

Curriculum Vitae
Steven E. Hyman, MD

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Harald McPike Professor and Harvard University Distinguished Service Professor of Stem Cell and Regenerative Biology
Core Institute Member and Director of the Stanley Center for Psychiatric Research, Broad Institute of Harvard and MIT

Professional Addresses:

Department of Stem Cell and Regenerative Biology (Bauer 203)
7 Divinity Avenue
Cambridge, MA 02138

Broad Institute
75 Ames Street (9013)
Cambridge, MA 02142

Education:

1970-1974, BA	Yale University, New Haven, CT Summa Cum Laude
1974-1976, BA (Hons), MA	University of Cambridge, Cambridge, England (Mellon Fellow); First Class Honors, History and Philosophy of Science
1976-1980, MD	Harvard Medical School (HMS), Boston, MA, Cum Laude

Postdoctoral Training:

1980-1981	Intern in Medicine, Massachusetts General Hospital (MGH), Boston, MA
1981-1984	Resident in Psychiatry, McLean Hospital, Belmont, MA
1982	Chief Resident, McLean Hospital, Belmont, MA
1983-1984	Clinical and Research Fellow in Neurology and Medicine MGH, Boston, MA

1984-1988 Postdoctoral Research Fellow in Molecular Biology, Laboratory of Howard M. Goodman, Ph.D. Department of Molecular Biology MGH and of Genetics, Harvard Medical School

Academic appointments/positions

1980-1981 Clinical Fellow in Medicine, HMS

1981-1984 Clinical Fellow in Psychiatry, HMS

1984-1987 Research Fellow in Genetics, HMS

1987-1989 Instructor in Psychiatry, HMS

1989-1998 Assistant Professor to Professor of Psychiatry, Harvard Medical School

2002-2011 Professor of Neurobiology, Harvard Medical School

2001-2011 Provost, Harvard University

2011- Harvard University Distinguished Service Professor of Stem Cell and Regenerative Biology

2012- Core Institute Member and Director of the Stanley Center for Psychiatric Research, Broad Institute of MIT and Harvard

2021- Harald McPike Professor of Stem Cell and Regenerative Biology, Harvard University

United States Government

1996-2001 Director, National Institute of Mental Health (NIMH), National Institutes of Health, Bethesda, MD

Additional positions:

1990-1996 Director of Research, Department of Psychiatry, MGH

1992-1995 Director, Division on Addictions, Harvard Medical School

1994-1996 Faculty Director, Harvard University Interfaculty Initiative on Mind/Brain/Behavior (Inaugural Faculty Director)

2002-2016 Editor, Annual Review of Neuroscience

American Board Certification: Psychiatry, 1986 #28392

Professional Organizations and Society memberships and roles:

1984-2006 American Psychiatric Association
Distinguished Life Fellow

1986-2015 Society for Neuroscience
President (2014-2015)

1996-2022 Dana Alliance for Brain Initiatives
Executive Committee, Board of Directors
Chair, Executive Committee (2020-22)

1996- American College of Neuropsychopharmacology
Fellow (2003-
President (2017-2018)

1996- Fellow, American College of Psychiatrists

2008- International Neuroethics Society
Founding President (2008-2013)

2013- International Society of Psychiatric Genetics

Editorial Boards:

1992- Harvard Review of Psychiatry

1992-2006 American Journal of Medical Genetics
(Neuropsychiatric Genetics)

1996-2002 Archives of General Psychiatry

1996-2000 Neurobiology of Disease

1997-2006 Biological Psychiatry (Associate Editor)

1997-2016	Annual Review of Neuroscience (Associate Editor 2000-2001; Editor 2002-2016)
2000-	Molecular Psychiatry
2000-	Neuron
2004-2011	Public Library of Science, Medicine
2006-2020	International Advisory Board, Faculty of 1000 Medicine
2006-	American Journal of Bioethics (AJOB)-Neuroscience
2011-	Science Translational Medicine Board of Reviewing Editors
2014-2023	Neuropsychopharmacology

Scientific Advisory Boards (Nonprofit)

