanding of human cognitive functions.

**GENE655 Course “Stem Cells: Biology and Applications”. Academic years**: Fall 2012, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019, Fall 2020. Lectures on “Neural Stem cells.”

**Lectures to Residents in the Solnit Combined Child and Adult Residency Programs**. Academic year: 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2008, 2009, 2010, 2011, 2012, 2013, 2019.

These have included topics such as CNS morphogenesis, regulation of cell fate, cell death, neuronal migration and their relation to the etiology of autism, schizophrenia, mental retardation and other neuropsychiatric disorders.

Lectures to the trainees in the T32 Training Program in Neuropsychiatric Disorders, Child Study Center, on how to write grants for Federal Agencies and other research topics. Academic years: 2001, 2002, 2003, 2004, 2005, 2006, 2008.

Lectures in Neurobiology to graduate student of the Yale School of Nursing, Academic Years 2002, 2003, 2004, 2005, 2006.

**Lecture for “Principles of Neuroscience” graduate school course** for the Yale Interdepartmental Neuroscience Program, fall 2005, fall 2014, Fall 2019.

**PROFESSIONAL SERVICE**

**National Committees**

2013-present Member, NIMH Repository & Genomics Resource (RGR) Steering Committee.

2016 Member, Interagency Autism Coordinating Committee (IACC)

###### Peer review Groups/Grants Study Sections

2020-21 Panel Member in the European Research Council (ERC) Advanced Grants 2020 evaluation

2018 *Ad hoc* Member, MDCN-P(57), *Cellular and Molecular Biology of Complex Brain Disorders*.

2017 *Ad hoc* Member, ZMH1 ERB-S 01 P, Silvio O. Conte Centers for Basic Neuroscience or Translational Mental Health Research (P50)

2017 *Ad hoc* Reviewer, Neurosciences and Mental Health Board (NMHB), Medical Research Council (MRC), Great Britain

2016 *Ad hoc* Member, Special Emphasis Panel (SEP) in response to Funding Opportunity Announcement (FOA) PAR-16-106: Rapid Assessment of Zika Virus (ZIKV) Complications (R21), NIH NINDS ZNS1 SRB-A(02) 2016/10

2016 CSF/SCF Fellowship *ad hoc* Reviewer, Medical Research Council, Great Britain

2013-2016 Regular Member, Telethon Foundation Scientific Review (Italy)

2014 *Ad hoc* Member, ZRG1 MDCN-P (91) Neuropsychiatric Mechanisms

2014 *Ad hoc* Member, Developmental Brain Disorders (DBD) Study Section, NIH

2014 *Ad hoc* Member, ZRG1 BDCN-C (02) Special Emphasis Panel: Brain Disorders in Animal Models and Patient Populations

2013 *Ad hoc* Member, Silvio O. Conte Centers for Basic or Translational Mental Health Research Panel (2014/01 ZMH1 ERB-L (01) S), NIMH

2013 Autism Speaks Trailbrazer Award Program

2012 *Ad hoc* Member, Molecular and Cellular Substrates of Complex Brain Disorders Special Emphasis Panel ZRG1 MDCN-P(57)

2011 *Ad hoc* Member, Developmental Brain Disorders (DBD) Study Section, NIH

2010 *Ad hoc* Member, Developmental Brain Disorders (DBD) Study Section, NIH

2010 *Ad hoc* Member, Neural Cell Fate (NCF) Study Section, NIH

2005-2009 Regular Member, Developmental Brain Disorders (DBD) Study Section, NIH

2001-2008 *Ad hoc* Reviewer, National Science Foundation.

2004 *Ad hoc* Member, Neurodifferentiation, Plasticity and Regeneration Study Section (NDPR), NIH

2004 *Ad hoc* Member, Special Emphasis Panel/Initial Review Group, 2004/10 ZRG1 MDCN-A (02), NIH.

* 1. *Ad hoc* Member, NSD “A” Study Section, NIH.

2003 *Ad hoc* Member, Uniformed Services University of the Health Sciences (USUHS) Exploratory Research Award Program, NIH.

* 1. *Ad hoc* Member, Brain Disorders and Clinical Neurosciences (DBD) NIH Study Section, NIH.

2001 *Ad hoc* Member, Study Section to review grants for an RFA on "Biology of Adult Stem Cells in Aging" (AG-01006), NIH/NIA.

2001 *Ad hoc* Reviewer, Wellcome Trust (UK)

2001 Grant Reviewer for the Italian Government (Ministry for the University and Technological Research; see http://php3.sp2.cineca.it/revisoripadova/home/home.php3) for the development of National “Centers of Excellence”.

**Journal Service:**

2020 Editorial Board, *Stem Cell Reports*

2019 Editorial Board, *neuroDEVELOPMENT*

2013-2019 Associate Editor, *The Journal of Neuroscience*, Development/Plasticity/Repair section

2011-2021 Senior Editor, *Brain Research*

2008 Editorial Board Member, International Journal of Developmental Neuroscience

2010-2019 Editorial Board Member, Developmental Neuroscience

2008 Associate Editor, Frontiers in Neurogenesis

1995-present Reviewer for *Science, Nature, Nature Biotechnology, Cell, Cell Stem Cell, Neuron, Annals of Neurology*, *Nature Neuroscience*, *Proceedings of The National Academy of Sciences (USA), Development, Translational Psychiatry, PLOSOne, Journal of Neuroscience*, *Neuroscience*, *Cerebral Cortex*, *Developmental Biology*, *Developmental Neurobiology,* *Brain Research*, *the Journal of Comparative Neurology, European Journal of Neuroscience, Journal of Neurochemistry, Biological Psychiatry, Developmental Neuroscience, Experimental Neurology, Journal of Autism and Developmental Disorders, Molecular and Cellular Neuroscience, Stem Cells, Glia.*

**Professional Organizations:**

 **American Association for the Advancement of Science**

1982-present Member

 2013-present Fellow

**Society for Neuroscience**

1983-present Member

##### International Society of Developmental Neuroscience

2000-present Member

2008-present Executive Council Member

**International Society for Stem Cell Research**

2013- Member

**Society for Developmental Biology**

2021- Member

**Meeting Planning/Participation**

2019 Scientific Program Committee, Cortical Development Conference 2021, Milazzo, Sicily, Italy – 20 Sept 2021

2019 Chair, Symposium on “Somatic Mosaicism; Implications for Development and Disorders”, Society for Neuroscience Annual Meeting, Chicago, IL.

2019 Scientific Program Committee, International Society for Developmental Neuroscience (ISDN) 23rd Biennial Meeting 2021, Vancouver, British Columbia, Canada

2019: Neuroscience School of Advanced Studies (NSAS) Course Director, Brain Somatic Mosaicism Course. May 11-18 2019, Isola di San Servolo, Venice, Italy

2014 Speaker at the Symposium "Advances in Studying Human Cortical Development". Title: “Modeling human cortical development with iPSC to study autism”. Society for Neuroscience Annual Meeting, Washington DC. 11/16/14

2011 Chair, Society for Neuroscience Symposium on “Neurobiology of Perinatal Brain Injury”

1. American Society for Neurochemistry (ASN), Annual Meeting Program Committee
2. Chair, Course on “Avenues and Methods of Research in Child Psychiatry” European Society of Child and Adolescent Psychiatry (ESCAP) Congress, Florence, Italy
3. Chair, Symposium on “Brain Systems Involved In ADHD and Tourette Syndrome” European Society of Child and Adolescent Psychiatry (ESCAP) Congress, Florence, Italy

2004 Society for Neuroscience, speaker at the Symposium on “Tourette’s Syndrome: The self under Siege”. Title: “Changes in interneuron number in the basal ganglia of patient with Tourette’s Syndrome”.

1. Chair, Symposium on Adult Neurogenesis, Annual Meeting of the American College of Neuropsychopharmacology (ACNP), San Juan, Puerto Rico.
2. Chair, Symposium on brain neurobiology during adolescence, 47th Annual Meeting of the American Association of Child and Adolescent Psychiatry (AACAP), New York.

