Date of preparation: **August 17, 2023**

Personal Data

Name: **HYNEK WICHTERLE**

Birthdate: May 7th, 1970

Birthplace: Prague, Czech Republic

Citizenship: Czech Republic, USA

Work Experience

10/2004-09/2012 Assistant Professor Department of Pathology & Cell Biology

Columbia University, New York, NY

Assistant Professor, Department of Neuroscience (in Neurology), Columbia University

10/2006-12/14 Scientific co-director Project A.L.S. Jennifer Estess Laboratory for Stem Cell Research

10/2012- 08/2021 Associate Professor, Department of Pathology & Cell Biology, Columbia

University

Associate Professor, Department of Neuroscience (in Neurology), Columbia University

Associate Professor, Department of Rehabilitation and Regenerative Medicine, Columbia University

02/2014-10/2016 Co-director, Columbia Stem Cell Initiative

09/2014-present Vice Chief of the Division of Regenerative Medicine, Department of

Rehabilitation and Regenerative Medicine, Columbia University

09/2015- present Co-director, Center for Motor Neuron Biology and Disease, Columbia University

08/2021- present Professor, Department of Pathology & Cell Biology, Columbia

University

Professor, Department of Neuroscience (in Neurology), Columbia University

Professor, Department of Rehabilitation and Regenerative Medicine, Columbia University

12/2021-present cofounder and board member, ProJenX Inc.

**Post Doctorial Training**

07/2000-09/2004 Department of Biochemistry and Molecular Biophysics, HHMI, Columbia University, New York, NY

Postdoctoral fellow, Laboratory of *Dr. Thomas Jessell*

Directed differentiation of embryonic stem cells into spinal cord motor neurons

**Education**

09/1988-04/1993 Charles University, Prague, Czech Republic

Magister of Sciences (equivalent of MS)

09/1995- 06/2000 The Rockefeller University, New York, NY

PhD, “The Brain Invaders: widespread neuronal migration in developing and adult mammalian brain”, sponsored by *Dr Arturo Alvarez-Buylla*

<https://digitalcommons.rockefeller.edu/student_theses_and_dissertations/332/>

**Academic Appointments**

2021-present Jerry and Emily Spiegel Professor of Pathology and Cell Biology and Neuroscience (in Neurology)

2016-2021 Jerry and Emily Spiegel Associate Professor of Pathology and Cell Biology and Neuroscience (in Neurology)

2015-present Co-director, Center for Motor Neuron Biology and Disease

2014-present Vice Chief of the Division of Regenerative Medicine within the Department of Rehabilitation and Regenerative Medicine, Columbia University

2014-2017 Co-director, Columbia Stem Cell Initiative

2012-2021 Associate professor of Pathology & Cell Biology and Neuroscience (in Neurology), Columbia University, New York, NY

2004-2012 Assistant professor of Pathology & Cell Biology and Neuroscience (in Neurology), Columbia University, New York, NY

2004-present Member, Columbia Stem Cell Initiative, Columbia University

2005-present Member, Center for Motor Neuron Biology and Disease, Columbia University

2006-2014 Scientific co-director, Project A.L.S. Jennifer Estess Laboratory for Stem Cell Research, New York, NY

**HONORS**

**Awards**

1995-00 DeWitt Wallace-Reader’s Digest fellowship

1999 Route28 – Summits in Neurobiology, Port Ludlow, WA; first prize

2000-01 HHMI postdoctoral support

2001-04 Damon Runyon Cancer Research Fund fellowship

2006-07 March of Dimes – Basil O’Connor Starter Scholar Research Award

2007-09 RISE award (Research Initiative in Science and Engineering)

2014- Recipient of Jerry and Emily Spiegel endowed chair

2023 Robert S. Kaplan Award for Outstanding Achievement in ALS Research, Project ALS

**Invited lectures**

2000 114th workshop on Genetic Factors that control Cell Birth, Cell allocation and Migration in the Developing Forebrain, Instituto Juan March, Madrid, Spain