1996-2018	Brain and Behavioral Research Foundation (previously NARSAD) Scientific Council
2011-	One Mind for Research (co-Chair of SAB)
2017-	Tan-Yang Center for Autism Research (MIT)
2019-2022	Healthy Brains Global Initiative (HBGI); co-chair use of proceeds working group
2022-	Brainscapes (Dutch Research Council 'Gravitation Project'), VU University, Amsterdam

Scientific Advisory Boards (Industry)

2002-2006	Merck Research Labs
2002-2009	Neurion
2007-	F-Prime Capital Partners (previously Fidelity Biosciences)
2008-2013	Novartis Science Board (Advising CEO)
2008-2011	GlaxoSmithKline (GSK) Neuroscience
2012-2014	AstraZeneca iMed Neuroscience,

2015-2016	Sunovion
2015-2020	BlackThorn Therapeutics (co-Chair of SAB)
2018-	Janssen Pharmaceuticals (Advising Global Head of Research)

Boards of Directors (Nonprofit)

2000-2002	Directorate, BioMed Central
2000-2008	Board of Trustees, BioMed Central
2001-	Annual Reviews, Inc. Palo Alto, CA
2004-	Charles A. Dana Foundation, New York Chair (2019-)
2009-2010	Broad Institute of MIT and Harvard, (During transition to independence)
2009-2011	American Repertory Theater (ART), Vice-Chair
2010-2011	Ragon Institute of Massachusetts General Hospital, MIT, and Harvard
2010-11	Massachusetts High Performance Computing Center (representing Harvard)
2011-2022	Charles H. Revson Foundation
2012-2021	Dana Alliance for Brain Initiatives
2013-	Wyss Center for Bio and Neuroengineering, Geneva, Switzerland Chair 2022-

Boards of Directors (Private sector)

2013-2019; 2020-	Q-State Biosciences
2015-	Voyager Therapeutics (Public company) Chair, Science & Technology Committee (2018-)
2022-	Cyclerion Therapeutics (Public company)
2022-	Vesalius

Committee service, US and International*US Government including National Institutes of Health*

1995-1996	NIDA/B Study Section Member
1996	Co-Chair, Autism Coordinating Committee, NIH
1997	Co-chair. Search Committee for Director of The National Institute of Neurologic Disorders and Stroke, NIH
1997-2001	Co-chair. Clinical Center Advisory Council, NIH
2000-2001	Peer Review Oversight Group, NIH
2000-2002	Fogarty International Center Advisory Board, NIH
2000-2001	Chair, Steering Committee for the Center for Scientific Review, NIH
2000-2002	Chair, Executive Committee, National Neuroscience Research Center, NIH
2000-2001	Chair, Clinical Research Center Research Steering Committee, NIH
2001	Co-Chair, Working Group to develop a National Institute of Biomedical Imaging and Bioengineering, NIH
2001	Chair, Interagency Autism Coordinating Committee, US Department of Health and Human Services
2008	Chair, US Government Interagency Autism Coordinating Committee Strategic Planning Workgroup
2012-2015	National Advisory Mental Health Council (NIMH)
2013-2017	Ethical, legal, and social issues panel, Biological Technologies Office, Defense Advanced Research Projects Agency (DARPA)

2015-2016	Search Committee for Director of NIMH
2015-2022	NIH Neuroethics Division of the multi-council working group of the BRAIN Initiative
2016	US Veterans Administration, Genomic Medicine Program Advisory Committee
2018-2022	Neuroethics Working Group of the Multi-council Working Group NIH BRAIN Initiative

Society for Neuroscience (SfN)

1991-1994	Public Information Committee, SfN
1995-1996	Program Committee, SfN
2003-2013	Government and Public Affairs Committee, SfN
2013-2016	Executive Committee of Council, SfN

National Academy of Medicine (previously Institute of Medicine) Elected 2000 of the National Academies of Science, Engineering, Medicine

1995-1996	Institute of Medicine Consensus Committee on Raising the Profile of Drug Abuse Research
2006-	Forum on Neuroscience and Nervous System Disorders of the National Academies of Sciences, Engineering, and Medicine Forum Chair (2012-2018)
2008-10	National Academy of Sciences, Soldier Systems Panel
2011-2012	National Academy of Medicine, Board on Health Sciences Policy
2012-2018	National Academy of Medicine, Council
2016	Health and Medicine Division Committee (during reorganization of the National Academy of Medicine and National Research Council)