**Yale University Service**

**University Committees**

2015- present Member, Clinical and Translational Strategic Planning Committee

2013-present Human Embryonic Stem Cell Oversight Committee (ESCRO)

2004-2012 Member, Animal Users Committee

* 1. Member, Admission Committee for Neuroscience Graduate School Program

**Medical School Committees**

2020-present Member, Search Committee for Chairman of the Department of Neuroscience

2019-present Yale School of Medicine Term Appointment and Promotion Committee

2018-2019 Department of Neuroscience Ladder Faculty Search Committee

2015- 2017 Yale School of Medicine Faculty Advisory Council (FAC)

2015- present Scientific Advisory, Yale Genome Editing Center

2013-2015 Member, Search Committee for Chairman in the Department of Neurobiology

2011- present Yale Center for Clinical Investigation (YCCI/CTSA) Career Oversight Committee

* 1. Member, Funds and Fellowships Committee

2009-2012 Member, Senior Faculty Allotment Committee, School of Medicine

2007-2008 Member, Search Committee for Academic track Faculty in the Department of Comparative Medicine

2009-2016 SWIM (Status of Women in Medicine) Executive Board

2006-present Member, Faculty and Advisory Board for the NIMH-funded Training Program in Childhood Neuropsychiatric Disorders

2000-2010 Member, Admission Committee for the Yale University Medical School

**Departmental Committees**

2017- present Appointment and Promotion Ladder Faculty subcommittee, Child Study Center

2005-present Recruitment and Residency Selection Committee

2005-present Member, Faculty for the Solnit Integrated Child & Adolescent/Adult Residency Program

2006-present Member, Search Committee for ladder track Faculty in the Child Study Center

2006-2013 Advisory Faculty Board, Child Study Center

2008-2013 Grand Rounds Organization Committee, Child Study Center

**BIBLIOGRAPHY:**

**Complete List of Published Work in MyBibliography:** [***http://www.ncbi.nlm.nih.gov/sites/myncbi/flora.vaccarino.1/bibliograpahy/40598242/public/?sort=date&direction=ascending***](http://www.ncbi.nlm.nih.gov/sites/myncbi/flora.vaccarino.1/bibliograpahy/40598242/public/?sort=date&direction=ascending)

Scopus profile: https://www.scopus.com/authid/detail.uri?authorId=7007036219

ORCID: <https://orcid.org/0000-0003-2167-981X>

**Peer-reviewed Manuscripts**

1. Vaccarino, F.M., Ghetti, B., Wade, S.E., Rea, M.A., and Aprison, M.H.: Loss of Purkinje cell-associated benzodiazepine receptors spares a high-affinity subpopulation: A study with pcd mutant mice. ***J. Neurosci. Res***. (1983) 9:311-323.

2. Guidotti, A., Vaccarino, F.M., Wise, B.C., and Costa, E.: GABAergic synapses: supramolecular organization and biochemical regulation. ***Neuropharmacology*** (1983) 22:1471-1479.

3. Ferrero, P., Vaccarino, F.M., Guidotti, A., Costa, E., and Di Chiro, G.: In vivo modulation of brain dopamine recognition sites: a possible model for emission computed tomography studies. ***Neuropharmacolog****y* (1983) 22:791-796.

4. Vaccarino, F.M., Ghetti, B., and Nurnberger, J.I.: Residual benzodiazepine (BZ) binding in the cortex of pcd mutant cerebella and qualitative BZ binding in the deep cerebella nuclei of control and mutant mice: An autoradiographic study. ***Brain Res*.** (1985) 343:70-78.

5. Vaccarino, F.M., Conti Tronconi, B.M., Panula, P., Guidotti, A., and Costa, E.: GABA-modulin: A synaptosomal basic protein that differs from small myelin basic protein of rat brain. ***J. Neurochem*.** (1985) 44:278-290.

6. Gallo, V., Wise, B.C., Vaccarino, F. and Guidotti, A.: Gamma aminobutyric acid and benzodiazepine-induced modulation of 35S-t-butylbicyclophosphorothionate binding to cerebellar granule cells. ***J. Neurosci****.* (1985) 5:2432-2438.

7. Vicini, S., Alho, H., Costa, E., Mienville, J.M, Santi, M.R. and Vaccarino, F.M.: Modulation of γ-aminobutyric acid-mediated inhibitory synaptic currents in dissociated cortical cell cultures. ***Proc. Natl. Acad. Sci. USA*** (1986) 83:9269-9273.

8. Vaccarino, F.M., Alho, H., Santi, M.R., and Guidotti, A.: Coexistence of gamma-aminobutyric acid (GABA) receptors and GABA-modulin in primary cultures of rat cerebellar granule cells. ***J. Neurosci.*** (1987) 7:65-76.

9. Ferrarese, C., Vaccarino, F.M., Alho, H., Mellstrom, B., Costa, E., and Guidotti, A.: Subcellular location and neuronal release of Diazepam Binding Inhibitor (DBI). ***J. Neurochem****.* (1987) 48:1093-1102.

10. Vaccarino, F.M., Guidotti, A., and Costa, E.: Ganglioside inhibition of glutamate-mediated Protein Kinase C translocation in primary cultures of cerebellar neurons. ***Proc. Natl. Acad. Sci. USA*** (1987) 84:8707-8711.

11. Alho, H., Ferrarese, C., Vicini, S. and Vaccarino, F.M.: Subsets of GABAergic neurons in dissociated cell cultures of neonatal rat cerebral cortex show co-localization with specific modulator peptides. ***Dev. Brain Res****.* (1988) 39:193-204.

12. Eva, C., Bovolin, P., Balzac, F., Botta, C., Ricci Gamalero, S. and Vaccarino, F. M.: Primary cultures of corticostriatal cells from newborn rats: a model to study muscarinic receptor subtypes regulation and function. ***J. Molec. Neurosci****.* (1990) 2:143-153.

13. Vaccarino, F.M., Liljequist, S. and Tallman, J. F.: Modulation of protein kinase C translocation by excitatory and inhibitory amino acids in primary cultures of neurons. ***J. Neurochem****.* (1991) 57: 391-396.

14. Vaccarino, F. M., Hayward, M. D., Nestler, E. J., Duman, R. S., and Tallman, J. F. : Differential induction of immediate early genes by excitatory amino acid receptor types in primary cultures of cortical and striatal neurons. ***Mol. Brain Res****.* (1992) 12: 233-241.

15. Vaccarino, F. M., Hayward, M. D., Le, H. N., Hartigan, D. J., Duman, R. S. and Nestler, E. J.: Induction of immediate early genes by cyclic AMP in primary cultures of neurons from rat cerebral cortex. ***Mol. Brain Res****.* (1993) 19: 76-82.

16. Gallo, V., Patneau, D. K., Mayer, M. L. and Vaccarino, F. M.: Excitatory amino acid receptors in glial progenitor cells: molecular and functional properties. ***Glia*** (1994) 11:94-101.

17. Vaccarino, F.M., Schwartz, M.L., Hartigan, D., and Leckman, J.F.: Basic fibroblast growth factor increases the number of excitatory neurons containing glutamate in the cerebral cortex. ***Cerebral Cortex*** (1995) 1:64-78.

18. Robel, L., James, A.J., Ding, M., Simeone, A., Leckman, J.F., and Vaccarino, F.M.: Basic fibroblast growth factor increases *Otx2* expression in precursor cells from mammalian telencephalon. ***J. Neurosci****.* (1995) 15:7879-7891.

19. Lin, X., Swaroop, A., Vaccarino, F.M., Murtha, M. T., Haas, M., Ji, X., Ruddle, F. H., and Leckman, J. F.: Characterization and sequence analysis of the human homeobox-containing gene GBX2. ***Genomics*** (1996) 31:335-342.