2002 Nobel Forum on “Stem cell biology”, Karolinska Institute, Stockholm, Sweden

2003 Developmental and stem cell biology seminar, UCSF, San Francisco, CA

2003 Beckman symposium “Stem cells, Regenerative Medicine and Cancer”, Stanford University, CA

2003 International Stem Cell Conference, Singapore

2005 Neural stem cells and cortical development, Santorini, Greece

2005 Skirball Institute of Biomolecular Medicine, NYU

2005 Banbury meeting, Stem Cells and Axonal Regeneration: Strategies for the Treatment of ALS

2006 Keynote speaker, University of Colorado Health Sciences Center stem cell minisymposium, Denver, CO

2006 Center for Neuropharmacology and Neuroscience, Albany Medical College, Albany, NY

2006 Japanese developmental biology meeting, Hiroshima, Japan

2006 Max Planck institute, Berlin, Germany

2006 The New York Stem Cell Foundation’s Annual Translational Stem Cell Conference, New York, NY

2006 NeuroNE meeting on stem cell biology, Cassis, France

2006 Society for Neuroscience meeting minisymposium, Atlanta, GA

2006 New York Stem cell foundation meeting, Rockefeller University, NY

2006 Johns Hopkins University, Baltimore

2007 Albert Einstein College of Medicine, New York

2007 Symposium on Genetic and epigenetic regulation of gene expression, Prague, Czech Republic

2007 NESDB meeting, Woods hole, MA

2007 Stem cell workshop, Christopher Reeve foundation, New York, NY

2008 Adler symposium, Salk Institute, San Diego, CA

2008 Institute of Molecular Genetics, Prague, Czech Republic

2008 HSCI seminar, Harvard University, Cambridge, MA

2008 Department of Physiology, Columbia University, NY

2008 Banbury conference, Taking on New Complexities in SMA Biology

2008 University of Connecticut Health Center, Farmington, CT

2009 3rd Paris Workshop on Genomic Epidemiology, Paris, France

2009 Paris 6 University (Jussieu), Neural Stem cell lecture series, Paris, France

2009 Distinguished lecture Brooklyn Poly, New York , NY

2009 Keynote speaker at Charles University Faculty of Natural Sciences annual symposium, Prague, Czech Republic

2009 Holiday Lecture, George Washington High School, New York, NY

2010 Banbury conference, Stem Cells, Genetics and RNA Binding Proteins: Recent Advances in ALS Research and Drug Discovery, NY