2015-	National Academy of Science, Engineering, and Medicine Intelligence Science and Technology Group (ISTEG)
2016-2019	Governing Board, National Research Council (Operating arm of the National Academies of Sciences, Engineering, and Medicine)
2019	Search Committee for President of the National Academy of Medicine
2023-	National Academy of Science, Engineering, and Medicine Committee on Science, Technology, and Law

American College of Neuropsychopharmacology (ACNP) (Elected member 1996; Elected fellow 2003)

2003-2004	Chair, Task Force on Terrorism,
2003	Program Committee
2003-2005	Liaison Committee
2011-2016	Audit Committee (Chair 2011-2013)
2011	Chair, Nominating Committee
2018	President
2017-2020	Executive Committee of Council

Harvard Medical School and Harvard Affiliated Hospitals

1989-1991	Scientific Advisory Committee, Mallinckrodt General Clinical Research Center, MGH
1992-1994	Faculty Council, Harvard Medical School; Vice Chair and Chair, Docket Committee 1993-1994
2007-2011	Scientific Advisory Committee, MGH
2012-2015	Chair, Scientific Advisory Board, McLean Hospital

2012-2017
Advisory Board, NIMH Conte Center on Neurodevelopmental basis of psychiatric disorders, Harvard Faculty of Arts and Sciences

Other committee service (US)

1998-2001, 2014
Neuroscience Review Committee, Howard Hughes Medical Institute, Chevy Chase, MD

2002-2012, 2014-
Coalition for the Life Science (CLC) Formerly Joint Steering Committee for Public Policy (Representing the Society for Neuroscience; then ad hoc member 2014-)

2006-2007
Chair, Planning Committee of Massachusetts Life Sciences Collaborative (Commonwealth of MA)

2006-2013
Task Force, Diagnostic and Statistical Manual of Mental Disorder, fifth edition (DSM-5), American Psychiatric Association.

2007-2010
Governing Board, MacArthur Law and Neuroscience Project (MacArthur Foundation)

2011
Chair, Scientific Program Committee for One Mind for Research

International committee roles

1998-2008
Scientific Advisory Committee: Max Plank Institute for Psychiatry, Munich, Germany

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1998-2002
International Advisory Committee, Riken Brain Sciences Institute, Japan

2006-2014
Chair, International Advisory Group for the Revision of International Classification of Diseases (ICD-10) Mental and Behavioural Disorders, World Health Organization

2011-2014
Board of Councilors, Okinawa Institute of Technology (OIST); Okinawa, Japan
Chair, Sub-Committee on Academics and Research

2011	Chair, World Economic Forum (WEF) Global Agenda Council on Brain and Cognitive Sciences
2011	International Review Panel for the Canadian Institutes of Health Research
2012-2015	International Panel of Experts. Bioethics Advisory Committee of Singapore
2013	Chair, Committee to review the Montreal Neuroscience Institute (MNI), McGill University
2014-2021	International Advisory Committee (advising Rector and Vice-Rectors) University of Helsinki, Finland
2021-	Scientific Advisory Council, BRAINSCAPES, Vrije Universiteit, Amsterdam, NL

Selected Awards and Honors:

1974	Summa cum Laude, Distinction in Philosophy Major, and in History, the Arts, and Letters (Divisional Major in the Humanities), Yale University
1974-1976	Mellon Fellowship, University of Cambridge, Cambridge, England
1983-1984	Dupont-Warren Fellowship, Department of Psychiatry, HMS
1983	Laughlin Fellowship, American College of Psychiatry
1984	Laughlin Award of the National Psychiatric Endowment Fund
1996	Gerald Klerman Award; Association for Clinical Psychosocial Research
1997	Nancy Pritzker Award for research on Mood Disorders
1999	Distinguished Service Award, National Alliance for the Mentally Ill