20. Ding, M., Robel, L., James, A. J., Eisenstat, D. D., Leckman, J. F., Rubenstein, J. L. R. and Vaccarino, F. M.: The *Dlx2* homeobox gene controls neuronal differentiation in primary cultures of developing basal ganglia. ***J. Molecular Neurosci*.** (1997) 8:93-113.

21. Vaccarino, F.M., Schwartz, M.L., Raballo, R., Nilsen, J., Rhee, J., Zhou, M., Doetschman, T., Coffin, J.D., Wyland, J., Hung, Y.T.: Changes in cerebral cortex size are governed by Fibroblast Growth Factor during embryogenesis. ***Nature Neurosci*.** (1999) 3: 246-253.

22. Lin, X., State, M., Vaccarino, F.M., Greally, G., Hass, M,Leckman, J. F.: Identification, chromosomal assignment, and expression analysis of the human homeodomain-containing gene Orthopedia (OTP). ***Genomics*** (1999) 60:96-104.

23. Acampora, D., Postiglione, M.P., Avantaggiato, V., Di Bonito, M., Vaccarino, F.M., Michaud, J., Simeone, A.: Progressive impairment of developing neuroendocrine cell lineages in the hypothalamus of mice lacking the *Orthopedia* gene. ***Genes & Development*** (1999) 13:2787-2800.

24. Raballo R., Rhee J., Lyn-Cook, R., Leckman J.F., Schwartz M.L., Vaccarino, F.M.: Basic Fibroblast Growth Factor (Fgf2) is necessary for cell proliferation and neurogenesis in the developing cerebral cortex. ***J. Neurosci.***(2000) 20:5012-5023.

25. Baas, D., Bumsted, K.M., Martinez, J.A., Vaccarino, F.M., Wikler, K.C., Barnstable, C.J.: The subcellular localization of OTX2 is cell-type specific and developmentally regulated in the mouse retina. ***Mol. Brain Res***. (2000) 78:26-37.

26. Vaccarino, F.M., Ganat Y., Zhang Y., Zheng W.: Stem cells in neurodevelopment and plasticity. ***Neuropsychopharmacology*** (2001) 25:805-815.

27. Ganat, Y., Soni, S., Chacon, M., Schwartz, M.L. and Vaccarino, F.M.: Chronic hypoxia upregulates Fibroblast Growth Factor (Fgf) ligands in the perinatal brain and induces Fgf-responsive radial glial cells in the subependymal zone. ***Neuroscienc****e* (2002) 112:977-911.

# 28. Korada, S., Zheng, W., Basilico, C., Schwartz, M.L. and Vaccarino, F.M.: Fgf2 is necessary for the growth of glutamate projection neurons in the anterior neocortex. *J. Neurosci.* (2002) 22 (3): 863-875.

29. Zheng, W., Nowakowski, R., and Vaccarino, F.M.: Fibroblast growth Factor 2 is required for maintaining the neural stem cell pool in the mouse brain subventricular zone. ***Developmental Neurosci*.** (2004) 26:181-196.

30. Shin, D., Korada, S., Raballo, R., Shashikant, C. S., Simeone, A., Taylor, J., and Vaccarino, F.M.: Loss of Glutamatergic Pyramidal Neurons in Frontal and Temporal Cortex due to Attenuation of FGFR1 Signaling Is Associated with Spontaneous Hyperactivity in Mice. ***J.******Neurosci*.** (2004) 24(9) 2247-2258.

31. Ohkubo, Y., Uchida, A., Shin, D., Partanen, J., Vaccarino, F.M.: Fibroblast Growth Factor Receptor 1 is required for the proliferation of hippocampal progenitor cells and for hippocampal growth in mouse. ***J. Neurosci****.* (2004) 24:(27) 6057-6069.

32. Schwartz, M.L., Vaccarino, F.M., Chacon, M., Yan, W.L., Ment, L.R., Stewart, W.B.: Chronic neonatal hypoxia leads to long-term decreases in the volume and cell number of the rat cerebral cortex. ***Seminars in Perinatol*.** (2004) 28(6): 379-388.

33. Vernay, B., Koch, M., Vaccarino, F., Briscoe, J., Simeone, A., Kageyama, R., and Ang, S-L.: Otx2 regulates subtype specification and neurogenesis in the midbrain. ***J. Neurosci.***(2005) 25(19): 4856-4867.

34. Kalanithi, P., Zheng, W., Kataoka, Y., DiFiglia, M., Grantz, H., Saper, C.B., Schwartz, M.L., Leckman, J.F., and Vaccarino, F.M.: Altered Parvalbumin-Positive neuron Distribution in Basal Ganglia of Individuals with Tourette’s Syndrome. ***Proc. Natl. Acad. Sci. USA*** (2005) 102:13307-13312.

35. Fagel, D.M., Ganat, Y.M., Ebbitt, T., Silbereis, J., Stewart, W., Zhang, H., Ment, L.M. and Vaccarino, F.M.: Cortical Neurogenesis Enhanced by Chronic Perinatal Hypoxia. ***Experimental Neurology***(2006) 199: 77-91. Published online: 23 May 2005. DOI:10.1016./j.expneurol.2005.04.006

36. Ganat, Y. M., Silbereis, J., Cave, C., Ngu, H., Anderson, G.M., Ohkubo, Y., Ment, L.R., Vaccarino, F.M.: Early postnatal astroglial cells produce multilineage precursors and neural stem cells *in vivo*. ***J. Neurosci*.** (2006) 26:8609-8621.

37. Smith, K.M., Ohkubo, Y., Maragnoli, M.E., Rasin, M.R., Schwartz, M.L., Sestan, N., and Vaccarino, F.M.: Midline Radial Glia Translocation and Corpus Callosum Formation Require Fgf Signaling. ***Nature Neurosci****.* (2006)9: 787-797.

38. Leckman, J.F., Vaccarino, F.M., Kalanithi, P.S.A., Rothenberger, A.: Annotation: Tourette Syndrome: A rentless drumbeat--driven by misguided brain oscillations. ***J Child Psychol. Psychiatry*** *(*2006) 47:537-550.

39. Breunig, J. J., Silbereis, J., Vaccarino, F.M., Sestan, N., and Rakic, P.: Notch regulates cell fate and dendritic morphology of newborn neurons in the postnatal dentate gyrus. ***Proc. Natl. Acad. Sci. USA*** (2007) 104 (51) 20558-20563.

40. Muller Smith, K.M., Fagel, D. M., Stevens, H.E., Rabenstein, R.L., Maragnoli, M.E., Ohkubo, Y., Picciotto, M. R., Schwartz, M.L., and Vaccarino, F.M.: Deficiency in Inhibitory Cortical Interneurons Associates with hyperactivity in Fibroblast Growth Factor Receptor 1 Mutant Mice. ***Biol. Psychiatry*.** (2008) 63:953-962.

41. Chen, K., Ohkubo, Y., Shin, D., Doetschman, T., Sanford, P.L., Li, H., and Vaccarino, F.M.: Decrease in excitatory neurons, astrocytes and proliferating glial progenitors in the cerebral cortex of mice lacking exon 3 from the *Fgf2* gene. ***BMC Neuroscience***(2008)9:94. doi:10.1186/1471-2202-9-94. <http://www.biomedcentral.com/1471-2202/9/94>

 PMCID: PMC2577114 (Free PMC Article)

42. Vaccarino, F. M., Smith, K.M., Stevens, H.: Regulation of cerebral cortical size and neuron number by Fibroblast Growth Factors: Implication for autism. ***Journal of Autism and Developmental Disorders*** (2009) 39:511-520. EPub 2008 Oct 13.

 PMCID: PMC2847619 (Free PMC Article)

43. Fagel, D.M., Silbereis, J., Ohkubo, Y., Ganat, Y., Ment, L.R., Vaccarino, F.M.: Fgfr-1 Is Required For Cortical Regeneration and Repair following Perinatal Hypoxia. ***J. Neurosci*.** (2009) 29(4):1202-1211. PMCID: PMC2768410.