2010 Society for Neuroscience meeting minisymposium, San Diego, CA

2010 Abcam symposium, Stochastic Events in Stem Cell Differentiation and Reprogramming, Las Vegas, NE

2011 ICSCN Workshop on progress towards clinical trials using stem cells for ALS, NY

2011 NHLBI, NCRM and SCIG Stem cell seminar series, NIH, Bethesda, MD

2011 New York Medical College, Valhalla, NY

2011 UCSF, San Francisco, CA

2011 Janelia Farm Neuronal Identity meeting, HHMI, VA

2012 Regulation of Gene Expression

2012 NGF2012 meeting, Wurzburg, Germany

2012 Gordon conference, Neural Development, Newport, RI

2012 University of Calgary, AL, Canada

2012 Plenary lecture, MDA/ALS international meeting, Chicago, IL

2013 Distinguished lecture, University of Arkansas, Little Rock, AK

2013 Stem cells for neural repair course; Neuroscience School of Advanced Studies, Cortona, Italy

2013 Abcam meeting, Programing neuronal identity, Cambridge, MA

2013 Eibsee meeting on neurodegeneration, Germany

2014 UPenn, Philadelphia, PA

2014 University of Athens, Greece

2014 EMBO meeting: Spinal cord development, Sitges, Spain

2014 Sequencing for Neuroscience; HHMI Janelia Farm, MD

2015 University of Minho, Braga, Portugal

2015 UPenn School of Engineering, PA

2015 Neuroscience School of Advanced Studies, Florence, Italy

2015 MSKCC, New York, NY

2015 Cold Spring Harbor stem cell symposium, NY

2015 SFN meeting, Chicago IL

2016 NYU school of medicine, NY

2016 Institute of Physiology workshop, Academy of Sciences, Prague, Czechia

2016 Hallym University, Seoul, South Korea

2016 Stem Cell Society Singapore Symposium, Singapore

2016 St John University, New York, NY

2017 Neuroepigenetics symposium, UPenn, Philadelphia, PA

2017 Harvard University Medical School, Boston, MA

2017 Institute of Molecular Genetics, Academy of Sciences, Prague, Czechia

2017 Faculty of Medicine, Charles University, Prague, Czech Republic

2017 (Re)constructing the nervous system symposium, Paris, France

2017 Biozentrum, Basel, Switzerland

2017 Czech Embassy, Washington, DC

2018 FNUSA-ICRC International Clinical Research Center, Brno, Czechia

2018 ISSCR, invited speaker, Melbourne, Australia

2018 Academia Sinica, Taipei, Taiwan

2018 Society for Neuroscience, San Diego, CA

2019 Burke Neurological Institute, New York, NY

2019 University of Milan, Milan, Italy

2019 Neurological Institute, Charles University, Prague, Czech Republic

2020 Case Western Reserve University seminar, OH

2021 World Wide Neuro seminar hosted by Denis Jabaudon

2023 University of Massachusetts, Worcester, MA

2023 Brown University, Department of Neuroscience, Providence, RI

**PROFESSIONAL ORGANIZTIONS, SOCIETIES, AND SERVICE (past and current)**

Memberships

1997-present Member of the Society for Neuroscience

2004-present Member, Columbia Stem Cell Initiative, Columbia University

2005-present Member, Center for Motor Neuron Biology and Disease, Columbia University

**Consultative (Federal, State, Private, etc.)**

2005-present Speaker at numerous Columbia University stem cell and motor neuron center events, fundraisers, and Project A.L.S. workshops

2006-08 ALS association; external scientific advisor

2007 Christopher and Dana Reeve foundation workshop

2008 session chair of an NIH workshop on Cellular Functional Signatures

2008 ad-hoc SMA EUROPE grant reviewer

2009 New York Stem Cell Foundation fellowship reviewer

2009 NIH Challenge grant reviewer

2010-present ad-hoc grant reviewer for AFM foundation

2011 ad-hoc reviewer for the Israel Science Foundation (ISF)

2011 ad-hoc grant reviewer for the NMRC Singapore

2011-present ad-hoc reviewer for the Grant Agency of Czech Republic (GACR)

2011-present ad-hoc reviewer NIH

2015-present ad-hoc reviewer European Research Council

2018 NIH Neurodevelopment, Synaptic Plasticity, and Neurodegeneration study section (F03A)

2018 Simons Foundation Autism Research Initiative (SFARI) review panel

2020 NIH - Neurogenesis, Cell Fate specification study section

2021-present Bakala Foundation, Prague, Bakala fellowship selection committee

Departmental and University Committees

2004-2017 **Co-chair**, Stem Cell Seminar Series Committee, Columbia University

2005-present **Member**, Motor Neuron Center, Columbia University

2006-2012 **Member**, Brunie Stem Cell Prize Selection Committee, Columbia University

2007 **Member**, Department of Neuroscience Retreat Committee, Columbia University

2008 **Member**, NYSTEM Infrastructure Grant Committee, Columbia University

2008-present **Co-chair,** Joint Neurodevelopment Meeting Series, Columbia University

2009-2016 **Chair**, Department of Neuroscience Retreat Committee, Columbia University

2010 **Member**, Curriculum Committee for Graduate Course in Neuroscience

2010-present **Member**, Organizing Committee for Neurobiology Seminars

2010-2017 **Group leader**, Neurodegeneration Group, Columbia Stem Cell Initiative

2010-2017 **Chair,** Columbia Stem Cell Day Organizing Committee, Columbia Stem Cell Initiative

2010-2014 **Member**, P2ALS Consortium

2011-present **Member**, Stem Cell Initiative Recruitment Committee

2018-present **Member**, Internal Advisory Committee, Neurobiology and Behavior Graduate Program

2020 Revson Senior Fellows Program reviewer

2022 Allan Gordon Scholars Fund reviewer

Fellowship and Grant Support

PRESENT

2020-2025NIH - R01NS116141 (PI: Wichterle) $235,000 direct/yr **Transcriptional control of motor neuron maturation**

We will study transcriptional network controlling motor neuron maturation from motor neuron birth to adulthood.