1999	Tribute. National Mental Health Association
2000	Heinz Lehman Award, New York State Office of Mental Health
2000	Presidential Meritorious Executive Rank Award (US Government)
2000	Elected Member of US Institute of Medicine (now National Academy of Medicine)
2002	Distinguished Service Award, American College of Neuropsychopharmacology (ACNP)
2001	Fellow, American College of Neuropsychopharmacology
2003	Fellow, American Academy of Arts and Sciences
2011	Fellow, American Association for the Advancement of Science
2016	Rhoda and Bernard Sarnat Prize in Mental Health of the National Academy of Medicine
2016	Steven E. Hyman Prize of the International Neuroethics Society (first recipient of annual prize named for me)
2017	Distinguished Service Award, American Psychiatric Association
2018	David Mahoney Prize (for communication of science)

Selected Special Lectures

1995	Speaker, National Academy of Sciences Frontiers of Science Symposium (now Kavli Frontiers of Science Symposia)
1996	Mathilde Solowey Lecture in the Neurosciences, NIH
1996, 1997	President's Plenary Speaker, American College of Neuropsychopharmacology

- 1998 Cooper Lecture, University of Texas, Medical School, Houston
- 2000 Hughlings Jackson Lectureship, Montreal Neurological Institute, McGill University
- 2001 Adolf Meyer Award and Lecturer, American Psychiatric Association
- 1999 John Cade Lecturer and Kearny Visiting Professor, University of Melbourne, Australia
- 2000 Miguel Aleman Lecturer, Mexico City, Mexico
- 2003 Merck Sharp and Dohme-Cambridge Lecturer in Neurology, Cambridge, England
- 2008 Philip Hauge Abelson Advancing Science Seminar Series, Capstone Address American Association for the Advancement of Science
- 2010 Herbert Cohen Memorial Lecturer in Bioethics, Columbia University
- 2010 Wellcome Trust Lecture in Neuroethics, Oxford University
- 2012 Harvard Mind/Brain/Behavior Distinguished Faculty Lecture
- 2012 Margaret Bidwell Memorial Lecture, MIT
- 2013 Gala Lecture. Fondation Ipsen/Salk Symposium on Biological Complexity: Molecular Genetics of Psychiatric Disorders
- 2014 Charles Smith Memorial Lecture in Psychobiology, Jerusalem, Israel
- 2015 Oxford Lobel Lectures, University of Oxford
- 2015 Eli Robins Lecture, Washington University, St. Louis Department of Psychiatry
- 2016 Kavli Lecture, International Neuroethics Society, Annual Meeting, San Diego, CA
- 2017 Sidney R. Baer Jr. Visiting Professorship, Beth Israel Deaconess Hospital, Harvard Medical School

2017	Presidential Special Lecture, Society for Neuroscience
2019	Kavli Lecture, International Brain Research Organization (IBRO) Daegu, South Korea
2019	Swammerdam Lecture, Neuroscience-Amsterdam

Undergraduate Courses (Harvard University)

2007-2008	Neurobiology 130 (Undergraduate and Graduate lecture course)
2009-2010	Neurobiology 95l (Junior Seminar)
2011-2018	Stem Cell and Regenerative Biology 187
2019	General Education Program, Ethical Reasoning (ER 45) Brains, Identity, and Moral Agency
2020-	General Education Program (Gen Ed 1064); Brains, Identity, and Moral Agency

Teaching awards

1985	Best teacher, selected by graduating residents, McLean Hospital, (Philip Isenberg Award)
1988, 89, 90	Best teacher; selected by graduating MGH psychiatry residents, Classes of 88, 89, 90.

Selected publications:

Peer reviewed articles and reviews

- Comb, M, Hyman, SE, Goodman, HM. Mechanisms of trans-synaptic regulation of gene expression. *Trends Neurosci* 10:473-478, 1987
- Hyman, SE, Comb, M, Lin, YS, Pearlberg, J, Green, MR, Goodman, HM. A common trans-acting factor is required for cyclic AMP-induction of multiple neurotransmitter-related genes. *Mol. Cell. Biol.* 8:4225-4233, 1988.
- Comb, M, Mermod, N, Hyman, SE, Pearlberg, J, Ross, M, Goodman, HM. Proteins bound at adjacent DNA elements act synergistically to regulate human proenkephalin cAMP inducible transcription. *EMBO J.* 7:3793-3805, 1988.