44. Silbereis, J., Cheng, E., Ganat, Y.M., Ment, L.M., Vaccarino, F.M.: Precursors with Glial Fibrillary Acidic Protein Promoter Activity Transiently Generate GABA Interneurons in the Postnatal Cerebellum. ***Stem Cells***(2009) 27:1152-1163. doi:10.1002/stem.18.

 PMCID: PMC2903623

45. Chahboune, H., Ment, L. R., Stewart, W. B., Rothman, D.L., Vaccarino, F.M., Hyder, F., Schwartz, M.L.: Hypoxic injury during neonatal development in murine brain: Correlation between in vivo DTI findings and behavioral assessment. ***Cerebral Cortex*** (2009) 19(12) 2891-2901. Epub 4/20/2009. doi:10.1093/cercor/bhp068. PMCID: PMC2774398

46. Kataoka, Y., Kalanithi, P.S.A., Grantz, H., Schwartz, M.L., Saper, C., Leckman, J.F., Vaccarino, F.M.: Decreased Number of Parvalbumin and Cholinergic Interneurons in the Striatum of Individuals with Tourette Syndrome. ***J. Comp. Neurol*.** (2010) 518:277-291. Epub 9/16/2009. doi: 10.1002/cne.22206. PMCID: PMC2846837

47. Stevens, H. E., Smith, K. M., Maragnoli, M. E., Fagel, D., Borok, E., Shanabrough, M., Horvath, T. L., Vaccarino, F.M.: *Fgfr2* is required for the development of the medial prefrontal cortex and its connections with limbic circuits. ***J. Neurosci*.** (2010) 30:5590-5602. PMCID: PMC2868832 (Free PMC Article)

48. Silbereis, J., Heintz, T., Taylor, M.M., Ganat, Y.M., Ment, L.M., Bordey, A., Vaccarino, F.M.: Astroglial cells in the external granular layer are precursors of cerebellar granule neurons in neonates. *Molecular Cell. Neurosci*. (2010) 44:362-373. doi:10.1016/j.mcn.2010.05.001.

PMCID: PMC2900521.

49. Guo, F., Maeda, Y., Ma, J., Xu, J., Miers, L., Vaccarino, F.M., and Pleasure, D.: Pyramidal neurons are generated from oligodendroglial progenitor cells in adult piriform cortex. ***J. Neurosci****.* (2010) 30:12036-12049. doi: 10.1523/​JNEUROSCI.1360-10.2010. PMCID: PMC2940828 (Free PMC Article)

50. Bi, B., Salmaso, N., Komitova, M., Simonini, M.V., Silbereis, J., Cheng, E., Kim, J., Luft, S., Ment, L.R., Horvath, T.L., Schwartz, M.L. and Vaccarino, F.M.: Cortical glial fibrillary acidic protein-positive cells generate neurons after perinatal hypoxic injury. ***J. Neurosci*.** (2011) 31(25):9205-9221. PMCID: PMC3142780.

51. Rash, B.G., Lim,H.D., Breunig,J.J. and Vaccarino, F.M.: FGF Signaling Expands Embryonic Cortical Surface Area by Regulating Notch-Dependent Neurogenesis. ***J Neurosci*.** (2011) 31(43):15604-17. PMCID: PMC3235689

52. ­­­Stevens, H.E., Jiang, G.Y., Schwartz, M.L., and Vaccarino, F.M.: Learning and memory depend on fibroblast growth factor receptor 2 functioning in hippocampus. ***Biol. Psychiatry*** (2012) 71(12):1090-8. Epub 2012/05/01. PMCID: PMC3371339

53. Smith, K.M., Williamson, T.L., Schwartz, M.L., and Vaccarino, F.M.: Impaired motor coordination and disrupted cerebellar architecture in Fgfr1 and Fgfr2 double knockout mice. ***Brain Researc****h* (2012) 1460:12-24. Epub: 2012/05/15. PMCID: PMC3361544 [Available on 2013/6/15]

54. Mariani, J., Simonini, M.V., Palejev, D., Tomasini, L., Coppola, G., Szekely, A., Horvath, T., and Vaccarino, F.M.: Modeling human cortical development in vitro using induced pluripotent stem cells. ***Proc. Natl. Acad. Sci. USA*** (2012) 109(31): 12770-12775. <http://www.pnas.org/content/109/31/12770.long>. DOI:10.1073/pnas.1202944109. PMCID: PMC3411972.

55. Salmaso, N., Silbereis, J., Komitova, M., Mitchell, P., Chapman, K., Ment, L.R., Schwartz, M.L., and Vaccarino, F.M.: Environmental enrichment increases the GFAP+ stem cell pool and reverses hypoxia-induced cognitive deficits in juvenile mice. ***J Neurosci*** (2012) 32 (26):8930-9. Epub ahead of print. doi: 10.1523/​JNEUROSCI.1398-12.2012. PMCID: PMC3399175.

56. Jablonska, B., Scafidi, J., Aguirre, A., Vaccarino, F., Nguyen, V., Borok, E., Horvath, T., Rowitch, D., Gallo, V. Oligodendrocyte regeneration after neonatal hypoxia requires Fox01- mediated p27kip1 expression. ***J Neurosci*** (2012) 32(42):14775-14793. doi: 10.1523/​JNEUROSCI.2060-12.2012. PMCID: PMC3517297.

57. Stevens, H.E., Su, T., Yanagawa, Y., and Vaccarino, F.M. Prenatal stress delays inhibitory neuron progenitor migration in the developing neocortex. ***Psychoneuroendocrinology*** (2012) 38(4):509-21. doi: http://dx.doi.org/10.1016/j.psyneuen.2012.07.011. PMCID: PMC3532962.

58. Naumova, O. Yu., Palejev, D., Vlasova, N. V., Lee, M., Rychkov, S. Yu., Babich, O. N., Vaccarino, F., and Grigorenko, E. L. (2012). Age-related changes of gene expression in the neocortex: Preliminary data on RNA-Seq of the transcriptome in three functionally distinct cortical areas. In: The Contribution of Genetic/Genomic Sciences to Developmental Psychopathology, Special Issue of ***Development and Psychopathology***, edited by E. Grigorenko and D. Cicchetti. (2012) 24(4): 1427-1442. doi: 10.1017/S0954579412000818.

 PMID: 23062308.

59. Abyzov, A., Mariani, J., Palejev, D., Zhang, Y., Haney, M.S., Tomasini, L., Ferrandino, A., Rosenberg Belmaker, L., Szekely, A., Wilson, M., Kocabas, A., Calixto, N.E., Grigorenko, E.L., Huttner, A., Chawarsha, K., Weissman, S., Urban, A.E. \*, Gerstein, M. \*, and Vaccarino, F.M. \*: Somatic copy number mosaicism in human skin revealed by induced pluripotent stem cells. ***Nature***(2012) 492(7429):438-42. PMCID: PMC3532053. \*Co-corresponding authors.

60. Rash, B.G., Tomasi, S., Lim,H.D., Su, S.Y., and Vaccarino F.M.: Cortical gyrification induced by fibroblast growth factor 2 in the mouse brain. ***J Neurosci*.** (2013) 33(26): 10802-14. PMCID: PMC3693057. DOI:10.1523/JNEUROSCI.3621-12.2013

61. Zhang, Y., Schulz, V., Reed, B., Wang, Z., Pan, X., Euskirchen, G., Snyder, M., Vaccarino, F.M., Ivanova, N., Weissman, S.M., and Szekely, A.: Functional genomic screen of human stem cell differentiation reveals pathways involved in neurodevelopment and neurodegeneration. ***Proc. Natl. Acad. Sci. USA*** (2013) 110(30):12361-6.

62. Komitova, M., Xenos, D., Salmaso, N., May Tran, K., Brand, T., Schwartz, M. L., Ment, L., and Vaccarino, F.M.: Hypoxia-induced developmental delays of inhibitory interneurons are reversed by environmental enrichment in the postnatal mouse forebrain. ***J Neurosci*.** (2013) 33(33): 13375-87. PMCID: PMC3742925.