2023-2025 Project ALS (PI: Wichterle) $596,000 direct/yr

**Preclinical evaluation of genetic and pharmacological modifiers of motor neuron vulnerability in ALS**

This study investigates the effects of small molecules and genetic manipulation on stem cell and animal based models of ALS

2022-2024 DoD AL210167 (PI: Wichterle) $200,000 direct/yr

**Preclinical Characterization of AZVIII-7-18, a Novel Paullone Derivative for the Treatment of ALS**

The major goals of this project are to establish PK properties of new Paullone derivative and test its effectiveness in a mouse model of ALS

2023-2027 NIH R35GM145279 (PI: Zhang) $25,000 direct/yr

**Complexity and evolution of splicing-regulatory networks**

This study examines alternative splicing regulation in evolution.

PAST

2018-2023 NIH - R01NS109217-01 (PI: Wichterle) $464,226 direct/yr

**Distal enhancers controlling motor neuron gene expression program**

The main goal of this grant is to study the mechanism that control enhancer promoter interactions underlying motor neuron specific gene expression program.

2019-2021 NIH/NINDS - R21NS109661 (PI: Wichterle) $275,000 direct/yr

**Multiplex modeling of ALS with barcoded human pluripotent stem cell lines**

The goal is to develop genetically barcoded human iPSC isogenic lines for screening ALS relevant phenotypes in multiplexed, multiwell format.

2018-2021 Project ALS (PI: Wichterle, Przedborski, Shneider) $2,000,000 direct/yr

**Preclinical drug testing core**

The aim of this grant is to establish a core to evaluate the utility of experimental ALS therapies in cell and animal models.

2018-2020 NYSTEM C32576GG (PI:Wichterle) $135,000 direct/yr

**CRISPR based system for genetic screening of embryonic stem cell differentiation**

The main goal of this grant is to develop mouse embryonic stem cell lines carrying inducible Cas9 and test their utility in gRNA library screen for transcription factors controlling motor neuron differentiation.

2015-2020 NIH - 1R01NS089676-01A1 (co-PI Wichterle) $250,000 direct/yr

**RNA regulatory networks in motor neuron differentiation and function**

The main goal of this grant is to study the role of Rbfox family RNA binding proteins in regulation of alternative splicing and translation during motor neuron maturation.

2018-2020 CSCI Seed Fund (PI: Wichterle) $25,000 total/yr

**Phylogenetic alignment of human and mouse neural stem cell differentiation trajectories**

The main goal of this grant is to study the role of Rbfox family RNA binding proteins in regulation of alternative splicing and translation during motor neuron maturation.

2013-2019 Project ALS (Co-PI: Wichterle) $115,000 direct/yr

**Oculomotor Resistance in ALS**

The aim of this project is to characterize the basis of intrinsic resistance of cMN in ALS to better understand the disease mechanism and develop new therapeutic strategies.

2016-2018 US Department of Defense AL150026 (Co-PI: Wichterle) $100,000

**Motor Neuron-Protecting Agents as Therapeutics for Treating ALS**

The main goal of this grant is to test pharmacokinetics of selected derivatives of URMC-099, a motor neuron protective compound, and to establish its blood-brain penetration and evaluate its effect in a mouse model of ALS.

2016-2017 Biogen SBIOGEN 48043 (PI: Wichterle) $92,000 direct/yr **The role of PLD1 and PLD2 in Neurodegenerative Pathways Common to ALS and AD**

The aim pf this project is to generate PLD1/2 double knockout stem cells to assess the role of phospholipase D in motor neuron degeneration. In addition a new classes of PLD inhibitors will be evaluated for their ability to promote motor neuron survival.

Role: Principal Investigator

NIH (Wichterle) 02/01/2015 – 01/31/2017

1 R21 NS092043 $150,000 direct/yr

**Stable silencing of spinal motor neuron enhancers by transiently expressed Nkx2.2**

The goal is to study mechanism by which Nkx2.2 represses motor neuron identity in ventral spinal progenitors.

Role: Principal Investigator

NIH (Wichterle; Gifford co-PI) 09/01/2012 - 07/31/2017

1R01NS078097-01A1 $464,226 direct/yr

**Motor neuron selector genes and mechanism of their action**

The main goal of this grant is to study the mechanism by which Ngn2, Isl1 and Lhx3 transcription factors control specification of motor neuron identity.