- Hyman, SE, Comb, M, Pearlberg, J, Goodman, HM. Transcription factor AP-2 acts synergistically with the cyclic AMP and phorbol ester-inducible enhancer of the human proenkephalin gene. *Mol. Cell. Biol.* 9:321-324, 1989.
- Ross, ME, Evinger, MJ, Hyman, SE, Carroll, J, Mucke, L, Comb, M, Reis, DJ, Joh, TH, Goodman, HM. Regulated expression of phenylethanolamine N-methyltransferase and proenkephalin promoter constructs introduced into bovine chromaffin cells in primary culture. *J Neurosci.* 10:520-530, 1990.
- Nguyen, TV., Kobierski, L., Comb, M, and Hyman, SE. Depolarization-induced expression of the human proenkephalin gene is synergistic with cAMP and dependent on a cAMP-inducible enhancer. *J. Neurosci.* 10: 2825-2833, 1990.
- Nguyen, TV, Kosofsky, B., Birnbaum, R Cohen, BM, and Hyman, SE. Differential expression of c-fos and zif268 in rat striatum after haloperidol, clozapine and amphetamine. *Proc Natl Acad Sci, USA* 89:4270-4274, 1992
- Hope, B, Kosofsky, B. Hyman, SE, and Nestler, EJ. Regulation of Immediate early gene expression and AP-1 binding by chronic cocaine in the rat nucleus accumbens. *Proc Natl Acad Sci, USA.* 89:5764-5768, 1992
- Borsook, D, Rosen, H, Collard, M, Herrup, K, Comb, M, and Hyman, SE. Expression and regulation of a proenkephalin β -galactosidase fusion gene in the reproductive system of transgenic mice. *Mol Endocrinol.* 6:1502-1510, 1992.
- Symes, AJ., Rao, SM, Lewis, SE, Landis, SC, Hyman, SE, and Fink JS. Coordinate transcriptional activation of neuropeptide genes by ciliary neurotrophic factor in a neuroblastoma cell line. *Proc Natl Acad Sci, USA* 90:572-576, 1993.
- Konradi, C., Kobierski, L.A., Nguyen, T.V., Heckers, S. H., and Hyman, S.E. The cAMP-response-element-binding protein interacts, but Fos protein does not interact, with the proenkephalin enhancer in rat striatum. *Proc Natl Acad Sci.* 90:7005-7009, 1993.
- Hyman, SE. How antipsychotic drugs might work. *Harvard Rev. Psychiatry* 1: 68-69, 1993.
- Lewis, SE, Rao, M, Symes, AJ, Dauer, WT, Fink, JS, Landis, SC, and Hyman, SE. Coordinate regulation of choline acetyltransferase, tyrosine hydroxylase and neuropeptide mRNAs by CNTF and LIF in cultured sympathetic neurons. *J. Neurochem.* 63:449-438, 1994.
- Borsook, D, Falkowski, O, Burstein, R, Strassman, A, Konradi, C, Dauber, A, Comb, M, and Hyman, SE. Stress-induced regulation of a human proenkephalin- β -galactosidase fusion gene in the hypothalamus of transgenic mice. *Mol Endocrinol.* 8:116-125, 1994
- Borsook, D, Konradi, C, Falkowski, O, Comb, M, and Hyman, SE. Molecular Mechanisms of Stress-Induced Proenkephalin Gene Regulation: CREB interacts with the proenkephalin gene in the mouse hypothalamus and is phosphorylated in response to hyperosmolar stress. *Mol Endocrinol.* 8:140-148, 1994
- Schwarzschild, MA, Dauer, WT, Lewis, SE, Hamill, LK, Fink, JS, and Hyman, SE. LIF and CNTF increase activated Ras in a neuroblastoma cell line and in sympathetic neuron cultures. *J. Neurochem.* 63:1246-1254, 1994