63. Kim, J. G., Suyama, S., Koch, M., Jin, S., Argente-Arizon, P., Argente, J., Liu, Z. W., Zimmer, M. R., Jeong, J. K., Szigeti-Buck, K., Gao, Y., Garcia-Caceres, C., Yi, C. X., Salmaso, N., Vaccarino, F. M., Chowen, J., Diano, S., Dietrich, M. O., Tschop, M. H., Horvath, T. L.: Leptin signaling in astrocytes regulates hypothalamic neuronal circuits and feeding. ***Nat Neurosci*** (2014) 17(7):908-10. DOI:10.1038/nn.3725. PMID:24880214; PMCID:PMC4113214.

64. Müller Smith, K., Maragnoli, M.E., Phull, P.M., Tran, K.M., Choubey, L., and Vaccarino, F.M.:Fgfr1 inactivation in the mouse telencephalon results in impaired maturation of interneurons expressing parvalbumin. ***PLoS ONE*** (2014) 9(8): e103696. DOI:10.1371/journal.pone.0103696. PMID:25116473; PMCID: PMC4130531

65. Salmaso, N., Dominguez, M., Kravitz, J., Komitova, M., Vaccarino, F.M. & Schwartz, M.L.: Contribution of maternal oxygenic state to the effects of chronic postnatal hypoxia on mouse body and brain development. ***Neurosci. Lett*.** (2015) 604:12-7. DOI:10.1016/j.neulet.2015.07.033. PMCID: PMC4568169.

66. Xu, M., Kobets, A., Du, J.-C., Lennington, J.B., Li, L., Banasr, M., Duman, R.S., Vaccarino, F.M., DiLeone, R., Pittenger, C.: Targeted ablation of cholinergic interneurons in the dorsolateral striatum produces behavioral manifestations of Tourette syndrome. ***Proc. Natl. Acad. Sci. USA*** (2015) 112(3):893-8. DOI: 10.1073/pnas.1419533112.

67. Mariani, J.\*, Coppola, G\*., Zhang, P., Abyzov, A., Provini, L., Tomasini, L., Amenduni, M., Szekely, A., Palejev, D., Wilson, M., Gerstein, M., Grigorenko, E., Chawarska, K., Pelphrey, K., Howe, J., Vaccarino, F.M.: FOXG1-dependent dysregulation of GABA/glutamate neuron differentiation in autism spectrum disorders. ***Cell*** (2015) 162(2):375-390. Epub 2015 Jul 16. DOI:10.1016/j.cell.2015.06.034. PMCID: PMC4519016. \*=equal contribution

68. Patriarchi, T., Amabile, S., Frullanti, E., Landucci, E., Lo Rizzo, C., Ariani, F., Costa, M., Olimpico, F., Hell, J. W., Vaccarino, F.M., Renieri, A., Meloni, I.: Imbalance of Excitatory/Inhibitory Synaptic Protein Expression in iPSC-derived Neurons from *FOXG1*+/- Patients and in *Foxg1*+/- Mice. ***European Journal of Human Genetics*** (2015) 24(6): 871-80. Epub: 2015/10/08. doi: 10.1038/ejhg.2015.216.

69. The PsychENCODE Consortium, Akbarian, S., Liu, C., Knowles, J.A., Vaccarino, F.M., Farnham, P., Crawford, G.E., Jaffe, A.E., Pinto, D., Dracheva, S., Geschwind, D.H., Mill, J., Nairn, A.C., Abyzov, A., Pochareddy, S., Prabhakar, S., Weissman, S., Sullivan, P.F., State, M.W., Weng, Z., Peters, M.A., White, K., Gerstein, M.B., Senthil, G., Lehner, T., Sklar, P., Sestan, N.:The PsychENCODE Project. ***Nature Neuroscience*** (2015) 18(12):1707-1712. DOI:10.1038/nn.4156. PMID: 26605881; PMCID: PMC4675669

70. Brennand, K., Marchetto, M.C., Benvenisty, N., Brüstle, O., Ebert, A., Izpisua Belmonte, J.C., Kaykas, A., Lancaster, M., Livesey, R., McConnell, M.J., McKay, R., Morrow, E.M., Muotri, A., Panchision, D.M., Rubin, L.L., Sawa, A., Soldner, F., Song, H., Studer, L., Temple, S., Vaccarino, F.M, Wu, J., Vanderhaeghen, P., Gage, F.H., Jaenisch, R.: Creating Patient-specific Neural Cells for the In Vitro Study of Brain Disorders. ***Stem Cell Reports*** (2015) 5 (6): 933-45. DOI:10.1016/j.stemcr.2015.10.011. PMCID: PMC4881284. Epub 2015 Nov 21.

71. Lennington, J.B., Coppola, G., Kataoka-Sasaki, Y., Fernandez, T., Palejev, D., Li, Y., Huttner, A., Pletikos, M., Šestan, N., Leckman, J.F., and Vaccarino, F.M.: Transcriptome analysis of the human striatum in Tourette syndrome. ***Biological Psychiatry*** (2016) 79 (5): 372-82. Epub 2014 Jul 24. DOI: 10.1016/j.biopsych.2014.07.018. PMID:25199956; PMCID:PMC4305353.

72. Frullanti, E., Amabile, S., Lolli, M.G., Bartolini, A., Livide, G., Landucci, E., Mari, F., Vaccarino, F.M., Ariani, F., Massimino, L., Renieri, A., Meloni, I.: Altered expression of neuropeptides in FoxG1-null heterozygous mutant mice. ***European Journal of Human Genetics*** (2016) 24(2): 252-7. Epub 2015 May 13. DOI: 10.1038/ejhg.2015.79.

73. Zhang, Y.\*, Zhang, X.-F.\*, Fleming, M.R., Amiri, A., El-Hassar, Surguchev, A.A., Hyland, C., Jenkins, D.P., L., Desai, R., Brown, M.R., Gazula, V.-R., Waters, M.F., Large, C.H., Horvath, T.L, Navaratnam, D., Vaccarino, F.M., Forscher, P., and Kaczmarek, L.K.: Kv3.3 Channels Bind Hax-1 and Arp2/3 to Assemble a Stable Local Actin Network that Regulates Channel Gating. ***Cell*** (2016) 165(2): 434-48. \*=equal contribution

74. Salmaso, N., Stevens, H.E., McNeill, J., ElSayed, M., Ren, Q., Maragnoli, M.E., Schwartz, M.L., Tomasi, S., Sapolsky, R.M., Duman, R.& Vaccarino, F.M.: Fibroblast growth factor 2 modulates hypothalamic pituitary axis activity and anxiety behavior through glucocorticoid receptors. ***Biological Psychiatry*** (2016) 80(6): 479-489. Epub: 2016/05/03. DOI: 10.1016/j.biopsych.2016.02.026.

75. Abyzov, A., Tomasini, L., Zhou,B., Vasmatzis, N., Coppola, G., Amenduni, M., Pattni, R., Wilson, M., Gerstein, M., Weissman, S., Urban, A.E., Vaccarino, F.M.: One thousand somatic SNVs per skin fibroblast cell set baseline of mosaic mutational load with patterns that suggest proliferative origin. ***Genome Research*** (2017) 27(4): 512-523. Epub: 2017 Feb 24. DOI: 10.1101/gr.215517.116. PMCID: PMC5378170.

76. McConnell, M. J., Moran, J.V., Abyzov, A., Akbarian, S., Bae, T., Cortes-Ciriano, I., Erwin, J.A., Fasching, L., Flasch, D.A., Freed, D., Ganz, J., Jaffe, A., Kwan, K.Y., Kwon, M., Lodato, M.A., Mills, R.E., Paquola, A.C.M., Rodin, R., Rosenbluh, C., Sestan, N., Sherman, M.A., Shin, J.H., Song, S., Straub, R.E., Thorpe, J., Weinberger, D.R., Urban, A.E., Zhou, B., Gage, F.H., Lehner, T., Senthil, G., Walsh, C.A., Chess, A., Courchesne, E., Gleeson, J.G., Kidd, J.M., Park, P.J., Pevsner, J., Vaccarino, F.M. Brain Somatic Mosaicism Network:Intersection of Diverse Neuronal Genomes and Neuropsychiatric Disease: The Brain Somatic Mosaicism. ***Science*** (2017) 356(6336). DOI: 10.1126/science.aal1641. Epub 2017 Apr 27. PMCID: PMC5558435.