Role: Principal Investigator

Grant (Wichterle) 05/01/2013-04/30/2015

Target ALS

**Unfolded protein response and endoplasmic reticulum stress in ALS**

This project is aimed at identification of pharmacological intervention that would alleviate ER stress and motor neuron degeneration caused by ER stress inducing agent CPA.

Role: Principal Investigator, consortium leader

US Department of Defense (Przedborski) 09/30/2013-09/29/2016

W81XWH-13-1-0416

A cell-based assay to identify neuroprotective molecules for the treatment of amyotrophic lateral sclerosis

This project is designed to screen for neuroprotective molecules of direct relevance to ALS. We will first perform a cell-based high-throughput primary screen of libraries of chemically-diverse small molecules and then hits from this screen will be further characterized in cell-based low-throughput secondary screens.

Role: Co-Investigator

Grant (Henderson, C.E.) 08/01/09-07/31/13

U.S. Dept. of Defense (via USAMRMC)

Spinal Muscular Atrophy (SMA): Disease Phenotype and Mechanisms

This is a collaborative project aimed to better understand the selective loss of function of specific muscle groups in patients with SMA and mouse models of the disease.

NYSTEM (Sussel, L.) 03/01/2013-02/28/2015

Regulating the directed differentiation of CNS and pancreatic islet cell populations

The goal is to study the function and mechanism of action of a transcription factor Nkx2.2 during specification of pancreatic and neuronal cell identities.

NIH (Wichterle, H) 05/01/2012-04/30/2014

R21 NS076936-01A1

The role of mir-17~92 cluster in motor neuron degeneration

The main goal of this proposal is to examine the role of microRNA cluster mir-17~92 in the survival of limb innervating motor neurons and to dissect mechanisms of their action.

P01 NS055923-04 (Gifford, D) 9/1/2006-2/28/2013

NIH/NINDS

Transcriptional Regulation of Stem Cell Differentiation into Motor Neurons

The major goal of the project is to map transcriptional network controlling acquisition of spinal motor neuron identity.

Helmsley starter grant (Wichterle, H) 01/01/2011-12/31/2012

Helmsley Foundation

Production of limb innervating motor neuron subtypes from embryonic stem cells.

The aim of this grant is to optimize conditions for generation of limb innervating motor neurons, and to develop genetic tools that could be utilized to identify subtype specific neurotrophic factors.

P2ALS 08-013(Califano, A) 01/01/2011-12/31/2012

P2ALS

Constructing Motor Neuron Interactome

The major goal of this grant is to perform systematic perturbation of stem cell derived mouse motor neurons and use resulting expression profiles to build a motor neuron interactome that will depict motor neuron specific genetic and functional interactions.

P2ALS 08-013 (Henderson, C.E.) 01/01/2011-12/31/2012

P2ALS

Oculomotor neurons and their derivation from ES cells

The aim of this project is to characterize molecular identity of mouse oculomotor neurons and to develop methods for their efficient derivation from embryonic stem cells.

IIRP Grant (Wichterle, H) 01/01/09-12/31/12

NYS Dept. of Health/Empire State Stem Cell Board

iPS cells as a model to study ALS pathogenesis

The project will test whether iPS cells can be directed to differentiate into postmitotic motor neurons indistinguishable from motor neurons derived from human embryonic stem cells and will examine whether motor neurons derived from iPS cells generated from patients with ALS exhibit disease-associated phenotypes previously observed in mouse models of ALS.

1R01NS058502-03(Wichterle, H) 07/15/2007 – 03/31/2012

NIH/NINDS

Establishment of segmental identity of embryonic stem cell derived motor neurons

The major goal of the project it to define molecular mechanisms that control specification of rostrocaudal identity of motor neurons derived from embryonic stem cells in vitro.

PROJECT A.L.S. (Wichterle, H) 4/1/2005 – 3/31/2008

Motor neuron subtype diversification: ES cell potentiality deduced from developmental mechanisms

The major goal of this project is to develop methods for directed differentiation of embryonic stem cells into specific motor neuron subtypes.