- Cole, D, Kobiarski, L, Konradi, C, and Hyman, SE. 6-hydroxydopamine lesions of the substantia nigra upregulate CREB phosphorylation in rat striatum. *Proc Natl Acad Sci USA* 91:9631-9635, 1994.
- Konradi, C, Cole, RL, Heckers, S, and Hyman, SE. Amphetamine regulates gene expression in rat striatum via transcription factor CREB. *J. Neurosci.* 14: 5623-5634, 1994.
- Symes, AJ, Lewis, SE, Corpus, L, Rajan, P, Hyman, SE, and Fink, JS. STAT proteins participate in the regulation of the VIP gene by the CNTF family of cytokines. *Mol Endocrinol.* 8: 1750-1763, 1994.
- Borsook, D, Falkowski, O, Rosen, H, Comb, M, and Hyman, SE. Opioids modulate stress-induced proenkephalin gene expression in the hypothalamus of transgenic mice: a model of endogenous opioid gene regulation by exogenous opioids. *J. Neurosci.* 14:7261-71, 1994.
- Hyman SE and Gollub, RL. "More serotonin": not as simple as it seems. *Harvard Rev. Psychiatry.* 222-224, 1994.
- Kosofsky, BE, Genova, LM, and Hyman, SE. Postnatal age defines specificity of immediate early gene induction by cocaine in developing rat brain. *J Comp Neurol* 351: 27-40, 1995
- Kosofsky, BK, Genova, LM, and Hyman, SE. Substance P phenotype defines specificity of c-fos induction by cocaine in developing rat striatum. *J Comp Neurol.* 351: 41-50, 1995
- Cole, RL, Konradi, C, Douglass, J, and Hyman, SE. Neuronal adaptation to amphetamine and dopamine: molecular mechanisms of prodynorphin gene regulation in rat striatum. *Neuron* 14: 813-823, 1995.
- Konradi, C, Cole, RL, Green, D, Senatus, P, Leveque, JC, Pollack, AE, Grossbard, SJ, and Hyman, SE. Analysis of the proenkephalin second messenger-inducible enhancer in rat striatal cultures. *J. Neurochem* 65:1007-1015, 1995.
- Gollub, RL and Hyman SE. G Proteins and second messengers in psychiatry. *Harvard Rev. Psychiatry.* 3:41-44, 1995.
- Hyman, SE. Clinical Crossroads. A man with Alcoholism and HIV infection *JAMA* 274: 837-843, 1995.
- Borsook, D and Hyman, SE Proenkephalin gene regulation in the neuroendocrine hypothalamus: A model of gene regulation in the CNS. *Am J Physiol* 269 (Endocrinol Metab 32) E393-E408, 1995.
- Konradi, C, Leveque, and Hyman, SE. Amphetamine and dopamine-activated immediate early gene expression in striatal neurons depends upon NMDA receptors and calcium. *J. Neurosci* 16:4231-4239, 1996.
- Breiter, HC, Etcoff, NL, Whalen, PJ, Kennedy, WA, Rauch, SL, Buckner, RL, Strauss, MM, Hyman, SE, and Rosen, BR. Response and habituation of the human amygdala during visual processing of facial expression. *Neuron* 17:875-887, 1996.
- Hyman, SE and Nestler, EJ. Initiation and adaptation: a paradigm for understanding psychotropic drug action. *Am J Psychiatry* 153:151-162, 1996
- Hyman, SE. Addiction to cocaine and amphetamine. *Neuron.* 16:901-904, 1996.