77. Xenos, D., Kamceva, M., Tomasi, S., Cardin, J., Schwartz, M.L., Vaccarino, F.M. Loss of TrkB signaling in parvalbumin expressing basket cells results in network activity disruption and abnormal behavior. ***Cerebral Cortex*** (2018) 28 (10): 3399–3413. DOI: 10.1093/cercor/bhx173. Epub 2017 August 18.

78. Bae, T., Tomasini, L., Mariani, J., Zhou, B., Roychowdhury, T., Franjic, D., Pletikos, M., Pattni, R., Chen, B., Venturini, E., Riley-Gillis, B., Sestan, N., Urban, A.E., Abyzov, A.\*, Vaccarino, F.M.\*: Different mutational rates and mechanisms in human cells at pregastrulation and neurogenesis. ***Science*** (2018) 359(6375):550-555. Epub: 2017 Dec 7.

DOI: 10.1126/science.aan8690. PMCID: PMC6311130. \*Co-corresponding authors.

79. Landucci, E., Brindisi, M., Bianciardi, L., Catania, L. M., Daga, S., Croci, S., Frullanti, E., Fallerini, C., Butini, S., Brogi, S., Furini, S., Melani, R., Molinaro, A., Lorenzetti, F. C., Imperatore, V., Amabile, S., Mariani, J., Mari, F., Ariani, F., Pizzorusso, T., Pinto, A. M., Vaccarino, F. M., Campiani, G., Renieri, A., Meloni, I.: iPSC-derived neurons profiling reveals GABAergic circuit disruption and acetylated alpha-tubulin defect which improves after iHDAC6 treatment in Rett syndrome. ***Exp Cell Res*** (2018) 368 (2): 225-235. Epub: 2018/05/08. DOI: 10.1016/j.yexcr.2018.05.001.

80. Simard, S., Shail, P., MacGregor, J., El Sayed, M., Duman, R.S., Vaccarino, F.M., Salmaso, N.: Fibroblast growth factor 2 is necessary for the antidepressant effects of fluoxetine. ***PLOSOne*** (2018) 13(10): e0204980. Epub: 2018/10/03. DOI: 10.1371/journal.pone.0204980.

81. Amiri, A.#, Coppola, G.#, Scuderi, S.#, Wu, F..#, Roychowdhury, T.#, Liu, F,. Pochareddy, S., Shin, Y., Safi, A., Song, L., Zhu, Y., Sousa, A.M.M., PsychENCODE Consortium, Gerstein, M., Crawford, G.E., Sestan, N., Abyzov, A.\*, Vaccarino, F.M.\*: Transcriptome and epigenome landscape of human cortical development modeled in organoids. ***Science*** (2018) 362 (6420). Epub: 2018/12/14.

 DOI: 10.1126/science.aat6720. PMID: **30545853**; PMCID: PMC6426303

 #Equal contributors.

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82. Xu, J., Liu, R.-J., Fahey, S., Frick, L., Leckman, J., Vaccarino, F.,Duman, R.S., Williams, K., Swedo, S., Pittenger, C.: Antibodies from children with PANDAS bind specifically to striatal cholinergic interneurons and alter their activity. ***Am. J. Psychiatry*** (2021) 178 (1):48-64. Epub: 2020/06/17. DOI: [10.1176/appi.ajp.2020.19070698](https://doi.org/10.1176/appi.ajp.2020.19070698)

 PMID: **32539528.**

83. Sekar, S., Tomasini, L., Proukakis, C., Bae, T., Manlove, L., Jang, Y., Scuderi, S., Zhou, B., Kalyva, M., Amiri, A., Mariani, J., Sedlazeck, F. J., Urban, A.E., Vaccarino, F.M.\*, Abyzov, A.\*: Complex mosaic structural variations in human fetal brains. ***Genome Research*** (2020) 30 (12):1695-1704. Epub: 2020/10/31. DOI: 10.1101/gr.262667.120. PMID: **33122304**; PMCID: **PMC7706730.** \*Co-corresponding authors.

84. Sarangi, V., Jourdon, A., Bae, T., Panda, A., Vaccarino, F.M., Abyzov, A.: SCELLECTOR: ranking amplification bias in single cells using shallow sequencing. ***BMC Bioinformatics*** (2020), 21:521. <https://doi.org/10.1186/s12859-020-03858-y>

85. Zhu, X., Zhou, B., Pattni, R., Gleason, K., Tan, C., Kalinowski, A., Sloan, S., Fiston-Lavier, A-S, Mariani, J., Petrov, D., Barres, B.A., Duncan, L., Abyzov, A., Vogel, H., Brain Somatic Mosaicism Network, Moran, J.V., Vaccarino, F.M., Tamminga, C.A., Levinson, D.F., Urban, A.E.: Machine learning reveals bilateral distribution of somatic L1 insertions in human neurons and glia. ***Nature Neuroscience*** (2021) 24(2): 186-196. Epub: 2021/01/13. DOI: 10.1038/s41593-020-00767-4.

86. Lebowitz, E.R.+, Orbach, M. +, Marin, C.E., Salmaso, N., Vaccarino, F.M.\*, Silverman, W.K.\*: Fibroblast Growth Factor 2 Implicated in Childhood Anxiety and Depression Symptoms. +equal contribution, \*equal contribution. ***Journal of Affective Disorders*** (2021) 282: 611-616. Epub: 2021/01/15. DOI: 10.1016/j.jad.2020.12.055.

PMID: **33445083**

87. Scuderi, S., Altobelli, G.G., Cimini, V., Coppola, G.\*, Vaccarino, F.M.\*: Cell-to-cell adhesion and neurogenesis in human cortical development: a study comparing 2D monolayers with 3D organoid cultures. ***Stem Cell Reports*** (2021) 16 (2): 264-280. Epub: 2021/01/30. DOI: 10.1016/j.stemcr.2020.12.019.

PMID: **33513360**

\* co-corresponding authors

88. Wang, Y., Bae, T., Thorpe, J., Sherman, M. A., Jones, A.G., Cho, S., Daily, K., Dou, Y., Ganz, J., Galor, A., Lobon, I., Pattni, R., Rosenbluh, C., Tomasi, S., Tomasini, L., Yang, X., Zhou, B., Akbarian, S., Ball, L.L., Bizzotto, S., Emery, S.B., Doan, R., Fasching, L., Jang, Y., Juan, D., Lizano, E., Moldovan, J.B., Narurkar, R., Oetjens, M.T., Sekar, S., Shin, J.H., Soriano, E., Straub, R.E., Zhou, W., Chess, A.,. Gleeson, J.G., Marquès-Bonet, T., Park, P.J., Peters, M.A., Pevsner, J., Walsh, C.A., Weinberger, D.R., Brain Somatic Mosaicism Network, Vaccarino, F.M., Moran, J.V., Urban, A.E., Kidd, J.M., Mills, R.E., Abyzov, A.: Comprehensive identification of somatic nucleotide variants in human brain tissue. ***Genome Biology***, in press.

bioRxiv 2020.10.10.332213; DOI: https://doi.org/10.1101/2020.10.10.332213

89. Fasching, L., Jang, Y., Tomasi, S., Schreiner, J., Tomasini, L., Brady, M., Bae, T., Sarangi, V., Vasmatzis, N., Wang, Y., Szekely, A., Fernandez, T.V., Leckman, J.F., Abyzov, A.\*, Vaccarino, F.M.\*: Early developmental asymmetries in cell lineage trees in living individuals. ***Science*** (2021) 371 (6535) 1245-1248.

bioRxiv 2020.08.24.265751; DOI: 10.1126/science.abe0981

\* co-corresponding authors

**Reviews, Chapters, Books**

1. Guidotti, A., Corda, M.G., Vaccarino, F.M., and Wise, B.C.: Role of GABA-modulin and of an endogenous effector of β-carboline binding sites in the GABA-benzodiazepine receptor interaction. In: Bowery, N.G., Martin, I.L., Rang, H.P. and Simmonds, M.A. (Eds.) ***Action and interaction of GABA and benzodiazepine.*** (1983) New York, Raven Press.