BASIL O'CONNER STARTER SCHOLAR AWARD 2/1/2006-1/31/2008

MARCH OF DIMES (Wichterle, H)

Study of motor neuron specific functions of SMN protein in the context of embryonic stem cell-derived motor neurons

The major goal of this project is to study the nuclear and cytosolic function of SMN protein within embryonic stem cell-derived motor neurons in vitro.

PALS 08-013 (Jessell, T.M.) 09/01/08-08/31/10

Project ALS

Linking Genetic Programs of Diversity to ES Cell Motor Neuron Connectivity

This project examines the role of Hox gene transcriptional networks in mediating target specificity of spinal motor neuron connectivity.

Teaching Experience and Responsibilities

**Lectures and Courses:**

2001 **Lecturer**, Graduate Course on Neurogenesis and Behavior, Rockefeller University, NY

2004 **Lecturer**, Methods in Developmental Biology course, Charles University, Czech Republic

2005-11 **Lecturer,** Neuroscience for medical students, CUMC

2006 **Lecturer**, Basic and Clinical Neurosciences, Postgraduate review course

2007 **Lecturer**, Basic and Clinical Neurosciences, Postgraduate review course

2008-12 **Course co-director,** Stem Cells and Lineage Specification; biannual graduate course, CUMC

2008 **Co-organizer** of a symposium “Neural Stem Cells: From Development to Function”, New York Academy of Sciences, NY

2009 **Holiday Lecture**, George Washington High School, New York, NY

2009-2015 **Neuroscience Boot camp Lecturer,** Columbia University

2011-present **Lecturer,** Survey of Neuroscience (Neurobiology and behavior graduate course), CUMC

2011 **Community outreach**, hosted Park East High School (East Harlem) Science club

2011 **Organizer**, Two day workshop on Giant Axonal Neuropathy, NY

2015-present **Lecturer,** Mechanisms of Disease (Pathology and Cell biology graduate course), CUMC

2015-present **Lecturer,** Masters in biotechnology class, Columbia University undergraduate campus

2015-present **Lecturer,** Mechanisms of Human Disease (Pathology and Cell biology graduate course), CUMC

2015-present **Lecturer,** Stem Cell class (Columbia Stem Cell Initiative graduate course), CUMC

2017-present **Lecturer,** Developmental neuroscience (Neurobiology and behavior graduate course), CUMC

2017-present **Lecturer,** Biology of Neurologic and Psychiatric Disorders (graduate course), CUMC

2020 **Lecturer and discussion leader,** Principles of Neuroscience for medical students (MD class), CUMC

**Graduate student training and Thesis sponsorship:**

2005-10 Mirza Peljto, graduate program in Pathology and Cell biology

**Defended 4/2010 with distinction,**

**Winner of 2010 Brunie prize for stem cell research**

**Currently, Regional Associate Director at Bristol-Myers Squibb**

2006-11 Gist Croft, Neuroscience graduate student (with Chris Henderson)

**Defended 6/2011**

**Winner of 2011 Brunie prize for stem cell research**

**Currently Senior Principal Investigator at NYSCF**

2007-12 Derek Oakley, MD/PhD program (with Chris Henderson)

**Defended 2/2012**

**Pathologist, Harvard Medical School, Mass General Hospital**

2008-12 Nuno Jorge Lamas, MD/PhD student (with Chris Henderson)

**Defended 3/2012**

**Residency training, Hospital de Braga, Portugal**

2007-12 Glen Christopher Tan, Integrated graduate program

**Defended 9/2012**

**Currently, Amgen**

2009-12 Bethany Kerner, MD/PhD program (with Chris Henderson)

**Defended 12/2012**

**Winner of 2012 Brunie prize for stem cell research**

**Currently UCSF**

2009-14 Alexander Lyashenko, MD/PhD program (with Neil Shneider)

**Defended 11/2014, currently Pathologist Columbia University**

2009-14 Yuan-Ping Huang, Integrated graduate program

**Defended 5/2014, currently consulting Applied Ventures LLC**

2012-16 Phuong Hoang, MD/PhD program

**Defended 12/2016, currently Neurologist UCSF, CA**

2011-18 Elena Abarinov, Genetics&Development program (with Lori Sussell)