- Hyman, SE. Regulation of gene expression by neural signals. *Neuroscientist*. 2: 217-224, 1996
- Schwarzschild, MA, Cole, RL, and Hyman, SE. Glutamate, but not dopamine stimulates stress-activated protein kinase and AP-1 mediated transcription in striatal neurons. *J. Neurosci*. 17:3455-3466. 1997.
- Breiter HC, Gollub RL, Weisskoff RM, Kennedy DN, Makris N, Berke JD, Goodman JM, Kantor HL, Gastfriend DR, Riorden JP, Mathew RT, Rosen BR, and Hyman SE. Acute effects of cocaine on human brain activity and emotion. *Neuron* 1997; 19:591-611.
- Genova, L, Berke, J and Hyman, SE. Molecular adaptations to psychostimulants in striatal neurons: towards a pathophysiology of addiction. *Neurobiol Dis* 4:239-246, 1997
- Genova, LM and Hyman, SE. 5-HT₃ receptor activation is required for the induction of striatal c-Fos and the phosphorylation of ATF-1 by amphetamine. *Synapse* 30:71-78, 1998
- Berke, JD, Paletzki, RF, Aronson, GJ, Hyman, SE, and Gerfen, CR. A complex program of striatal gene expression induced by dopaminergic stimulation. *J Neurosci* 18:5301-5310, 1998.
- Fienberg, AA, Hiroi, N, Mermelstein, PG, Song, W-J, Snyder GL, Nishi, A, Cheramy, A, O'Callaghna, JP, Miller, DB, Cole, DG, Haile, CN, Cooper, DC, Onn, SP, Grance, AA, Ouimet, CC, White, FJ, Hyman, SE, Surmeier, DJ, Girault, JA, Nestler, EJ, and Greengard, P. DARPP-32: Regulator of the efficacy of dopaminergic neurotransmission. *Science* 281:838-842, 1998.
- Van Koughnet, K, Smirnova, O, Hyman, SE, and Borsook D. Proenkephalin transgene regulation in the paraventricular nucleus of the hypothalamus by lipopolysaccharide and interleukin- β . *J. Comp. Neurol*. 405:199-215, 1999.
- Schwarzschild MA, Cole RL, Meyers MA, and Hyman SE. Contrasting calcium dependencies of SAPK and ERK activations by glutamate in cultured striatal neurons. *J Neurochem*. 72:2248-2255, 1999
- Norquist, G and Hyman, SE. Advances in understanding and treating mental illness: Implications for policy. *Health Affairs* 18:32-47, 1999.
- Kobierski LA, Wong AE, Srivastava S, Borsook D, Hyman SE. Cyclic AMP-dependent activation of the proenkephalin gene requires phosphorylation of CREB at serine-133 and a Src-related kinase. *J Neurochem* 73: 129-38, 1999.
- Berke, J and Hyman, SE. Addiction, dopamine, and the molecular mechanisms of memory. *Neuron* 25:515-532, 2000.
- Hyman, SE: The genetics of mental illness: implications for practice. *Bull World Health Organization* 78(4):455-463, 2000.
- Hyman SE and Malenka RC. Addiction and the brain: The neurobiology of compulsion and its persistence. *Nature Reviews Neuroscience* 2:695-703, 2001.
- Hyman, SE. A 28-year-old man addicted to cocaine. *JAMA*. 28: 286:2586-94, 2001
- Berke JD, Sgambato V, Zhu P-P, Lavoie B, Vincent M, Krause M, Hyman SE. (2001) Dopamine and glutamate induce distinct striatal splice forms of ania-6, an RNA polymerase II-associated cyclin. *Neuron* 32:1-20, 2001.