2. Eva, C., Vaccarino, F., Bovolin, P., Alho, H., Ricci Gamalero, S., Gennazzani, E. and Costa,

E.: Dissociated primary culture of corticostriatal cells from newborn rats: a model for studying function and modulation of muscarinic receptors. In: ***Brain acetylcholine: from preclinical to clinical investigations*** (1987) pp 69-71.

3. Vaccarino, F.M., Liljequist, S., and Guidotti, A.: Gangliosides lower glutamate-induced Protein Kinase C activation and membrane translocation. In: Biggio, G., Spano, P.F., Toffano, G., and Gessa, G.L. (Eds) *Voltage-sensitive ion channels: modulation by neurotransmitters and drugs* (1988) 6:137-144.

4. Vaccarino, F.M.: Glutamate receptors, Protein Kinase C Translocation and Gangliosides. ***Psychopharmacol. Bull*.** (1988) 24:403-407.

5. Vaccarino, F.: Le cellule del cervello. ***Medicina e Dossier*** (1988) vol 3:27-32.

6. Vaccarino, F.M.: The organ of memory: recent biological approaches. ***Methodologia*** (1989) vol 6:7-23.

7. Vaccarino, F.M. and Lombroso, P.J.: Development of the Cerebral Cortex: VII. Growth Factors: II. ***J. Acad. Child Adolesc. Psychiatry*** (1998) 37:789-790.

8. Vaccarino, F.M., and Leckman, J.F.: Molecular Neurobiology of Development. Published on the Scientific website of the ***American College of Neuropsychopharmacology*** (http://www.acnp.org/citations/GN401000080/Default.htm).

9. Vaccarino, F.M., Schwartz, M.L., Raballo, R., Rhee, J., Lyn-Cook, R.: Fibroblast Growth Factor signaling regulates growth and morphogenesis at multiple steps during brain development. In: R. Pedersen and G. Shatten (Eds) ***Current Topics in Developmental Biology***, Academic Press (1999) vol 46:179-200.

10. Vaccarino, F.M.: Stem cells diversity in the developing CNS. ***The Neuroscientist*** (2000) vol 6:338-352.

11. Leckman, J. F., Vaccarino, F. M., Lombroso, P.: Genes and Developmental Neurobiology. In: ***Child and Adolescent Psychiatry, A comprehensive Textbook*** (2002) 3rd edition, edited by M. Lewis, Lippincott Willliams & Wilkins.

12. Vaccarino, F.M., and Leckman, J.F. (2003). Overview of brain Development. In A. Martin, L. Scahill, D. Charney & J. Leckman (Eds.). ***Pediatric Psychopharmacology*** (pp. 3-19). Oxford, England: Oxford University Press.

13. Vaccarino, F.M.: The regenerative potential of neural stem cells. ***Cyberound*** Psychiatry Neuroscience (<http://www.cyberounds.com/conferences/psychiatry>)

14. Vaccarino, F.M.: Modeling thought and feelings: the why, what and whereabouts of animals in psychiatry. ***Revista Brasileira de Psiquiatria*** (2003) 25, no. 1: 3-4. (http://www.scielo.br/scielo.php?script=sci\_arttext&pid=S1516-44462003000100002&lng=en&nrm=iso)

15. Vaccarino, F.M. and Ment, L.R.: Injury and Repair in Developing Brains. ***Arch. Dis. Child. Fetal Neonatal Ed****.* (2004) 89 (3): F190-192.

16. Vaccarino, F.M., Fagel, D,F., Ganat, Y., Maragnoli, M.E., Ment, L.R., Ohkubo, Y., Schwartz, M.L., Silbereis, J., Smith, K. Astroglial cells in Development, Regeneration and Repair. ***The Neuroscientist*** (2007) 13 (2):173-185.

17. Leckman, J. F., Vaccarino, F. M., Lombroso, P.: From Genes to Brain: Developmental Neurobiology. In: ***Child and Adolescent Psychiatry, A comprehensive Textbook***, 4rd edition, edited by A. Martin, Lippincott Willliams & Wilkins (2007).

18. Pittenger, C., Vaccarino, F.M., and Krystal, J.H.: Prefrontal GABA deficits in schizophrenia: Interneuron pathology and network dysfunction. ***Cell Science Reviews*** (2008) 5 (1) ISSN 1742-8130.

19. Scafidi, J., Fagel, D.M., Ment, L.R., and Vaccarino, F.M.: Modeling premature brain injury and recovery. ***International J. Developmental Neuroscience*** (2009) 27(8) 863-871. Epub May 29 2009. PMCID: PMC2783901

20. Vaccarino, F. M., and Smith, K.M.: Increased Brain Size in Autism-What it Will Take to Solve a Mystery. ***Biological Psychiatry*** (2009) 66:313-315. PMCID: PMC2803090

21. Komitova, M. and Vaccarino, F.M.: Exciting news from the adult mouse subventricular zone. ***Frontiers in Neuroscience*** *(2010)* 4:23. doi:10.3389/neuro.22001.2010.

22. Stevens, H.E., Smith, K.M., Rash, B. and Vaccarino, F.M.: Neural stem cell regulation, fibroblast growth factors, and the developmental origins of neuropsychiatric disorders. ***Frontiers in Neurogenesis*** *(2010)* vol 4, article 59*.* doi:10.3389/fnins.2010.00059.

<http://www.frontiersin.org/neuroscience/neurogenesis/paper/10.3389/fnins.2010.00059>

PMCID: PMC2944667 (Free PMC Article)

23. Vaccarino, F.M., and Leckman, J.F.: Overview of brain Development. In: ***Pediatric Psychopharmacology***, edited by A. Martin, L. Scahill, and C. Kratochvil, pp 5-22, Oxford University Press (2011).

24. Vaccarino, F.M., Urban, A.E., Stevens, H.E., Szekely, A., Abyzov, A.,Grigorenko, E.L., Gerstein, M., Weissman, S.: Annual Research Review: The promise of stem cell research for neuropsychiatric disorders. ***J Child Psychol Psychiatry*** (2011) 52(4): 504-16.

 DOI 10.1111/j.1469-7610.2010.02348.x. PMCID: PMC3124336.

25. Salmaso, N. and Vaccarino, F.M.: Toward a Novel Endogenous Anxiolytic Factor, Fibroblast growth factor 2. (Commentary) ***Biol. Psychiatry*** (2011) 69 (6): 508-509. PMCID: PMC3058122

26. Vaccarino, F.M., Stevens, H.E., Kocabas, A., Palejev, D., Szekely, A., Grigorenko, E.L., Weissman, S.: Induced pluripotent stem cells: a new tool to confront the challenge of neuropsychiatric disorders. ***Neuropharmacol****.* (2011) 60(7-8):1355-63. PMCID: PMC3087494

27. Vaccarino, F.M.: Stem Cells & The Developing Brain. Modeling Neuropsychiatric Disease. ***Psychiatry Weekly*** (2011) 6(23):1.

28. Stevens, H.E., Mariani, J., Coppola, G. and Vaccarino, F.M.: Neurobiology meets genomic science: the promise of human induced pluripotent stem cells. In: The Contribution of Genetic/Genomic Sciences to Developmental Psychopathology, Special Issue of ***Development and Psychopathology***, edited by E. Grigorenko and D. Cicchetti. (2012) 24(4): 1443-1451. doi: 10.1017/S095457941200082X. PMID: 23062309.