**Defended 10/2018, currently a postdoctoral fellow**

2012-17 Michael Closser, Integrated program

**Defended 10/2017, currently Calico, CA**

2013-17 Martin Jacko, Pathology&Cell Biology program

**Defended 6/2017, currently Founder & CEO APERTURE Therapeutics, Inc**

2013-19 John Smerdon, Physiology program

**Defended 1/2019, currently a Research Administration Fellow, Columbia University**

2017-23 Bex Cole, Genetics&Development program

**Defended 8/2023, currently a Postdoctoral Fellow, Cornell University**

2019-23 Abhishek Sinha, Integrated program

**Defended 11/2023, currently Associate Consultant, L.E.K.**

2020- Jonathon Costa, Integrated program

2023- Julie Dobkin, Biology program

**Postdoctoral training:**

2006-11 Stephane Nedelec, PhD (Families of SMA fellowship, Motor Neuron Center grant)

**Currently Group leader, Institut du fer à moulin, Inserm, Paris, France**

2006-12 Esteban Mazzoni, PhD (Damon Runyon Cancer Research Fellowship)

**Currently Professor, NYU Medical School**

2007-12 Jun-An Chen, PhD (Taiwan National Science Foundation Postdoctoral Fellowship)

**Currently** **Associate Professor, Institute of Molecular Biology, Academia Sinica, Taipei, Taiwan**

2010-13 Sebastian Thams, MD/PhD (Wenner-Gren Foundation fellowship)

**Currently Assistant professor, Karolinska Institute, Sweden**

2012-17 Ho-Sung Rhee, PhD (Helen Hey Whitney Fellowship)

**Currently Assistant Professor, University of Toronto, Canada**

2011-16 Emily Rhodes Lowry, PhD (Project ALS fellowship)

**Currently Director of Operations, ALS Therapeutics Core, Columbia University**

2014-20 Kevin Kanning, PhD

**Currently Staff Scientist, Regeneron, Terrytown, NY**

2016-23 Tulsi Patel, PhD (NRSA postdoctoral fellowship, K99 grant)

**Currently Assistant professor, Rutgers University**

2017- Sumin Jang, PhD (CSCI postdoctoral fellowship, K99 grant)