- Cowan WM, Kopnisky KL, Hyman SE. The human genome project and its impact on psychiatry. *Annu Rev Neurosci.* 25:1-50, 2002.
- Hyman, SE. Neuroscience, genetics, and the future of psychiatric diagnosis. *Psychopathology* 35:139-144, 2002.
- Kopnisky KL, Cowan WM, Hyman SE. Levels of analysis in psychiatric research. *Dev Psychopathol.* 14(3):437-61, 2002
- Sgambato, V., Minassian, R., Nairn, A. C, Hyman, S. E. Regulation of ania-6 splice variants by distinct signaling pathways in striatal neurons. *J Neurochem* 86: 153-164, 2003.
- Montague PR, Hyman SE, Cohen JD (2004). Computational roles for dopamine in behavioral control. *Nature.* 431, 760-7.
- Makris N, Gasic GP, Seidman LJ, Goldstein JM, Gastfriend DR, Elman I, Albaugh MD, Hodge SM, Ziegler DA, Sheahan FS, Caviness VS Jr, Tsuang MT, Kennedy DN, Hyman SE, Rosen BR, Breiter HC. Decreased absolute amygdala volume in cocaine addicts. *Neuron.* 2004 Nov 18;44(4):729-40
- Voulalas PJ, Holtzclaw L, Wolstenholme J, Russell JT, Hyman SE. Metabotropic glutamate receptors and dopamine receptors cooperate to enhance extracellular signal-regulated kinase phosphorylation in striatal neurons. *J Neurosci.* 2005;25(15):3763-73.
- Yehuda R, Hyman SE. The impact of terrorism on brain, and behavior: What we know and what we need to know. *Neuropsychopharmacology.* 2005. 30(10):1773-80.
- Hyman SE. Addiction: a disease of learning and memory. *Am J Psychiatry.* 2005;162(8):1414-22.
- Sgambato-Faure V, Xiong Y, Berke JD, Hyman SE, Strehler EE. The Homer-1 protein Ania-3 interacts with the plasma membrane calcium pump. *Biochem Biophys Res Commun.* 2006 5;343(2):630-637
- Hyman SE. Can Neuroscience be integrated into the DSM-V? *Nat Rev Neurosci* 2007 8:725-32.
- Hyman SE. Improving our Brains? *BioSocieties.* 1:103-111. 2006.
- Hyman SE, Malenka RC, Nestler EJ. Neural Mechanisms of Addiction: The role of reward-related learning and memory. *Annu Rev Neurosci.* 29:565-598, 2006.
- Hyman SE. The neurobiology of addiction: implications for the voluntary control of behavior. *Am J Bioeth.* 2007 Jan;7(1):8-11.
- Paletzki RF, Myakishev MV, Poleskaya O, Orosz A, Hyman SE, Vinson C. Inhibiting activator protein-1 activity alters cocaine-induced gene expression and potentiates sensitization. *Neuroscience* 152:1040-53, 2008.
- Andrews G, Goldberg DP, Krueger RF, Carpenter WT, Hyman SE, Sachdev P, Pine DS. Exploring the feasibility of a meta-structure for DSM-V and ICD-11: could it improve utility and validity? *Psychol. Med.* 39:1993-2000, 2009.
- Hyman, SE. The diagnosis of mental disorders: the problem of reification. *Annu Rev Clin Psychol* 6:155-79, 2010
- Nestler, EJ and Hyman SE. Animal models of neuropsychiatric disorders. *Nature Neuroscience* 13:1161-9, 2010

- Collins PY, Patel V, Joestl SS, March D, Insel TR, Daar AS. Scientific Advisory Board and the Executive Committee of the Grand Challenges on Global Mental Health, Anderson W, Dhansay MA, Phillips A, Shurin S, Walport M, Ewart W, Savill SJ, Bordin IA, Costello EJ, Durkin M, Fairburn C, Glass RI, Hall W, Huang Y, Hyman SE, Jamison K, Kaaya S, Kapur S, Kleinman A, Ogunniyi A, Otero-Ojeda A, Poo MM, Ravindranath V, Sahakian BJ, Saxena S, Singer PA, Stein DJ. Grand challenges in global mental health. *Nature*. 475(7354):27-30, 2011.
- Hyman, SE. Revolution stalled. *Sci. Transl. Med.* **4**, 155cm11 (2012).
- McCarroll, SA, Hyman, SE. Progress in genetics of polygenic brain disorders: Significant new challenges for neurobiology. *Neuron* 80:578-587, 2013
- Hyman, SE. Revitalizing psychiatric therapeutics. *Neuropsychopharmacology* 39:220-229, 2014
- McCarroll, SA, Feng, G, Hyman, SE Genome-scale neurogenetics: Methodology and meaning. *Nature Neuroscience* 17:746-63, 2014.
- Choi DW, Armitage R, Brady LS, Coetzee T, Fisher W, Hyman S, Pande A, Paul S, Potter W, Roin B, Sherer T. Medicines for the mind: policy-based “pull” incentives for creating breakthrough CNS drugs. *Neuron* 84:554-63, 2014.
- Pankevich DE, Altevogt BM, Dunlop J, Gage FH, Hyman SE. Improving and accelerating drug development for nervous system disorders. *Neuron* 84:546-53, 2014.
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