30. Vaccarino, F.M., Kataoka, Y., Lennington, J.: Cellular and Molecular Pathology in Tourette Syndrome. In: ***Tourette Syndrome***, edited by D. Martino and J.F. Leckman. (2013) Oxford University Press.

31. Salmaso, N., Tomasi, S. and Vaccarino, F.M.: “Neurogenesis and Maturation in Neonatal Brain Injury” in: ***Clinics in Perinatology****,*  edited by P. Ballabh and S. Back, Elsevier (2014) 41(1):229-39. PMID:24524457; PMCID:PMC3925307

32. Salmaso, N., Jablonska, B., Scafidi, J., Vaccarino, F.M. and Gallo, V.: ”Neurobiology of Premature Brain Injury”. ***Nature Neuroscience*** (2014) 3: 341-346. PMID:24569830; PMCID:PMC4106480

33. Lennington, J.B., Bloch, M.H., Scahill, L.D., Szuhay, D., Lombroso, P.J., and Vaccarino, F.M.: “Tourette Syndrome”. In: ***Rosenberg’s Molecular and Genetic Basis of Neurological and Psychiatric Disease*** (2014), *5*th Edition, edited byRoger N. Rosenberg and Juan M. Pascual Elsevier.

34. Leckman, J.F., Vaccarino, F.M. Editorial Commentary: What Does Immunology have to do with Brain Development and Neuropsychiatric Disorders? ***Brain Res*** (2015); 1617:1-6. Special Issue. Editorial Commentary: ***What does immunology have to do with Brain Development and Neuropsychiatric Disorders?*** PMID:25283746.

35. Stevens, H. E., and Vaccarino, F.M.: How animal models inform child and adolescent psychiatry. ***Journal of the American Academy of Child and Adolescent Psychiatry*** (2015) 54(5):352-359. PMID:25901771. PMCID: PMC4407022

36. Ardhanareeswaran, K.,Coppola, G., and Vaccarino, F.M.: The Use of Stem Cells to Study Autism Spectrum Disorder. ***The Yale Journal of Biology and Medicine*** (2015) 88(1):5-16. PMID:25745370; PMCID:PMC4345539.

37. Millan, M.J., Andrieux, A., Bartzokis, G., Cadenhead, K., Dazzan, P., Fusar-Poli, P., Gallinat, J., Giedd, J., Grayson, D.R., Heinrichs, M., Kahn, R., Krebs, M., Leboyer, M., Lewis, D., Marin, O., Marin, P., Meyer-Lindenberg, A., McGorry, P., McGuire, P., Owen, M. J., Patterson, P., Sawa, A., Spedding, M., Uhlhaas, P., Vaccarino, F., Wahlestedt, C., and Weinberger, D.: Altering the course of schizophrenia: progress and perspectives. ***Nature Reviews Drug Discovery*** (2016) Mar 4. doi: 10.1038/nrd.2016.28. [Epub ahead of print]. PMID: 26939910

39. Ardhanareeswaran, K., Mariani, J., Coppola, G., Abyzov, A., Vaccarino,F.M.: Human induced pluripotent stem cells for modeling neurodevelopmental disorders. ***Nature Review Neurology*** (2017)13 (5)265-278. PMCID: PMC5782822. <http://www.ncbi.nlm.nih.gov/pubmed/28418023>

40. Abyzov, A., Urban, A.E, Vaccarino, F.M.:Principles and approaches for discovery and validation of somatic mosaicism in the human brain. In: “***Genomic mosaicism in neurons and other cell types: current protocols***" (2017) edited by Frade and Gage, pp.3-24, Springer Nature, Humana Press, New York. [https://link.springer.com/book/10.1007%2F978-1-4939-7280-7](https://link.springer.com/book/10.1007/978-1-4939-7280-7)

41. Stevens, H.E., Leckman, J. F., Lombroso, P. J. and Vaccarino, F.M.: From Genes To Brain: Developmental Neurobiology. In: ***Child and Adolescent Psychiatry, A comprehensive Textbook*** (2018), 5th edition, edited by Martin, A., Volkmar, F. R., Bloch, M., Wolters Kluwer, ISBN 9781496345493.

42. Jourdon, A., Mariani, J., Scuderi, S., Amiri, A., Wu, F., Yuen, E.Y., Abyzov, A., and Vaccarino, F.M.: Induced pluripotent stem cells as models of human neurodevelopmental disorders. In: ***Neurodevelopmental Disorders: Comprehensive Developmental Neuroscience***, edited by John Rubenstein and Pasko Rakic, Chapter 5, pp 99-127, 2020. Academic Press.

43. Mariani, J., Vaccarino, F.M.: Breakthrough moments: Yoshiki Sasai’s discoveries in the third dimension. ***Cell Stem Cell*** (2019) Jun 6;24(6):837-838. doi: 10.1016/j.stem.2019.05.007.

44. Fasching, L.#, Brady, M.#, Bloch, M.H., Lombroso, P. and Vaccarino, F.M.: Tourette Syndrome. In: ***Rosenberg’s Molecular and Genetic Basis of Neurological and Psychiatric Disease*** (2020) 6th Edition, Vol 2,edited byRoger N. Rosenberg and Juan M. Pascual.

#Equal contribution. ELSEVIER /Academic Press

45. Abyzov, A., Vaccarino, F.M., Urban, A.E., Sarangi., V.: Approaches and Methods for Variant Analysis in the Genome of a Single Cell (2019). In: “***Biomarkers of Human Aging. Healthy Aging and Longevity***”, edited by Moskalev, A., published online 14 September 2019, vol 10, pp. 203-228. <https://link.springer.com/chapter/10.1007/978-3-030-24970-0_14>. Springer, Cham

46. Abyzov, A., Vaccarino, F.M.: Cell Lineage Tracing and Cellular Diversity in Humans. ***Annu. Rev. Genom. Hum. Genet.* (2020)** 21:101-116. Epub: 2020/05/16. DOI: 10.1146/annurev-genom-083118-015241. Copyright © 2020 by Annual Reviews. <https://www.ncbi.nlm.nih.gov/pubmed/32413272>. PMID: 32413272.

47. Jourdon#, A., Fasching#, L., Scuderi, S. #, Abyzov, A., Vaccarino, F.M.:The role of somatic mosaicism in brain disease. ***Current Opinion in Genetics and Development***, Volume 65: pp 84-90. In: Molecular and Genetic Bases of Disease (2020), edited byDaniel Geschwind and Joseph Gleeson; #Equal contribution. ELSEVIER /Academic Press. <https://pubmed.ncbi.nlm.nih.gov/32622340/>. PMID: **32622340** DOI: [10.1016/j.gde.2020.05.002](https://doi.org/10.1016/j.gde.2020.05.002)

48. Fasching, L., Brady, M., and Vaccarino, F.M.:Cellular and molecular pathology in Tourette syndrome. In: ***Tourette Syndrome***, edited by D. Martino and J.F. Leckman. 2nd edition, (2020). Oxford University Press.

49. Jourdon, A., and Vaccarino., F.M: One for All: A Pooled Approach to Classify Functional Impacts of Multiple Mutations. ***Cell Stem Cell*** 27:1-3, 2020. <https://doi.org/10.1016/j.stem.2020.06.016>

<https://pubmed.ncbi.nlm.nih.gov/32619508/>. PMID: **32619508**. DOI:[10.1016/j.stem.2020.06.016](https://doi.org/10.1016/j.stem.2020.06.016)

50. Jourdon#, A., Scuderi#, S., Capauto, D., Abyzov, A., Vaccarino, F.M.: PsychENCODE and beyond: transcriptomics and epigenomics of brain development and organoids. ***Neuropsychopharmacol.*** (2021) 46(1):70-85. Epub: 2020/07/14. <https://doi.org/10.1038/s41386-020-0763-3>. https://pubmed.ncbi.nlm.nih.gov/32659782/ PMID: **32659782**. DOI: [10.1038/s41386-020-0763-3](https://doi.org/10.1038/s41386-020-0763-3)