**Thesis Committees (\* serving as a chairman):**

Betsy Crouch\*, lab of Dr. Fiona Doetsch

Nalini Colaco\*, lab of Dr. Chris Henderson

Pei-Ken Hsu, lab of Dr. Joseph Gogos

Punita Bhansali\*, lab of Dr. Carol Mason

Stephanie Padilla lab of Dr. Lori Zeltser

Qing Wang, lab of Dr. Carol Mason

Garrett Seale, lab of Dr. Richard Vallee

Sivan Harel, lab of Dr. Boris Reizis

Colin Palmer, lab of Dr. Boris Reizis

Maggie O'Meara Dunaiski, lab of Dr. Oliver Hobert

David McLeod, lab of Dr. Asa Abeliovich,

Lauren Tanabe, lab of Dr. William Dauer,

Burcin Ikiz, lab of Dr. Serge Przedborski

Siavash Karimzadegan, lab of Dr. Martin Chalfie

Zhaozhu Qiu, lab of Dr. Stephen Goff

Jongpil Kim, lab of Dr. Asa Abeliovich,

Masoud Tavoazie, lab of Dr. Fiona Doetsch

Li-Chun Cheng, lab of Dr. Fiona Doetsch

Patricio Riquelme, lab of Dr. Fiona Doetsch

Eun-Sook Jang, lab of Dr. Jim Goldman

Alexander Chesler, lab of Dr. Stuart Firestein

Kassandra Ori, lab of Dr. Richard Vallee

Annina DeLeo lab of Dr. Fiona Doetsch

Elena Kandror lab of Dr. Thomas Maniatis

Tulsi Patel lab of Dr. Oliver Hobert

Catherine Braine lab of Dr. Hemali Phatnani, Dr. Thomas Maniatis

Nick Galleriani lab of Dr. Edmund Au

Luke Nunnelly lab of Dr. Edmund Au

Yueh-Lin (Albert) Tsai\* lab of Dr. James Manley

Ryan Edmund Loker lab of Dr. Richard Mann

Adan Horta lab of Dr. Stavros Lomvardas

Hwei Ee \* lab of Dr. Charles Zuker

Napon Chirathivat lab of Dr. Michael Shen

Sam Resnick\* lab of Dr. Alex Chavez

Corentin Moevus lab of Dr. Eric Greene

Joshua Chalif\* lab of Dr. George Mentis

Michael Zuccaro\* lab of Dr. Dieter Egli

Jerome Keoki Kahiapo lab of Dr. Stavros Lomvardas

Seoeun Lee lab of Dr. Lori Zeltser

Sarah Ebstein lab of Dr. Neil Shneider

Greg Wiessner\* lab of Dr. Cathy Mendelsohn

**Qualifying exam committee:**

Elaine Budereck, lab of Dr. Peter Scheifelle

Lichun Cheng, lab of Dr. Fiona Doetsch

Jongpil Kim, lab of Dr. Asa Abeliovich

Patricio Riquelme, lab of Dr. Fiona Doetsch

Nalini Colaco, lab of Drs. Chris Henderson and Tom Jessell

Artem Kaplan, lab of Dr. Chris Henderson

Gist Croft, lab of Dr. Chris Henderson

Magda Stumpfova, lab of Dr. David Owens

Betsy Crouch, lab of Dr. Fiona Doetsch

Burcin Ikiz, lab of Dr. Serge Przedborski

Jonathan Brent, lab of Dr. Brian McCabe

Ian Driver, lab of Dr. Ben Ohlstein

Elena Kandror lab of Dr. Thomas Maniatis

Patents & Inventions

7,390,659 Methods for inducing differentiation of embryonic stem cells and uses thereof (Thomas Jessell, Hynek Wichterle, Ivo Lieberam)

7,632,679 Systems and methods for screening for modulators of neural differentiation (Thomas Jessell, Hynek Wichterle, Sara Wilson)

8,969,081 Caudal motor neuron derived from embryonic stem cells under conditions essentially free of any retinoid (Wichterle Hynek, Jessell Thomas M., Peljto Mirza)

Publications

**Editorial:**

Reviewer for Nature, Nature Neuroscience, Nature Biotechnology, Science, Neuron, Cell, Cell Stem Cell, Journal of Neuroscience, Development, PNAS, Genes & Development, Stem Cell, and many others.

**Publications:**

**Original, Peer Reviewed Articles**

1. M. Closser, Y. Guo, P. Wang, T. Patel, S. Jang, J. Hammelman, J. C. De Nooij, R. Kopunova, E. O. Mazzoni, Y. Ruan, D. K. Gifford, **H. Wichterle;** An expansion of the non-coding genome and its regulatory potential underlies vertebrate neuronal diversity. Neuron 110, 70-85 e76 (2022).

2. T. Patel, J. Hammelman, S. Aziz, S. Jang, M. Closser, T. L. Michaels, J. A. Blum, D. K. Gifford, **H. Wichterle;** Transcriptional dynamics of murine motor neuron maturation in vivo and in vitro. Nat Commun 13, 5427 (2022).

3. A. Garcia-Diaz, G. Efe, K. Kabra, A. Patel, E. R. Lowry, N. A. Shneider, B. Corneo, **H. Wichterle;** Standardized Reporter Systems for Purification and Imaging of Human Pluripotent Stem Cell-derived Motor Neurons and Other Cholinergic Cells. Neuroscience, (2020).

4. D. An, R. Fujiki, D. E. Iannitelli, J. W. Smerdon, S. Maity, M. F. Rose, A. Gelber, E. K. Wanaselja, I. Yagudayeva, J. Y. Lee, C. Vogel, H. Wichterle, E. C. Engle, E. O. Mazzoni; Stem cell-derived cranial and spinal motor neurons reveal proteostatic differences between ALS resistant and sensitive motor neurons. Elife 8, (2019).

5. P. H. Bos, E. R. Lowry, J. Costa, S. Thams, A. Garcia-Diaz, A. Zask, H. Wichterle, B. R. Stockwell; Development of MAP4 Kinase Inhibitors as Motor Neuron-Protecting Agents. Cell Chem Biol 26, 1703-1715 e1737 (2019).

6. Y. Guo, K. Krismer, M. Closser, H. Wichterle, D. K. Gifford; High resolution discovery of chromatin interactions. Nucleic Acids Res 47, e35 (2019).

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**Reviews, Chapters and Editorials**

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